CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LOS ANGELES REGION

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ORDER NO. R4-2015-XXXX
NPDES NO. CA0000680

WASTE DISCHARGE REQUIREMENTS FOR TESORO REFINING & MARKETING COMPANY LLC TESORO LOS ANGELES REFINERY - CARSON OPERATIONS

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

Table 1. Discharger Information

Discharger	Tesoro Refining & Marketing Company LLC
Name of Facility	Tesoro Los Angeles Refinery – Carson Operations
Facility Address	1801 East Sepulveda Boulevard
	Carson, CA 90749
	Los Angeles County

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Steam condensates, service water, irrigation runoff, and fire hydrant water	33º, 49', 17" N	118 º, 14', 27" W	Dominguez Channel Estuary
002		33º, 49', 10" N	118 º, 14', 25" W	Dominguez Channel Estuary
003		33º, 49', 03" N	118 º, 14', 24" W	Dominguez Channel Estuary
004		33º, 49', 02" N	118 º, 14', 24" W	Dominguez Channel Estuary
005		33º, 48', 57" N	118 º, 14', 03" W	Dominguez Channel Estuary
003	Process wastewater commingled with stormwater and boiler blowdown	33º, 49', 03" N	118 º, 14', 24" W	Dominguez Channel Estuary
004		33º, 49', 02" N	118 º, 14', 24" W	Dominguez Channel Estuary

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July 15, 2014
Revised: August 27, 2015

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	December 10, 2015
This Order shall become effective on:	February 1, 2016
This Order shall expire on:	January 31, 2021
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	180 days prior to the Order expiration date
The U.S. Environmental Protection Agency (USEPA) and the Los Angeles Regional Water Quality Control Board have classified this discharge as follows:	Major Discharge

I, Samuel Unger, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on December 10, 2015.

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Samuel Unger, Executive Officer

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I. FACILITY INFORMATION

Information describing the Tesoro Refining & Marketing Company LLC (Discharger), Tesoro Los Angeles Refinery – Carson Operations (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 (hereinafter Regional Water Board), finds:

A. Legal Authorities. This Order serves as Waste Discharge Requirements (WDRs) pursuant to article 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. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a National Pollution Discharge Elimination System (NPDES) permit for point source discharges from this facility to surface waters.

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

C. Notification of Interested Parties. The Regional Water Board has notified the 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 of this Order.

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

THEREFORE, IT IS HEREBY ORDERED, that this Order supersedes Order R4-2007-0015 except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the California Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger

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is authorized to discharge from the identified facility and outfalls into waters of the United States and shall comply with the requirements in this Order. This action in no way prevents the Regional Water Board from taking enforcement action for past violations of Order R4-2007-0015.

III. DISCHARGE PROHIBITIONS

A. The discharge of wastewater at a location other than specifically described in this Order is prohibited, and constitutes a violation of the Order. Wastes discharged shall be limited to a maximum of 0.045 MGD of low volume wastes and up to 4.4 MGD of process wastewater commingled with stormwater and boiler blowdown as described in the Findings. 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, Dominguez Channel Estuary or other waters of the State, are prohibited.

C. Neither the treatment nor the discharge of wastes 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 CWA and regulations adopted thereunder.

F. The discharge of any radiological, chemical, or biological warfare agent or high level radiological waste is prohibited.

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

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations

1. Final Effluent Limitations For Low Volume Wastes – Discharge Points 001, 002, 003, 004 and 005

a. The discharge of low volume waste shall maintain compliance with the following effluent limitations at Discharge Points 001, 002, 003, 004, and 005, with compliance measured at Monitoring Locations

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EFF-001, EFFF-002, EFF-003, EFF-004 and EFF-005, as described in the attached MRP (Attachment E):

Table 4. Final Effluent Limitations – Low Volume Wastes - Discharge Points 001, 002, 003, 004 and 005

Pollutant	Unit	Effluent Limitations			Performance Goal [4]
		Average Monthly	Maximum Daily	Instanta-neous Minimum/ Maximum	Average Monthly/ Maximum Daily
pH	standard units	---	---	6.5/8.5	---
BOD_5 @ 20°C	mg/L	20	30	---	---
	lbs/day[1]	7.5	11	---	---
Total Suspended Solids (TSS)[2]	mg/L	50	75	---	---
	lbs/day[1]	19	28	---	---
Oil and Grease	mg/L	10	15	---	---
	lbs/day[1]	3.8	5.6	---	---
Cadmium, Total Recoverable[2,6]	µg/L	---	---	---	7.6/15.4
	lbs/day[1]	---	---	---	0.003/.007
Copper, Total Recoverable[2,6]	µg/L	3.1	6.1	---	---
	lbs/day[1]	0.001	0.002	---	---
Lead, Total Recoverable[2,6]	µg/L	7	14	---	---
	lbs/day[1]	0.003	0.005	---	---
Nickel, Total Recoverable	µg/L	6.7	13	---	---
	lbs/day[1]	0.0025	0.005	---	---
Selenium, Total Recoverable	µg/L	58	117	---	---
	lbs/day[1]	0.022	0.044	---	---
Zinc, Total Recoverable[2,6]	µg/L	70	141	---	---
	lbs/day[1]	0.02	0.05	---	---
Cyanide	µg/L	0.5	1.0	---	---
	lbs/day[1]	0.0002	0.0004	---	---
Methylene Chloride	µg/L	1,600	3,210	---	---
	lbs/day[1]	0.60	1.2	---	---
Pentachlorophenol	µg/L	6.5	13	---	---
	lbs/day[1]	0.0024	0.005	---	---
Bis(2-Ethylhexyl)Phthalate	µg/L	5.9	12	---	---
	lbs/day[1]	0.002	0.004	---	---
Fluoranthene	µg/L	42	742	---	---
	lbs/day[1]	0.016	0.3	---	---
Aldrin	µg/L	0.00014	0.00028	---	---
	lbs/day[1]	0.00000005	0.0000001	---	---
Chlordane[6]	µg/L	0.00059	0.0012	---	---
	lbs/day[1]	0.0000002	0.0000005	---	---
Dieldrin[6]	µg/L	0.00014	0.00028	---	---
	lbs/day[1]	0.00000005	0.0000001	---	---
4,4'-DDT[2,6]	µg/L	0.00059	0.0012	---	---
	lbs/day[1]	0.0000002	0.0000005	---	---

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Pollutant	Unit	Effluent Limitations			Performance Goal [4]
		Average Monthly	Maximum Daily	Instanta-neous Minimum/ Maximum	Average Monthly/ Maximum Daily
Total PCBs[2,,6,7]	µg/L	0.00017	0.0003	---	---
	lbs/day[1]	0.00000006	0.0000001	---	---
Heptachlor Epoxide	µg/L	0.00011	0.00022	---	---
	lbs/day[1]	0.00000004	0.00000008	---	---
Detergent (MBAS)	mg/L	---	0.5	---	---
	lbs/day[1]	---	0.2	---	---
Residual Chlorine	mg/L	---	0.1	---	---
	lbs/day[1]	---	0.04	---	---
Sulfides	mg/L	---	1.0	---	---
	lbs/day[1]	---	0.4	---	---
Settleable Solids	ml/L	0.1	0.3	---	---
Temperature	°F	---	86	---	---
Turbidity	NTU	50	75	---	---
Chronic Toxicity[3]	Pass or Fail, % Effect (TST)	---	Pass or % Effect <50	---	---
PAHs					
Benzo(a)anthracene [2, 6]	µg/L	0.049	0.1	---	---
	lbs/day[1]	0.00002	0.00004	---	---
Benzo(a)pyrene [2, 6]	µg/L	0.049	0.1	---	---
	lbs/day[1]	0.00002	0.00004	---	---
Chrysene [2, 6]	µg/L	0.049	0.1	---	---
	lbs/day[1]	0.00002	0.00004	---	---
Pyrene [2, 6]	µg/L	11000	22068	---	---
	lbs/day[1]	4.13	8.25	---	---

[1] Mass-based effluent limitations are based on a maximum discharge flow rate of 0.045 MGD

[2] 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 cadmium, copper, lead, zinc, 4,4-DDT, total PCBs, benzo(a)pyrene, benzo(a)anthracene, pyrene or chrysene, then the Discharger has not demonstrated attainment with the interim sediment allocations stipulated by the Harbor Toxics TMDL, Resolution No. R11-008, page 11, Item 3, 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 exceedance. An effluent sediment monitoring result at or below the interim sediment allocation in Table 7 of this Order, demonstrates attainment with the interim sediment allocation and additional sediment monitoring of the effluent is not required. An effluent sediment monitoring result that exceeds the interim sediment allocation requires additional sediment monitoring of the effluent during discharge but not more frequently than once per year until the three-year average concentration for sediment monitoring results is at or below the interim sediment allocation.[3]

[3] "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitations (MDEL). The Discharger shall conduct chronic toxicity monitoring as specified in the MRP. The Discharger demonstrates compliance with the chronic toxicity MDELs if the chronic toxicity testing result meets one of the following:

i. The chronic toxicity testing result is "Pass"; or
ii. The percent effect is less than 50 if the chronic toxicity result is "Fail".

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[4] Performance goals are intended to ensure that effluent concentrations and mass discharges do not exceed levels currently achieved by the permitted facility. These performance goals are not considered as limitations or standards for the regulation of the facility. They act as triggers to determine when sediment monitoring is required for this category of pollutants.

[5] CTR human health criteria were not established for total PAHs. Therefore, the limits are based on the CTR human health criteria for the individual PAHs; benzo(a)pyrene, benzo(a)anthracene, pyrene, and chrysene. The benzo(a)pyrene and chrysene were selected because the State's 2010 303(d) List classifies the Dominguez channel Estuary as impaired for these PAH compounds.

[6] Samples analyzed must be unfiltered

[7] Total PCBs (polychlorinated biphenyls) means the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Arolclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

2. Final Effluent Limitations for Process Wastewater Commingled with Stormwater and Boiler Blowdown – Discharge Points 003 and 004

a. The discharge of refinery process wastewater commingled with stormwater and boiler blowdown shall maintain compliance with the following effluent limitations at Discharge Points 003 and 004, with compliance measured at Monitoring Location EFF-003 and EFF-004, as described in the attached MRP (Attachment E):

Table 5. Final Effluent Limitations – Process Wastewater Commingled with Stormwater and Boiler Blowdown - Discharge Points 003 and 004

Pollutant	Unit	Effluent Limitations			Performance Goal [5]
		Average Monthly	Maximum Daily	Instantaneous Minimum/ Maximum	Average Monthly/ Maximum Daily
pH	standard units	---	---	6.5/8.5	---
BOD	mg/L	89	164	---	---
	lbs/day[2]	3,259	6,025	---	---
Oil and Grease	mg/L	29	53	---	---
	lbs/day[2]	1,047	1,955	---	---
TSS[4]	mg/L	74	116	---	---
	lbs/day[2]	2,701	4,249	---	---
Cadmium, Total Recoverable[3,8]	µg/L	---	---	---	7.7/15.4
	lbs/day[2]	---	---	---	0.3/0.6
Chromium (VI)	µg/L	46	104	---	---
	lbs/day[1]	1.7	3.8	---	---
Copper, Total Recoverable[3]	µg/L	3.1	6.1	---	---
	lbs/day[1]	0.1	0.24	---	---
Lead, Total Recoverable[3]	µg/L	7	14	---	---
	lbs/day[1]	0.25	0.5	---	---

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Pollutant	Unit	Effluent Limitations			Performance Goal [5]
		Average Monthly	Maximum Daily	Instantaneous Minimum/ Maximum	Average Monthly/ Maximum Daily
Selenium, Total Recoverable	µg/L	58.3	117	---	---
	lbs/day[1]	2.2	4.3	---	---
Zinc, Total Recoverable[3]	µg/L	70	141	---	---
	lbs/day[1]	2.6	5.2	---	---
Cyanide	µg/L	0.5	1.0	---	---
	lbs/day[1]	0.02	0.04	---	---
1,1-Dichloroethylene	µg/L	3.2	6	---	---
	lbs/day[1]	0.1	0.2	---	---
Pentachlorophenol	µg/L	6.5	13	---	---
	lbs/day[1]	0.2	0.5	---	---
Hexachlorobenzene	µg/L	0.0007	0.0015	---	---
	lbs/day[1]	0.00003	0.00006	---	---
Aldrin	µg/L	0.00014	0.0003	---	---
	lbs/day[1]	0.000005	0.00001	---	---
Chlordane[3]	µg/L	0.00059	0.001	---	---
	lbs/day[1]	0.00002	0.00004	---	---
Dieldrin[3]	µg/L	0.00014	0.0003	---	---
	lbs/day[1]	0.000005	0.00001	---	---
4,4'-DDT[3]	µg/L	0.00059	0.001	---	---
	lbs/day[1]	0.00002	0.00004	---	---
Total PCB[3,7]	µg/L	0.00017	0.0003	---	---
	lbs/day[1]	0.000006	0.00001	---	---
alpha-BHC	µg/L	0.013	0.026	---	---
	lbs/day[1]	0.0005	0.001	---	---
beta-BHC	µg/L	0.05	0.09	---	---
	lbs/day[1]	0.0017	0.003	---	---
gamma-BHC	µg/L	0.06	0.13	---	---
	lbs/day[1]	0.002	0.005	---	---
Ammonia as N	mg/L	41	89	---	---
	lbs/day[2]	1501	3269	---	---
COD	mg/L	539	1,045	---	---
	lbs/day[1]	19,766	38,349	---	---
Chlorine, Residual	mg/L	---	0.10	---	---
	lbs/day[1]	---	3.7	---	---
Chromium, Total	µg/L	488	1,386	---	---
	lbs/day[2]	18	51	---	---
Phenols (4AAP)	µg/L	403	1182	---	---
	lbs/day[2]	15	43	---	---
Detergent (MBAS)	mg/L	---	0.5	---	---
	lbs/day[1]	---	18	---	---
Settleable Solids	ml/L	0.1	0.3	---	---
Sulfide	µg/L	378	893	---	---
	lbs/day[2]	14	33	---	---

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Pollutant	Unit	Effluent Limitations			Performance Goal [5]
		Average Monthly	Maximum Daily	Instantaneous Minimum/ Maximum	Average Monthly/ Maximum Daily
Chronic Toxicity[4]	Pass or Fail, % Effect, TST	---	Pass or % Effect <50	---	---
Temperature	°F	---	86	---	---
PAHs					
Benzo(a)anthracene [3,6,8]	µg/L	0.049	0.1	---	---
	lbs/day1	0.002	0.004	---	---
Benzo(a)pyrene [3,6,8]	µg/L	0.049	0.1	---	[6,9]
	lbs/day1	0.002	0.004	---	---
Chrysene[3,6,8]	µg/L	0.049	0.1	---	---
	lbs/day1	0.002	0.004	---	---
Pyrene[3,6,8]	µg/L	11,000	22068	---	---
	lbs/day1	402	806	---	---

1 Non-ELG mass-based effluent limitations based upon a maximum authorized discharge of 4.4 MGD.

2 ELG mass-based effluent limitations based upon a refinery production of 300,000 bbls and discharge flow volumes as described in Section IV.B.2 of the Fact Sheet.

3 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 cadmium, copper, lead, zinc, 4,4-DDT, total PCBs, benzo(a)pyrene, benzo(a)anthracene, or chrysene, then the Discharger has not demonstrated attainment with the interim sediment allocations stipulated by the Harbor Toxics TMDL, Resolution No. R11-008, page 11, Item 3, 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 exceedance. An effluent sediment monitoring result at or below the interim sediment allocation in Table 7 of this Order, demonstrates attainment with the interim sediment allocation and additional sediment monitoring of the effluent is not required. An effluent sediment monitoring result that exceeds the interim sediment allocation requires additional sediment monitoring of the effluent during discharge but not more frequently than once per year until the three-year average concentration for sediment monitoring results is at or below the interim sediment allocation.

4 "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitations (MDEL). The Discharger shall conduct chronic toxicity monitoring as specified in the MRP. The Discharger demonstrates compliance with the chronic toxicity MDELs if the chronic toxicity testing result meets one of the following:

- i The chronic toxicity testing result is "Pass"; or
- ii The percent effect is less than 50 if the chronic toxicity result is "Fail".

5 Performance goals are intended to ensure that effluent concentrations and mass discharges do not exceed levels currently achieved by the permitted facility. These performance goals are not considered as limitations or standards for the regulation of the facility. They act as triggers to determine when sediment monitoring is required for this category of pollutants.

6 CTR human health criteria were not established for total PAHs. Therefore, the performance goals are based on the CTR human health criteria for the individual PAHs; benzo(a)pyrene, benzo(a)anthracene, pyrene and chrysene.

7 Total PCBs (polychlorinated biphenyls) means the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Arolclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

8 Samples analyzed must be unfiltered.

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3. Interim Effluent Limitations –Process Wastewater Commingled with Stormwater and Boiler Blowdown (Discharge Points 003 and 004)

Pursuant to 303(c) of the clean Water Act (CWA) USEPA authorized compliance schedule in the NPDES permit for certain Total Maximum Daily Load (TMDL) constituents in Dominguez Channel and Greater Los Angeles and Long Beach Harbor Water (Harbors Toxics TMDL) that have Waste Load Allocations (WLAs). In the 303(c) letter, USEPA authorized for Harbor Toxics TMDL constituents compliance schedules in NPDES permits for Non-MS4 stormwater dischargers for copper, lead, zinc, DDt, dieldrin, total PCBs, chlordane, and pyrene (applicable for process wastewater comingled with stormwater and boiler blowdown discharges of Carson Refinery) and for other non-stormwater discharges for copper, lead, and zinc (applicable to low volume waste of Carson Refinery)

The Discharger can meet the effluent limits for lead and the discharge limits for copper and zinc have increased based on TMDL for both low volume waste and process wastewater comingled with stormwater and boiler blowdown. Therefore, no interim limits are given for copper, lead and zinc for both discharge steams. Interim limits are included for process wastewater comingled with stormwater and boiler blowdown for chlordane, dieldrin, PCBs, and DDT and no interim limits are included for low volume waste.

Table 6. Interim Effluent Limitations (Process Wastewater Commingled with Stormwater and Boiler Blowdown - Discharge Points 003 and 004)

Parameter	Units	Interim Effluent Limitations	
		Maximum Daily	Average Monthly
Chlordane [4]	µg/L	0.03	0.03
	lbslday [1]	0.0011	0.0011
Dieldrin [4]	µg/L	0.002	0.002
	lbslday [1]	0.000073	0.000073
PCBs, Total [2,3,4]	µg/L	0.5	0.5
	lbslday [1]	0.018	0.018
4.4'-DDT [3,4]	µg/L	0.0038	0.0038
	lbslday [1]	0.00014	0.00014

[1] The mass limitations for process wastewater comingled with stormwater and boiler blowdown are based on a maximum flow of 4.4 MGD and is calculated as follows:
Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day.

[2] Total PCBs (polychlorinated biphenyls) means the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Arolclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

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[3] The interim effluent limitations listed in this table do not represent thresholds in the determination of the need to conduct sediment monitoring. Rather, if the effluent monitoring results during each reporting period exceed both a TSS effluent limit and a CTR TMDL-based final effluent limit for copper, 4,4-DDT, total PCBs, benzo(a)pyrene, benzo(a)anthracene, or chrysene, as listed in Tables 5 and 6 of this Order, implementation of the effluent sediment monitoring program is required for that priority pollutant.

[4] Samples analyzed must be unfiltered samples.

The specific tasks to be completed by the Discharger are outlined in Section VI.C.7 below.

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B. Final Concentration-Based Sediment Waste Load Allocations

The following concentration-based sediment waste load allocations (WLAs) for metal (cadmium) and bioaccumulative compound (chlordane) are associated with Dominguez Channel Estuary in the *TMDL for Toxic Pollutants in Dominguez Channel and Greater Los Angeles and Long Beach Harbors Waters* (Harbor Toxics TMDL) (Resolution No. R11-008). These WLAs are applicable to low volume wastes and process wastewater comingled with stormwater and boiler blowdown.

Table 7. Final Concentration-Based Sediment Waste Load Allocations - Discharge Points 001, 002, 003, 004, and 005

Pollutant	Sediment, Final Concentration-Based Allocations	Units
Cadmium, Total Recoverable	1.2	mg/kg dry sediment
Chlordane	0.5	µg/kg dry sediment
Dieldrin	0.02	µg/kg dry sediment

Compliance with the final concentration-based sediment allocation for cadmium (by any of the first three means) and chlordane and dieldrin (by any of the four means) may be demonstrated by:

1. Final sediment allocation of cadmium (1.2 mg/kg), chlordane (0.5 mg/kg) and dieldrin (0.02 mg/kg) is met in the effluent. The Discharger may collect sufficient effluent sample to provide an adequate amount of effluent sediments (suspended solids) for sediment analyses. The analytical result of the effluent sediment can be used for the direct comparison with sediment allocation of cadmium, chlordane, and dieldrin.

2. The qualitative sediment condition of Unimpacted or Likely Unimpacted via the interpretation and integration of multiple lines of evidence as defined in the Sediment Quality Plan is met.

3. Sediment numeric target of 1.2 mg/kg for cadmium, 0.5 mg/kg for chlordane, and 0.02 mg/kg dieldrin is met in bed sediments over a 3-year averaging period.

4. Fish tissue target of 5.6 µg/kg and 0.46 µg/kg wet fish tissue for chlordane and dieldrin is met in species resident to the TMDL waterbodies. Demonstrate that the sediment quality condition protective of fish tissue is achieved per the Statewide Enclosed Bays and Estuaries Plan, as amended to address contaminants in resident finfish and wildlife.

C. Land Discharge Specifications
Not applicable

D. Reclamation Specifications
Not applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitation

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. The discharge shall not cause the following in the Dominguez Channel Estuary.

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 0.5 units.

2. Surface water temperature to rise greater than 5°F above the natural temperature of the receiving waters at any time or place. At no time shall the temperature of these WARM-designated waters be raised above 80°F as a result of waste discharged.

3. Water Contact Standards

a. State/Regional Water Board Water Contact Standards

In marine waters designated for Water Contact Recreation (REC-1), the waste discharged shall not cause the following bacterial standards to be exceeded in the receiving water:

i. Geometric Mean Limits

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

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

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

ii. Single Sample Maximum (SSM)

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

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

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

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

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

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

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

4. Depress the concentration of dissolved oxygen below 5.0 mg/L at anytime, and the median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.

5. Exceed total ammonia (as N) concentrations specified in the Regional Water Board Resolution No. 2004-022, adopted on March 4, 2004. 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 ammonia Basin Plan amendment became effective on May 19, 2004.

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.

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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, nor cause formation of sludge deposits on flood control structures or facilities nor overload the design capacity.

16. Degrade 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. The discharge shall not damage, discolor, nor cause formation of sludge deposits on flood control structures or facilities nor overload their design capacity.

19. Create nuisance, or adversely affect beneficial uses of the receiving water.

20. Violation of any applicable water quality standards for receiving waters adopted by the Regional Water Board or State Water Board. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments thereto, the Regional Water Board will revise or modify this Order in accordance with such standards.

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B. Groundwater Limitations
Not applicable

VI. PROVISIONS

A. Standard Provisions

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

2. The Discharger shall comply with the following provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply:

a. This Order may be modified, revoked, reissued, or terminated in accordance with the provisions of 40 C.F.R. sections 122.44, 122.62, 122.63, 122.64, 125.62 and 125.64. Causes for taking such actions include, but are not limited to: failure to comply with any condition of this Order; endangerment to human health or the environment resulting from the permitted activity; or acquisition of newly-obtained information which would have justified the application of different conditions if known at the time of Order adoption. The filing of a request by the Discharger for an Order modification, revocation, and issuance or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

b. The Discharger must comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges of stormwater to storm drain systems or other water courses under their jurisdiction; including applicable requirements in the municipal stormwater management program 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 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

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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 polluting materials shall not be stored or deposited in areas where they may be picked up by rainfall and carried off of the property and/or discharged to surface waters. Any such spill of such materials shall be contained and removed immediately.

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 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.

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

l. In the event of any change in name, ownership, or control of these waste disposal facilities, the discharger shall notify this Regional Water Board of such change and shall notify the succeeding owner or operator of the existence of this Order by letter, copy of which shall be forwarded to the Regional Water Board.

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m. The Water Code provides that any person who violates a waste discharge requirement or a provision of the Water Code is subject to civil liability 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 liability 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.

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

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

p. The Discharger shall notify the Executive Officer in writing no later than 6 months prior to the planned discharge of any chemical, other than the products previously reported to the Executive Officer, which may be toxic to aquatic life. Such notification shall include:

i. Name and general composition of the chemical,

ii. Frequency of use,

iii. Quantities to be used,

iv. Proposed discharge concentrations, and

v. USEPA registration number, if applicable.

q. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this facility, may subject the Discharger to administrative or judicial civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal

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enforcement from appropriate local, state, or federal law enforcement entities.

r. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, average monthly effluent limitation, 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.

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

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B. Monitoring and Reporting Program (MRP) Requirements

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

C. Special Provisions

1. Reopener Provisions

a. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA, and amendments thereto, the Regional Water Board will 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, in accordance with the provisions set forth in Parts 122 and 124, to include requirements for the implementation of the watershed management approach or to include new MLs.

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

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

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

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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 Toxicity Reduction Evaluation (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, and should include at a minimum:

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

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

iii. If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor) (Section V of the MRP, Attachment E, provides references for the guidance manuals that should be used for performing TIEs)

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

The following monitoring thresholds based on sediment interim concentration-based allocations (in mg/kg sediment) for copper, lead, zinc, DDT, PAHs, and PCBs and associated monitoring

requirements are applicable to Discharge Point 001, per the Harbor Toxics TMDL. These monitoring thresholds are designed to ensure that effluent concentrations and mass discharges (TSS concentrations) do not exceed levels currently achieved by the permitted facility, during implementation of the TMDL

Table 8. Monitoring Thresholds

Pollutant	Monitoring Thresholds (mg/kg sediment)[1,2,3]
Copper, Total Recoverable	220
Lead, Total Recoverable	510
Zinc, Total Recoverable	789
PAHs	31.6
DDTs	1.727
PCBs	1.49

[1] Regardless of the monitoring thresholds, the Discharger shall ensure that effluent concentrations 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.

[2] Attainment with the monitoring thresholds may be demonstrated by compliance with the effluent limitations stipulated for TSS and the CTR TMDL-based effluent limitations for any of these constituents; copper, lead, zinc, PAHs, DDT, and total PCBs and attainment with the performance goals for the specified PAH compounds: benzo(a)pyrene and chrysene. See Footnote 4 to Table 4, page 6 of this Order for details.

[3] Attainment with the monitoring thresholds in cases where sediment monitoring is required as per Footnote 4 to Table 4 of this Order may be demonstrated by meeting the interim allocations in the discharge over a 3-year averaging period.

c. Harbor Toxics TMDL Water and Sediment Monitoring Plan

As defined in the Harbor Toxics TMDL, the Discharger is a "responsible party" because it is an "Individual NPDES Permittee." As such, the Discharger, either alone, or as part of a collaborative effort, is responsible for monitoring water and sediment discharges. The Discharger, by itself, or as part of a collaborative monitoring effort (Responsible Parties), is required to prepare and submit a Monitoring and Reporting Plan (Monitoring Plan) and Quality Assurance Project Plan (QAPP), following TMDL Element - Monitoring Plan regulatory provisions in Attachment A to Resolution 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, subsequently, Executive

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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 Discharger 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 the proposed Monitoring Plan and QAPP 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 as specified in Section VI.C.2.c. of Limitations and Discharge Requirements.

The Monitoring Plan shall include the following components:

i. Water Column Monitoring

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

ii. Sediment Monitoring

Sediment quality objective evaluation monitoring, as detailed in the SQO Part 1 (sediment triad sampling), shall be performed once per five years

Sediment chemistry samples shall be collected every five years (in addition to, and in between, the sediment triad sampling events), beginning after the first sediment triad event, to evaluate trends in general sediment quality constituents and listed constituents relative to sediment quality targets. Chemistry data without accompanying sediment triad data shall be used to assess sediment chemistry trends and shall not be used to determine compliance.

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Table 9. Sediment Chemistry Monitoring Requirements1

Water Body Name	Sample Media and Parameters	
	Water Column	Sediment
Diminguez Channel Estuary	Flow, Temperature, DO, pH, Salinity, TSS, Metals[2], PCBs, DDT	Metals[2], Toxicity, Benthic Community Effect

[1] Sampling shall be designed to collect sufficient volumes of suspended solids to allow for analysis of the listed pollutants in the bulk sediment.
[2] Metals: copper, lead, and zinc.

iii. Fish Tissue Monitoring

Fish tissue samples shall be collected every two years from the Dominguez Channel Estuary and analyzed for chlordane, dieldrin, toxaphene, DDT, and PCBs. The target species in the Domingues Channel Estuary shall be selected based on residency, local abundance, and fish size at the time of field collection. Tissues analyzed shall be based on the most common preparation for the selected fish species.

iv. 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 *USEPA or American Society for Testing and Materials (ASTM)*. The plan shall include a list of chemical analytes for the water column and sediment.

v. 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.

vi. 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.

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3. Storm Water Pollution Prevention Plan, Best Management Practices, and Spill Contingency Plan

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

i. An updated storm water pollution prevention plan (SWPPP) that describes site-specific management practices for minimizing contamination of storm water runoff and for preventing contaminated storm water runoff from being discharged directly to waters of the State. The updated SWPPP shall accurately reflect current facility conditions and incorporate changes in discharge practices (i.e., hydrostatic test water is no longer routed to retention ponds prior to discharge). The BMPs shall address the following specific areas of concern: petroleum storage tanks, equipment washing, vehicle traffic, and chemical storage. The SWPPP shall be developed in accordance with the requirements in Attachment G.

ii. A Best Management Practice Plan (BMPP) that entails 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 BMPP shall be consistent with the general guidance contained in the USEPA *Guidance Manual for Developing Best Management Practices (BMPs)* (EPA 833-B-93- 004). In particular, a risk assessment of each area identified by the Discharger shall be performed to determine the potential for hazardous or toxic waste/material discharges to surface waters.

iii. Spill Control Plan (SCP) that shall be site-specific and shall cover all areas of the Facility.

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 points (e.g., petroleum storage tanks); describe the activities in each area and the potential for contamination of storm water runoff and the discharge of hazardous waste/material.

The Discharger shall implement the SWPPP, BMPP, and SCP within 10 days of the approval by the Executive Officer or 90 days after submittal of the plan if no comments are submitted by the Reginal Board. The plans shall be reviewed annually and at the same time. Updated information shall be submitted within 30 days of revision.

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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 Schedule

a. The interim effluent limitations provided in section IV.A.3 of this Order for chlordane, dieldrin, 4,4'-DDT, and total PCBs, for process wastewater comingled with stormwater (Table 6) shall be in effect until July 31, 2020. Thereafter, the Discharger shall comply with the final effluent limitations as specified in section IV.A.3 of this Order.

b. The Discharger shall comply with the tasks and schedule in Table 10 below to achieve the final effluent limits for chlordane, dieldrin, 4,4'-DDT, and total PCBs specified in this Order. The compliance schedule is based on the Discharger's estimated time schedule for completion as proposed in its request dated September 30, 2014, with appropriate modifications from the Regional Board. The compliance schedule is as follows:

Table10. Compliance Schedule

Task No.	Description	Start Date	Completion Date	Report date
1	Conduct a study to determine the required and available retention capacity of the Refinery	February 1, 2016	January 31, 2017	February 27, 2017
2	Conduct feasibility study for providing necessary storm water storage capacity to retain rainfall volumes determined in Task 1, above	February 1, 2017	January 31, 2018	February 27, 2018
3	If retention of storm water on-site is not feasible as determined in Task 2, above, evaluate treatment options to include recycle and reuse of treated wastewater and storm water.	February 1, 2018	January 31, 2019	February 27, 2019
4	Prepare scope and schedule to implement required actions to achieve compliance.	February 1, 2018	January 31, 2020	February 27, 2020

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Task No.	Description	Start Date	Completion Date	Report date
5	Achieve compliance.	February 1, 2016	January 31, 2020	February 27, 2020

VII. COMPLIANCE DETERMINATION

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

A. Chronic Toxicity

The chronic toxicity using the USEPA effluent toxicity tests shall be run using a multi-concentration test design only when required by EPA's short-term methods for estimating the chronic toxicity of effluents promulgated under 40 CFR 136. All NPDES effluent compliance monitoring for chronic toxicity shall be reported using the 100% effluent concentration and negative control, expressed in units of USEPA's TST statistical approach (pass or fail, % effect). The TST hypothesis (Ho) is statistically analyzed using only the permit-specified in-stream waste concentration and a negative control. The appropriate interpretation of measurement results from the TST (pass or fail) is, by design, independent from the concentration-response patterns of toxicity tests conducted using multi-concentration test designs. Therefore, when using the TST, application of concentration-response pattern review is not used because it does not improve the appropriate interpretation of the definitive TST result, as long as all Test Acceptability Criteria and other test review procedures (those related to Quality Assurance for effluent and receiving water toxicity tests, reference toxicant tests, and control performance described by the WET test methods manuals and TST guidance) are followed.

B. 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.

C. 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.

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D. Mass-based Effluent Limitations.

In calculating mass emission rates from the monthly average concentrations, use one half of the method detection limit for "Not Detected" (ND) and the estimated concentration for "Detected, but Not Quantified" (DNQ) for the calculation of the monthly average concentration. To be consistent with Limitations and Discharge Requirements, Section VII.B, if all pollutants belonging to the same group are reported as ND or DNQ, the sum of the individual pollutant concentrations should be considered as zero for the calculation of the monthly average concentration.

E. Multiple Sample Data.

When determining compliance with an AMEL or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "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.

F. Average Monthly Effluent Limitation (AMEL).

If the average (or when applicable, the median determined by subsection E 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 any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

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

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

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

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

   When one or more sample results are reported as "Not-Detected (ND)" or "Detected, but Not Quantified (DNQ)" (see Reporting Requirement I.G. of the MRP), the median value of these four samples shall be used for compliance determination. If one or both of the middle values is ND or DNQ, the median shall be the lower of the two middle values.

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

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

G. 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.

H. 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

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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).

I. 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).

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ATTACHMENT A – DEFINITIONS

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

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

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

Best Management Practices (BMPs)
BMPs are methods, measures, or practices designed and selected to reduce or eliminate the discharge of pollutants to surface waters from point and nonpoint source discharges including stormwater. BMPs include structural and non-structural control, and operation maintenance procedures, which can be applied before, during, and/or after pollution-producing activities.

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

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

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

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

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

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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.

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

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

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

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

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

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Existing Discharger
Any discharger that is not a new discharger. An existing discharger includes an "increasing discharger" (i.e., any existing facility with treatment systems in place for its current discharge that is or will be expanding, upgrading, or modifying its permitted discharge after the effective date of this Order).

Infeasible
Not capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

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 title 40 of the Code of Federal Regulations, 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.

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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.

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

Persistent Pollutants
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 California Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State or Regional Water Board.

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Reporting Level (RL)
RL is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

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

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

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

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

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

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

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ACRONYMS AND ABBREVIATIONS

AMEL	Average Monthly Effluent Limitation
B	Background Concentration
BAT	Best Available Technology Economically Achievable
Basin Plan	*Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*
BCT	Best Conventional Pollutant Control Technology
BMP	Best Management Practices
BMPPP	Best Management Practices Plan
BPJ	Best Professional Judgment
BOD	Biochemical Oxygen Demand 5-day @ 20 °C
BPT	Best Practicable Treatment Control Technology
C	Water Quality Objective
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CTR	California Toxics Rule
CV	Coefficient of Variation
CWA	Clean Water Act
CWC	California Water Code
Discharger	Tesoro Refining and Marketing Company LLC
DMR	Discharge Monitoring Report
DNQ	Detected But Not Quantified
ELAP	California Department of Public Health Environmental Laboratory Accreditation Program
ELG	Effluent Limitations, Guidelines and Standards
Facility	Tesoro Los Angeles Refinery – Carson Operations
gpd	gallons per day
IC	Inhibition Coefficient
IC_{15}	Concentration at which the organism is 15% inhibited
IC_{25}	Concentration at which the organism is 25% inhibited
IC_{40}	Concentration at which the organism is 40% inhibited
IC_{50}	Concentration at which the organism is 50% inhibited
LA	Load Allocations
LOEC	Lowest Observed Effect Concentration
µg/L	micrograms per Liter
mg/L	milligrams per Liter
MDEL	Maximum Daily Effluent Limitation
MEC	Maximum Effluent Concentration
MGD	Million Gallons Per Day
ML	Minimum Level
MRP	Monitoring and Reporting Program
ND	Not Detected
NOEC	No Observable Effect Concentration
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standards

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NTR	National Toxics Rule
OAL	Office of Administrative Law
PMEL	Proposed Maximum Daily Effluent Limitation
PMP	Pollutant Minimization Plan
POTW	Publicly Owned Treatment Works
QA	Quality Assurance
QA/QC	Quality Assurance/Quality Control
Ocean Plan	*Water Quality Control Plan for Ocean Waters of California*
Regional Water Board	California Regional Water Quality Control Board, Los Angeles Region
RPA	Reasonable Potential Analysis
SCP	Spill Contingency Plan
SIP	State Implementation Policy (*Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California)*
SMR	Self Monitoring Reports
State Water Board	California State Water Resources Control Board
SWPPP	Stormwater Pollution Prevention Plan
TAC	Test Acceptability Criteria
Thermal Plan	*Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California*
TIE	Toxicity Identification Evaluation
TMDL	Total Maximum Daily Load
TOC	Total Organic Carbon
TRE	Toxicity Reduction Evaluation
TSD	Technical Support Document
TSS	Total Suspended Solid
TU_c	Chronic Toxicity Unit
USEPA	United States Environmental Protection Agency
WDR	Waste Discharge Requirements
WET	Whole Effluent Toxicity
WLA	Waste Load Allocations
WQBELs	Water Quality-Based Effluent Limitations
WQS	Water Quality Standards
%	Percent

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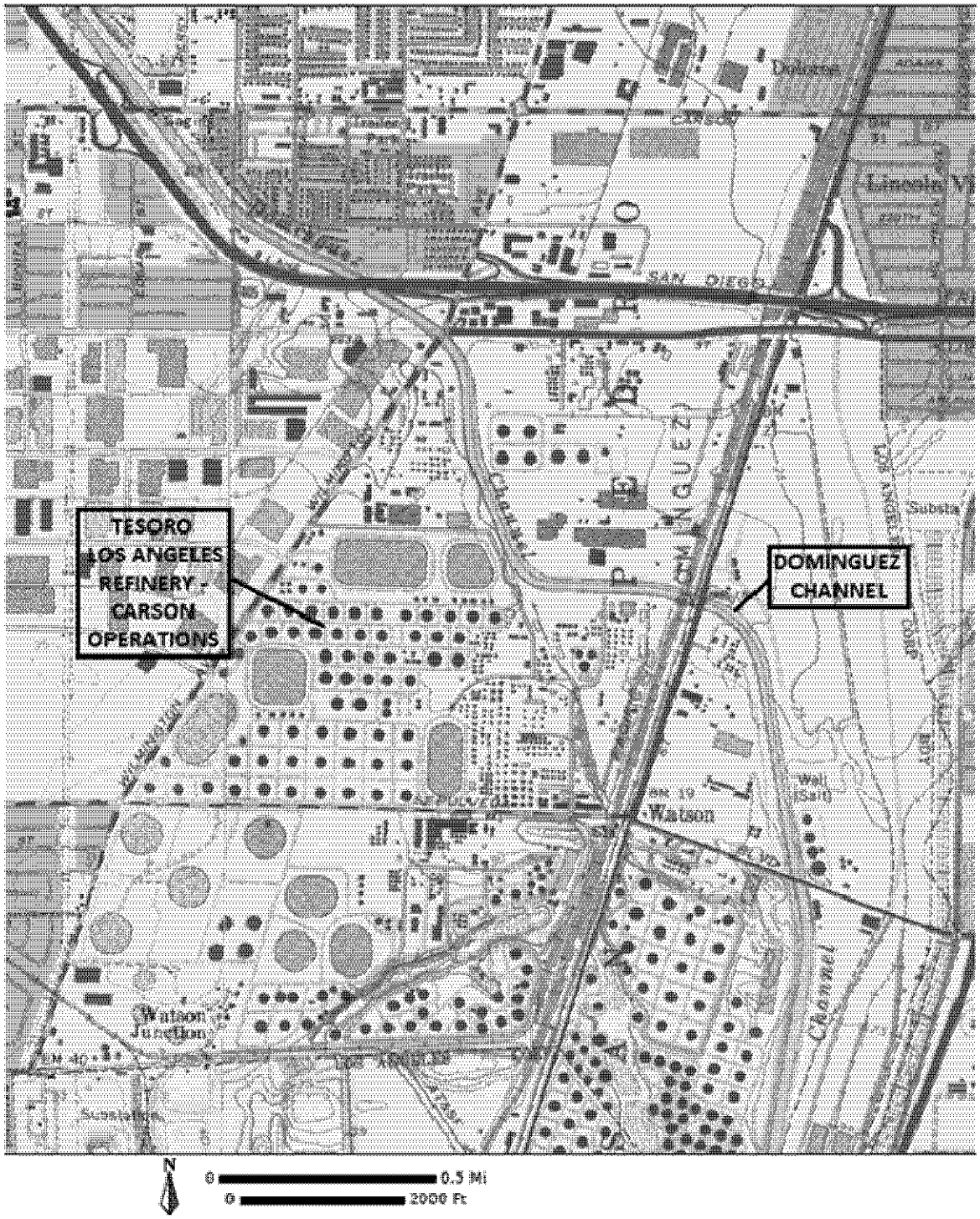
ATTACHMENT B – MAP



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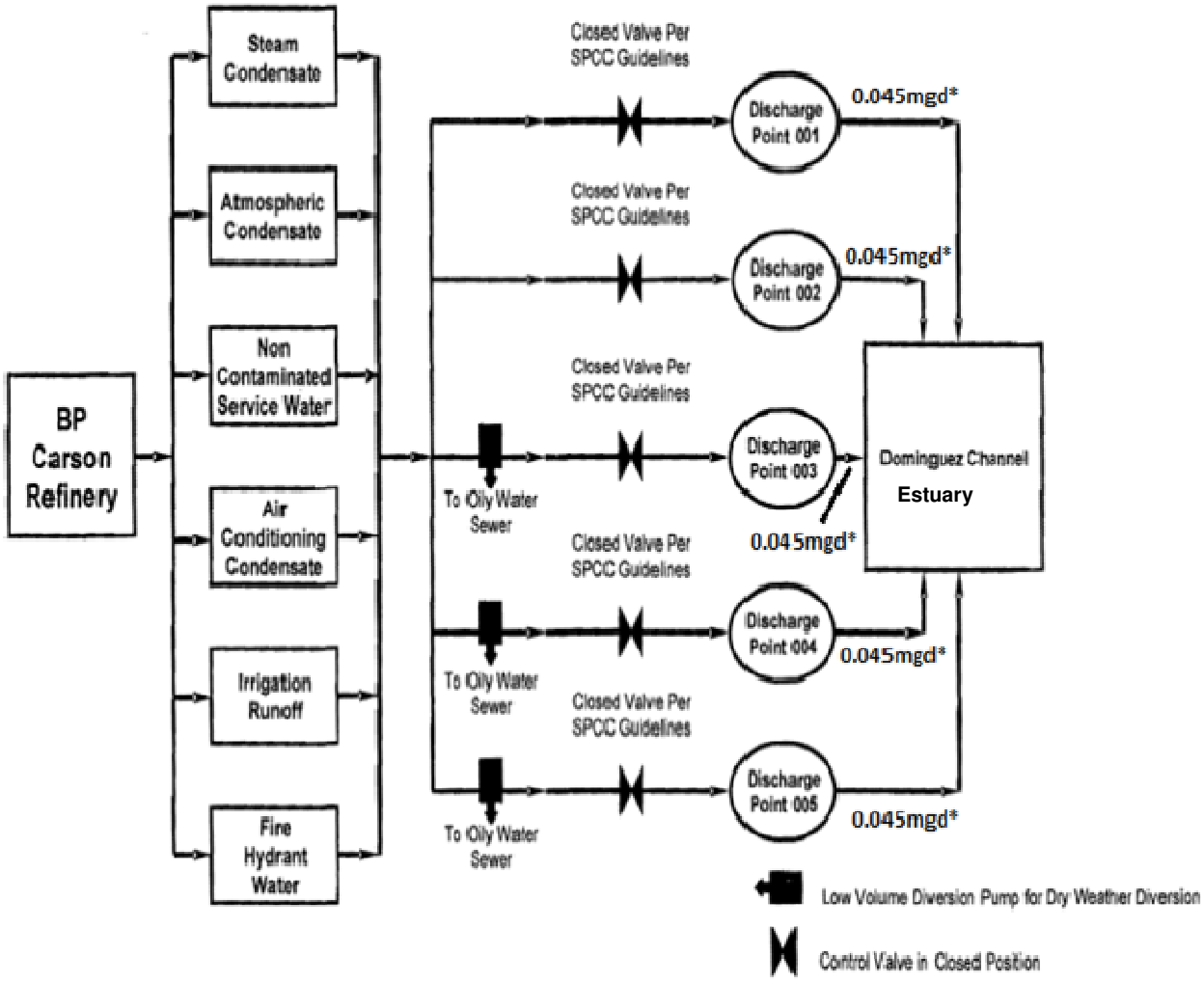
ATTACHMENT C-1 – FLOW SCHEMATIC: LOW VOLUME WASTE



* mgd - million gallons per day

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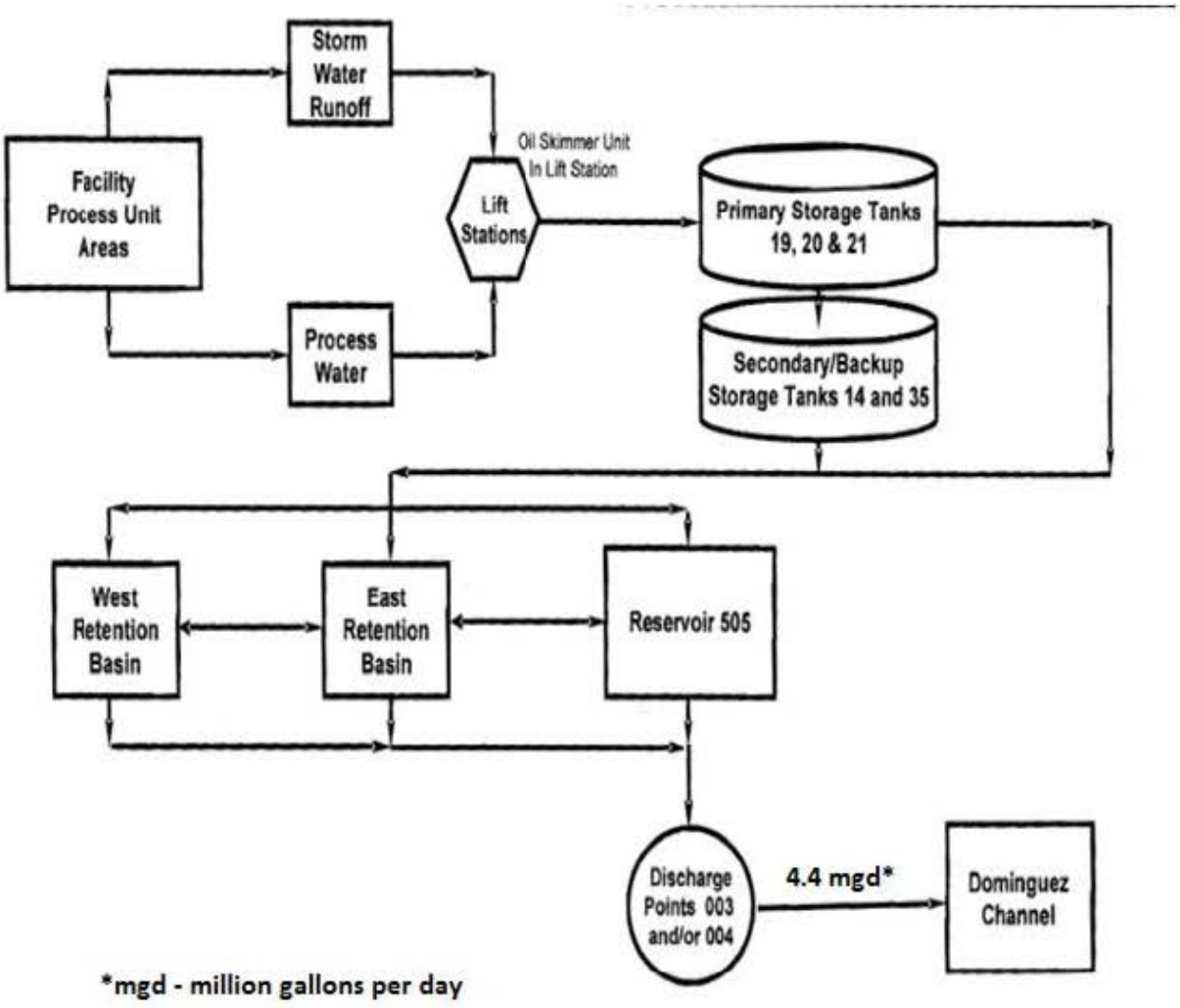
ATTACHMENT C-2 – FLOW SCHEMATIC: PROCESS WASTEWATER COMMINGLED WITH STORMWATER AND BOILER BLOWDOWN



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Attachment C-3 – Receiving Water Monitoring Locations

Receiving Water Sampling Location
Storm Water Discharge Point

Tesoro Los Angeles Refinery - Carson Operations
Effluent Outfalls and Receiving Water Sampling Locations

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ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

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

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

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges [section 122.41(g)].

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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 [section 122.5(c)].

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to [section 122.41(i)] [Cal. Wat. Code section 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 [section 122.41(i)(1)];

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order [section 122.41(i)(2)];

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order [section 122.41(i)(3)]; and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the California Water Code, any substances or parameters at any location [section 122.41(i)(4)].

G. Bypass

1. Definitions

   i. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility [section 122.41(m)(1)(i)].

   ii. "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 [section 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 [section 122.41(m)(2)].

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3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless [section 122.41(m)(4)(i)]:

a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage [section 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 [section 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 [section 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 [section 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 [section 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) [section 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 [section 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 [section 122.41(n)(2)].

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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 [section 122.41(n)(3)]:

a. An upset occurred and that the Discharger can identify the cause(s) of the upset [section 122.41(n)(3)(i)];

b. The permitted facility was, at the time, being properly operated [section 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) [section 122.41(n)(3)(iii)]; and

d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above [section 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 [section 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 [section 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 [section 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 California Water Code [section 122.41(l)(3) and section 122.61].

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity [section 122.41(j)(1)].

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

IV. STANDARD PROVISIONS – RECORDS

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

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements [section 122.41(j)(3)(i)];

2. The individual(s) who performed the sampling or measurements [section 122.41(j)(3)(ii)];

3. The date(s) analyses were performed [section 122.41(j)(3)(iii)];

4. The individual(s) who performed the analyses [section 122.41(j)(3)(iv)];

5. The analytical techniques or methods used [section 122.41(j)(3)(v)]; and

6. The results of such analyses [section 122.41(j)(3)(vi)].

C. Claims of confidentiality for the following information will be denied [section 122.7(b)]:

1. The name and address of any permit applicant or Discharger [section 122.7(b)(1)]; and

2. Permit applications and attachments, permits and effluent data [section 122.7(b)(2)].

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance

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with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order [section 122.41(h)] [Cal. Wat. Code section 13267].

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below [section 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. [section 122.22(a)(1)].

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

a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above [section 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.) [section 122.22(b)(2)]; and

c. The written authorization is submitted to the Regional Water Board and State Water Board [section 122.22(b)(3)].

3. 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

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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 [section 122.22(c)].

4. 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." [section 122.22(d)].

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C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order [section 122.22(l)(4)].

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

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board [section 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 [section 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 [section 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 [section 122.41(l)(6)(i)].

2. The following shall be included as information that must be reported within 24 hours under this paragraph [section 122.41(l)(6)(ii)]:

a. Any unanticipated bypass that exceeds any effluent limitation in this Order [section 122.41(l)(6)(ii)(A)].

b. Any upset that exceeds any effluent limitation in this Order [section 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 [section 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 [section 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) [section 122.41(l)(1)(i)]; or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under section 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1) [section 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 [section 122.41(l)(1)(iii)].

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G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements [section 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 [section 122.41(l)(7)].

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information [section 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 California Water Code, including, but not limited to, sections 13385, 13386, and 13387.

B. The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $25,000 per day for each violation. The CWA provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the CWA, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the CWA, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the CWA, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the CWA, and who knows at that time that he

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thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions [*section 122.41(a)(2)*] [Cal. *Water Code sections 13385 and 13387*].

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

D. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both [*section 122.41(j)(5)*].

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

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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 [section 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" [section 122.42(a)(1)]:

a. 100 micrograms per liter (µg/L) [section 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 [section 122.42(a)(1)(ii)];

c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [section 122.42(a)(1)(iii)]; or

d. The level established by the Regional Water Board in accordance with section 122.44(f) [section 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" [section 122.42(a)(2)]:

a. 500 micrograms per liter (µg/L) [section 122.42(a)(2)(i)];

b. 1 milligram per liter (mg/L) for antimony [section 122.42(a)(2)(ii)];

c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [section 122.42(a)(2)(iii)]; or

d. The level established by the Regional Water Board in accordance with section 122.44(f) [section 122.42(a)(2)(iv)].

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP NO. 5424)

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP) NO. 5424

The Code of Federal Regulations section 122.48 requires that all NPDES permits specify monitoring and reporting requirements. California Water Code sections 13267 and 13383 also authorize the Regional Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. Effluent sampling stations shall be established for the points of discharge (Discharge Points 001, 002, 003, 004, and 005) as listed below and shall be located where representative samples of effluent can be obtained.

B. 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.

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

Laboratories analyzing effluent samples and receiving water samples shall be certified by the State Water Board, Drinking Water Division, Environmental Laboratory Accreditation Program (ELAP) or approved by the Executive Officer and must include quality assurance/quality control (QA/QC) data in their reports. A copy of the laboratory certification shall be provided each time a new certification and/or renewal of the certification is obtained from ELAP.

D. For any analyses performed for which no procedure is specified in the USEPA guidelines or in the MRP, the constituent or parameter analyzed and the method or procedure used must be specified in the monitoring report.

E. Each monitoring report must affirm in writing that "all analyses were conducted at a laboratory certified for such analyses by the State Water Board, or approved by the Executive Officer and in accordance with current USEPA guideline procedures or as specified in this MRP".

F. 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

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2. "Detected, but Not Quantified (DNQ)" if results are greater than or equal to the laboratory's MDL but less than the ML; or,

3. "Not-Detected (ND)" for sample results less than the laboratory's MDL with the MDL indicated for the analytical method used.

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

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

G. Where possible, the MLs employed for effluent analyses shall be lower than the permit limitations established for a given parameter. 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.

Where possible, 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. Water quality objectives for parameters may be found in Chapter 3 of the Basin Plan and the CTR (40 C.F.R. section 131.38). If the ML value is not below the water quality objective, then the lowest ML value and its associated analytical method shall be selected for compliance purposes. At least once a year, the Discharger shall submit a list of the analytical methods employed for each test, the associated laboratory QA/QC procedures, reporting levels (RLs), and method detection limits (MDLs).

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

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

2. When the Discharger and Regional Water Board agree to include in the permit a test method that is more sensitive than that specified in Part 136 (revised May 18, 2012);

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

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

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5. When the Discharger uses a method whose quantification practices are not consistent with the definition of an ML. Examples of such methods are the USEPA-approved method 1613 for dioxins and furans, method 1624 for volatile organic substances, and method 1625 for semi-volatile organic substances. In such cases, the Discharger, the Regional Water Board, and the State Water Board shall agree on a lowest quantifiable limit and that limit will substitute for the ML for reporting and compliance determination purposes.

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

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

J. 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.

K. 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.

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

M. 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

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Discharger shall provide for the approval of the Executive Officer a program to ensure future compliance with the average monthly limit.

N. In the event wastes are transported to a different disposal site during the report 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.

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

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	The effluent sampling station shall be located at Discharge Point 001 at latitude 33º 49’ 17” N and longitude 118º 14’ 27” W.
002	EFF-002	The effluent sampling station shall be located at Discharge Point 002 at latitude 33º 49’ 10” N and longitude 118º 14’ 25” W.
003	EFF-003	The effluent sampling station shall be located at Discharge Point 003 at latitude 33º 49’ 03” N and longitude 118º 14’ 24” W.
004	EFF-004	The effluent sampling station shall be located at Discharge Point 005 at latitude 33º 48’ 57” N and longitude 118º 14’ 03” W.
005	EFF-005	The effluent sampling station shall be located at Discharge Point 005 at latitude 33º 48’ 57” N and longitude 118º 14’ 03” W.
---	RSW-001A	The receiving water sampling station shall be located midstream in Dominguez Channel at a point within 50 feet from the center of the discharge point line in the opposite direction of tidal flow at the time of sampling. If sampled at slack tide, this station shall be located opposite of where the
---	RSW-002A	
---	RSW-003A	
---	RSW-004A	
---	RSW-005A	

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Discharge Point Name	Monitoring Location Name	Monitoring Location Description
		channel waters have been influenced by the discharge.
---	RSW-001B	The receiving water sampling station shall be located midstream in Dominguez Channel at a point approximately 50 feet from the center of the discharge point line in the direction of tidal flow at the time of sampling. If sampled at slack tide, this station shall be located in the direction where the channel waters have been influenced by the discharge.
---	RSW-002B	
---	RSW-003B	
---	RSW-004B	
---	RSW-005B	
---	SED-001	The sediment sampling station shall be located at Anaheim Road
---	SED-002	The sediment sampling station shall be located at Pacific Coast Highway
---	SED-003	The sediment sampling station shall be located at Sepulveda Boulevard
---	SED-004	The sediment sampling station shall be located at Alameda Street
---	SED-005	The sediment sampling station shall be located at Wilmington Avenue
	SED-006	The sediment sampling station shall be located at Avalon Boulevard
---	SED-007	The sediment sampling station shall be located at Main Street

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III. INFLUENT MONITORING REQUIREMENTS

Not applicable

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Locations EFF-001, EFF-002, EFF-003, EFF-004, EFF-005 (Low Volume Waste)

1. The Discharger shall monitor discharges of low volume waste (Waste Stream 1) prior to discharge through Discharge Points 001, 002, 003, 004 and 005 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table E-2. Low Volume Waste - Monitoring Locations EFF-001, EFF-002, EFF-003, EFF-004, and EFF-005

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow, Total	gallons/day	Grab	1/discharge[1]	[2]
Biochemical Oxygen Demand 5-day @ 20°C (BOD_5)	mg/L	Grab	1/discharge[1]	[2]
Oil and Grease	mg/L	Grab	1/discharge[1]	[2]
pH	standard units	Grab	1/discharge[1]	[2]
Total Suspended Solids (TSS)[3]	mg/L	Grab	1/discharge[1]	[2]
Hardness (as CaCO3)	mg/L	Grab	1/discharge[1]	[2]
Settleable Solids	ml/L	Grab	1/discharge[1]	[2]
Temperature	°F	Grab	1/discharge[1]	[2]
Turbidity	µg/L	Grab	1/discharge[1]	[2]
Sulfides[3]	µg/L	Grab	1/discharge[1]	[2]
Cadmium[3]	µg/L	Grab	1/discharge[1]	[2]
Copper, Total Recoverable[3,7]	µg/L	Grab	1/discharge[1]	[2]
Lead, Total Recoverable[3]	µg/L	Grab	1/discharge[1]	[2]
Mercury, Total Recoverable[3]	µg/L	Grab	1/discharge[1]	[2]
Nickel, Total Recoverable[3]	µg/L	Grab	1/discharge[1]	[2]
Selenium, Total Recoverable[3]	µg/L	Grab	1/discharge[1]	[2]
Silver, Total Recoverable[3]	µg/L	Grab	1/discharge[1]	[2]
Zinc, Total Recoverable[3,7]	µg/L	Grab	1/discharge[1]	[2]
Cyanide[3]	µg/L	Grab	1/discharge[1]	[2]
Total coliform	MPN/100 mL	Grab	1/discharge[1]	[2]
Fecal coliform	MPN/100 mL	Grab	1/discharge[1]	[2]
Enterococcus	MPN/100 mL	Grab	1/discharge[1]	[2]
Methylene Chloride[3]	µg/L	Grab	1/discharge[1]	[2]
Pentachlorophenol[3]	µg/L	Grab	1/discharge[1]	[2]
Bis(2-Ethylhexyl)Phthalate	µg/L	Grab	1/discharge[1]	[2]
Benzo(a)anthracene	µg/L	Grab	1/discharge[1]	[2]
Benzo(a)pyrene	µg/L	Grab	1/discharge[1]	[2]
Chrysene	µg/L	Grab	1/discharge[1]	[2]
Pyrene	µg/L	Grab	1/discharge[1]	[2]
Fluoranthene	µg/L	Grab	1/discharge[1]	[2]
Aldrin	µg/L	Grab	1/discharge[1]	[2]
Chlordane	µg/L	Grab	1/discharge[1]	[2]
Dieldrin	µg/L	Grab	1/discharge[1]	[2]
4,4'-DDT[3,7,10]	µg/L	Grab	1/discharge[1]	[2]
Total PCBs[3,7,8,10]	µg/L	Grab	1/discharge[1]	[2]
Benzo(a)pyrene, Total[7,10]	µg/L	Grab	1/discharge[1]	[2]
Chrysene, Total[7,10]	µg/L	Grab	1/discharge[1]	[2]
Heptachlor epoxide[3]	µg/L	Grab	1/discharge[1]	[2]
Chlorine residual	mg/L	Grab	1/discharge[1]	[2]
Detergents (as MBAS)	µg/L	Grab	1/discharge[1]	[2]
Halomethanes[3]	µg/L	Grab	1/discharge[1]	[2]

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Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
PAHs[7,9]	ng/L	Grab	1/discharge[1]	[2]
Total Organic Carbon	mg/L	Grab	1/discharge[1]	[2]
Tributyltin	µg/L	Grab	1/discharge[1]	[2]
Xylene	µg/L	Grab	1/discharge[1]	[2]
Dieldrin[3]	µg/L	Grab	1/discharge[1]	[2]
Total Petroleum Hydrocarbons (TPH) as Gasoline (C_4-C_{12}) [2]	µg/L	Grab	1/discharge[1]	EPA Method 503.1, or 8015B
TPH as Diesel (C_{13}-C_{22}) [2]	µg/L	Grab	1/discharge[1]	EPA Method 503.1, 8015B or 8270
TPH as Waste Oil (C_{23+}) [2]	µg/L	Grab	1/discharge[1]	EPA Method 503.1, 8015B or 8270
Chronic Toxicity[4]	pass or fail, % effect, TST	Grab	1/discharge[1]	[2]
Remaining Priority Pollutants [5,6]	µg/L	Grab	1/year	[2]
TCDD Equivalents [11]	µg/L	Grab	1/year [5]	[2]

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1 During periods of discharge, samples shall be collected during the first hour of the discharge. Each separate period of discharge shall be sampled, but no more than one sample per week is required. Flow shall be recorded daily during each period of discharge. For chronic toxicity, no more than one sample per quarter is required

2 Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136; for priority pollutants the methods must meet the lowest MLs specified in Attachment 4 of the SIP and included as Attachment H. If no methods are specified for a given pollutant, use methods approved by this Regional Water Board or the State Water Board.

3 The mass emission (lbs/day) for the discharge shall be calculated and reported using the actual concentration and the actual flow rate measured at the time of discharge, using the following formula: Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day.

4 Refer to Section V, Whole Effluent Toxicity Testing Requirements. The Maximum Daily Single Result shall be reported as "Pass or Fail" with a "% Effect".

5 Priority Pollutants as defined by the CTR defined in Finding II.I of this Order and included as Attachment I.

6 Samples shall be collected during the first hour of the discharge during the first discharge event of the calendar year.

7 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, pyrene or chrysene, then the Discharger has not demonstrated attainment with the interim sediment allocations stipulated by the Harbor Toxics TMDL, Resolution No. R11-008, page 11, Item 3, 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 exceedance.

8 Total PCBs (polychlorinated biphenyls) means the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Arolclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

9 PAHs means polynuclear aromatic hydrocarbons. The Discharger shall monitor the CTR individual PAHs compounds for benzo(a)anthracene, benzo(a)pyrene, pyrene, and chrysene. Other individual PAHs compounds listed in Attachment I of this Order shall be monitoring once per year.

10 Water samples analyzed for these pollutants shall not be filtered.

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

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

Where: C_x = concentration of dioxin or furan congener x

TEF_x = TEF for congener x

Toxicity Equivalency Factors

Congeners	Minimum Level (pg/L)	Toxicity Equivalency 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

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B. Monitoring Locations EFF-003 and EFF-004 (Process wastewater commingled with stormwater and boiler blowdown)

1. The Discharger shall monitor the discharge of process wastewater commingled with stormwater and boiler blowdown (Waste Streams 2 and 3) through Discharge Points 003 and 004 as follows:

Table E-3. Process Wastewater Commingled with Stormwater and Boiler Blowdown - Monitoring Locations EFF-003 and EFF-004

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow, Total	Gallons/day	Grab	1/discharge[1]	[2]
Biochemical Oxygen Demand 5-day @ 20°C (BOD)[3]	mg/L	Grab	1/discharge[1]	[2]
Oil and Grease[3]	mg/L	Grab	1/discharge[1]	[2]
pH	standard units	Grab	1/discharge[1]	[2]
Total Suspended Solids (TSS)[3]	mg/L	Grab	1/discharge[1]	[2]
Settleable Solids	ml/L	Grab	1/discharge[1]	[2]
Temperature	°F	Grab	1/discharge[1]	[2]
Chemical Oxygen Demand (COD)[3]	µg/L	Grab	1/discharge[1]	[2]
Conductivity, 25 °C	µmhos/cm	Grab	1/discharge[1]	[2]
Hardness (as $CaCO_3$)	mg/L	Grab	1/discharge[1]	[2]
Ammonia (as N)[3]	µg/L	Grab	1/discharge[1]	[2]
Chlorine, Total Residual	mg/L	Grab	1/discharge[1]	[2]
Sulfides[3]	µg/L	Grab	1/discharge[1]	[2]
Cadmium[3]	µg/L	Grab	1/discharge[1]	
Chromium (VI)[3]	µg/L	Grab	1/discharge[1]	[2]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Chromium, Total[3]	µg/L	Grab	1/discharge[1]	[2]
Copper, Total Recoverable[3,7]	µg/L	Grab	1/discharge[1]	[2]
Lead, Total Recoverable[3]	µg/L	Grab	1/discharge[1]	[2]
Mercury, Total Recoverable[3]	µg/L	Grab	1/discharge[1]	[2]
Silver, Total Recoverable[3]	µg/L	Grab	1/discharge[1]	[2]
Zinc, Total Recoverable[3,7]	µg/L	Grab	1/discharge[1]	[2]
Total coliform	MPN/100 mL	Grab	1/discharge[1]	[2]
Fecal coliform	MPN/100 mL	Grab	1/discharge[1]	[2]
Enterococcus	MPN/100 mL	Grab	1/discharge[1]	[2]
Cyanide	µg/L	Grab	1/discharge[1]	[2]
Benzene	µg/L	Grab	1/discharge[1]	[2]
Carbon Tetrachloride[3]	µg/L	Grab	1/discharge[1]	[2]
1,1-Dichloroethane[3]	µg/L	Grab	1/discharge[1]	[2]
1,2-Dichloroethane[3]	µg/L	Grab	1/discharge[1]	[2]
1,1-Dichloroethylene[3]	µg/L	Grab	1/discharge[1]	[2]
Bis(2-Ethylhexyl)Phthalate	µg/L	Grab	1/discharge[1]	[2]
Methylene Chloride[3]	µg/L	Grab	1/discharge[1]	[2]
Tetrachloroethylene[3]	µg/L	Grab	1/discharge[1]	[2]
Trichloroethylene[3]	µg/L	Grab	1/discharge[1]	[2]
Vinyl Chloride[3]	µg/L	Grab	1/discharge[1]	[2]
Pentachlorophenol[3]	µg/L	Grab	1/discharge[1]	[2]
2,4,6-Trichlorophenol[3]	µg/L	Grab	1/discharge[1]	[2]
1,2-Dichlorobenzene[3]	µg/L	Grab	1/discharge[1]	[2]
1,3-Dichlorobenzene[3]	µg/L	Grab	1/discharge[1]	[2]
1,4-Dichlorobenzene[3]	µg/L	Grab	1/discharge[1]	[2]
Fluoranthene[3]	µg/L	Grab	1/discharge[1]	[2]
Hexachlorobenzene[3]	µg/L	Grab	1/discharge[1]	[2]
Aldrin[3]	µg/L	Grab	1/discharge[1]	[2]
Chlordane	µg/L	Grab	1/discharge[1]	[2]
Dieldrin[3]	µg/L	Grab	1/discharge[1]	[2]
alpha-BHC	µg/L	Grab	1/discharge[1]	[2]
beta-BHC	µg/L	Grab	1/discharge[1]	[2]
gamma-BHC	µg/L	Grab	1/discharge[1]	[2]
Benzo(a)pyrene, Total[7,10]	µg/L	Grab	1/discharge[1]	[2]
Benzo(a)anthracene, Total[7,10]	µg/L	Grab	1/discharge[1]	
Chrysene, Total[7,10]	µg/L	Grab	1/discharge[1]	[2]
Pyrene[7,10]	µg/L	Grab	1/discharge[1]	[2]
Total Petroleum Hydrocarbons (TPH) as Gasoline (C_4-C_{12}) [2]	µg/L	Grab	1/discharge[1]	EPA Method 503.1, or 8015B
TPH as Diesel (C_{13}-C_{22}) [2]	µg/L	Grab	1/discharge[1]	EPA Method 503.1, 8015B or 8270

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Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
TPH as Waste Oil (C_{23+}) [2]	µg/L	Grab	1/discharge[1]	EPA Method 503.1, 8015B or 8270
4,4'-DDT[3,7,10]	µg/L	Grab	1/discharge[1]	[2]
Total PCBs[3,7,8,10]	µg/L	Grab	1/discharge[1]	[2]
Detergents (MBAS)	µg/L	Grab	1/discharge[1]	[2]
Heptachlor epoxide[3]	µg/L	Grab	1/discharge[1]	[2]
Halomethanes	µg/L	Grab	1/discharge[1]	[2]
Methyl tertiary-butyl ether	µg/L	Grab	1/discharge[1]	[2]
PAHs	ng/L	Grab	1/discharge[1]	[2]
Phenolic Compounds[3]	µg/L	Grab	1/discharge[1]	[2]
Total Organic Carbon	mg/L	Grab	1/discharge[1]	[2]
Tributyltin[3]	µg/L	Grab	1/discharge[1]	[2]
Xylene[3]	µg/L	Grab	1/discharge[1]	[2]
Chronic Toxicity [4]	pass or fail, % effect, TST	Grab	1/discharge[1]	[2]
Remaining Priority Pollutants [5,6]	µg/L	Grab	1/year [5]	[2]
TCDD Equivalents [11]	µg/L	Grab	1/year [5]	[2]

[1] During periods of discharge, samples shall be collected during the first hour of the discharge. Each separate period of discharge shall be sampled, but no more than one sample per week is required. Flow shall be recorded daily during each period of discharge. For acute and chronic toxicity, no more than one sample per quarter is required.

[2] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136; for priority pollutants the methods must meet the lowest MLs specified in Attachment 4 of the SIP and included as Attachment H. If no methods are specified for a given pollutant, use methods approved by this Regional Water Board or the State Water Board.

[3] The mass emission (lbs/day) for the discharge shall be calculated and reported using the actual concentration and the actual flow rate measured at the time of discharge, using the following formula:
Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day.

[4] Refer to Section V, Whole Effluent Toxicity Testing Requirements. The Maximum Daily Single Result shall be reported as "Pass or Fail" with a "% Effect".

[5] Priority Pollutants as defined by the CTR defined in Finding II.I of this Order and included as Attachment I.

[6] Samples shall be collected during the first hour of the discharge during the first discharge event of the calendar year.

[7] 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, pyrene or chrysene, then the Discharger has not demonstrated attainment with the interim sediment allocations stipulated by the Harbor Toxics TMDL, Resolution No. R11-008, page 11, Item 3, 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 exceedance.

[8] Total PCBs (polychlorinated biphenyls) means the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Arolclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

[9] PAH means polynuclear aromatic hydrocarbons. The Discharger shall monitor the CTR individual PAHs compounds for benzo(a)anthracene, benzo(a)pyrene, pyrene, and chrysene. Other individual PAHs compounds listed in Attachment I of this Order shall be monitoring once per year.

[10] Water samples analyzed for these pollutants shall not be filtered

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

Dioxin TEQ (TCDD equivalents) = $\sum(C_x \times TEF_x)$
Where: C_x = concentration of dioxin or furan congener x

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TEF_x = TEF for congener x

Toxicity Equivalency Factors

Congeners	Minimum Level (pg/L)	Toxicity Equivalency 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

C. Effluent Sediment Monitoring at Monitoring Location EFF-001 and EFF-002

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

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

Table E-4. Sediment Monitoring Requirements at Monitoring Location EFF-001, EFF-002, EFF-003, EFF-004, EFF-005

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Cadmium	mg/kg	grab	1/year[1]	[2]
Copper, Total Recoverable	mg/kg	grab	1/year[1]	[2]
Lead, Total Recoverable	mg/kg	grab	1/year[1]	[2]
Mercury, Total Recoverable	mg/kg	grab	1/year[1]	[2]
Zinc, Total Recoverable	mg/kg	grab	1/year[1]	[2]
DDTs [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]
Chlordane	mg/kg	grab	1/year[1]	[2]
Dieldrin	mg/kg	grab	1/year[1]	[2]

[1] For each monitoring location, if effluent monitoring results exceed both a TSS effluent limit and a CTR TMDL-based effluent limit or performance goal for copper, lead, zinc, 4,4-DDT, total PCBs, benzo(a)pyrene, or chrysene as specified in Tables 4 and 5 (pages 5 and 6) of this Order, then the Discharger has not demonstrated attainment with the interim sediment allocations stipulated by the Harbor Toxics TMDL, Resolution No. R11-008, page 11, Item 3, 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 exceedance. An effluent sediment monitoring result at or below the interim sediment allocation in Table 7 of this

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Order, demonstrates attainment with the interim sediment allocation and additional sediment monitoring of the effluent is not required. An effluent sediment monitoring result that exceeds the interim sediment allocation requires additional sediment monitoring of the effluent during discharge but not more frequently than once per year until the three-year average concentration for sediment monitoring results is at or below the interim sediment allocation.

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

[2] Pollutants shall be analyzed in accordance with USEPA or ASTM methodologies where such methods exist. Where no USEPA or ASTM methods exist, the State Board or Regional Water Board shall approve the use of other methods. Analytical tests shall be conducted by laboratories certified by the California Department of Public Health in accordance with California 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 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.

[5] According to 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.

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V. EFFLUENT TOXICITY TESTING REQUIREMENTS

A. ChronicToxicity Testing

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

The chronic toxicity IWC for this discharge 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 storm water, sufficient sample volume shall also be collected for subsequent TIE studies, if necessary, at each sampling event. All toxicity tests shall be conducted as soon as possible following sample collection. No more than 36 hours shall elapse before the conclusion of sample collection and test initiation

3. Chronic Marine and Estuarine Species and Test Methods

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

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

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

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

4. Species Sensitivity Screening

Species sensitivity screening shall be conducted during this permit's first required sample collection. The Discharger shall collect a single effluent sample and concurrently conduct three toxicity tests using the fish, an invertebrate, and the alga species previously referenced. This sample shall also be analyzed for the parameters required for the discharge. The species that exhibits the highest "Percent Effect" at the discharge IWC during species sensitivity screening shall be used for routine monitoring during the permit cycle.

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) statistical 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 (H_o) for the TST statistical approach is: Mean discharge IWC response ≤0.75 × Mean control response. A test result that rejects this null hypothesis is reported as "Pass". A test result that does not reject this null hypothesis is reported as "Fail". The relative "Percent Effect" at the discharge IWC is defined and reported as: ((Mean control response – Mean discharge IWC response) ÷ Mean control response)) × 100.

b. The Median Monthly Effluent Limit (MMEL) for chronic toxicity only applies when there is a discharge more than one day in a calendar month period. During such calendar months, exactly three independent toxicity tests are required when one toxicity test results in "Fail". This requirement is not applicable to the industrial storm water discharge.

c. If the effluent toxicity test does not meet all test acceptability criteria (TAC) specified in the referenced test method, then the Discharger must re-sample and

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re-test within 14 days. For the industrial storm water discharge, the Discharger must re-sample and re-test as soon as possible.

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

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

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

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

6. Preparation of Initial Investigation TRE Work Plan

Discharger shall prepare and submit a generic Initial Investigation TRE Work Plan 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 methods for maximizing in-house treatment system efficiency, good housekeeping practices, and a list of all chemicals used in operations at the facility.

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

7. Toxicity Identification Evaluation and Toxicity Reduction Evaluation Process

a. Toxicity Identification Evaluation (TIE). A toxicity test sample is immediately subject to TIE procedures to identify the toxic chemical(s), if a chronic toxicity test shows “Fail and % Effect value ≥50”. The Discharger shall initiate a TIE using, as guidance, EPA manuals: *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures* (EPA/600/6-91/003, 1991);

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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.

b. Toxicity Reduction Evaluation (TRE). When a toxicant or class of toxicants is identified, a TRE shall be performed for that toxicant. The TRE shall include all reasonable steps to identify the source(s) of toxicity and discuss appropriate BMPs to eliminate the causes of toxicity. No later than 30 days after the source of toxicity and appropriate BMPs and/or treatment are identified, the Discharger shall submit a TRE Corrective Action Plan to the Executive Officer for approval. At minimum, the plan shall include:

    i. The potential sources of pollutant(s) causing toxicity.

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

    iii. Follow-up monitoring to demonstrate that toxicity has been removed.

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

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

c. Many recommended TRE elements parallel required or recommended efforts for source control, pollution prevention, and storm water control programs. TRE efforts should be coordinated with such efforts. As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the sources and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with toxicity evaluation parameters.

d. The Discharger shall conduct routine effluent monitoring for the duration of the TIE/TRE process.

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.

8. 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:

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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.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

Not applicable

VII. RECLAMATION MONITORING REQUIREMENTS

Not applicable

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND SEDIMENT

A. Monitoring Locations RSW-001A, RSW-002A, RSW-003A, RSW-004A and RSW-005A

1. The Discharger shall monitor the Dominguez Channel Estuary at RSW-001A, RSW-002A, RSW-003A, RSW-004A and RSW-005A as follows:

Table E-5. Receiving Water Monitoring Requirements – RSW-001A, RSW-002A, RSW-003A, RSW-004A and RSW-005A

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	standard units	Subsurface grab	1/discharge[1,2]	[3]
Salinity	g/Kg	Subsurface grab	1/discharge[1,2]	[3]
Temperature	°F	Subsurface grab	1/discharge[1]	[3]
Priority pollutants [4]	µg/L	Subsurface grab	1/year[5]	[3]

[1] Each separate period of discharge shall be sampled, but no more than one sample per quarter is required. If no discharge occurs, no monitoring is required.

[2] Receiving water pH and salinity must be analyzed at the same time the samples are collected for priority pollutants analysis.

[3] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136; for priority pollutants the methods must meet the lowest MLs specified in Appendix 4 of the SIP and included as Attachment H. If no methods are specified for a given pollutant, use methods approved by this Regional Water Board or the State Water Board.

[4] Priority Pollutants as defined by the CTR defined in Finding II.I of this Order and included as Attachment I.

[5] Shall be monitored concurrently with effluent Priority Pollutant monitoring specified in Section IV.A.1 of this MRP, Attachment E. If no discharge occurs, no monitoring is required.

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B. Monitoring Locations RSW-001B, RSW-002B, RSW-003B, RSW-004B and RSW-005B

1. The Discharger shall monitor the Dominguez Channel Estuary at Monitoring Locations RSW-001B, RSW-002B, RSW-003B, RSW-004B, RSW-005B and RSW-006B as follows:

Table E-6. Receiving Water Monitoring Requirements – RSW-001B, RSW-002B, RSW-003B, RSW-004B and RSW-005B

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	standard units	Subsurface grab	1/discharge[1,2]	[3]
Ammonia, total	Mg/L	Subsurface grab	1/discharge[1,2]	[3]
Dissolved oxygen	Mg/L	Subsurface grab	1/discharge[1]	[3]
Nitrate (as N)	Mg/L	Subsurface grab	1/discharge[1]	[3]
Salinity	g/Kg	Subsurface grab	1/discharge[1,2]	[3]
Temperature	°F	Subsurface grab	1/discharge[1,2]	[3]

[1] Each separate period of discharge shall be sampled, but no more than one sample per quarter is required.
[2] Receiving water samples for ammonia, salinity, pH and temperature shall be taken concurrently with the effluent sample for ammonia.
[3] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136; for priority pollutants the methods must meet the lowest MLs specified in Appendix 4 of the SIP and included as Attachment H. If no methods are specified for a given pollutant, use methods approved by this Regional Water Board or the State Water Board.

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C. Visual Monitoring of Upstream and Downstream Receiving Water Sampling Points

1. A visual observation station shall be established in the vicinity of the discharge point to the receiving water (Dominguez Channel Estuary).

2. General observations of the receiving water shall be made at each discharge point when discharges occur. During months of no discharge, the receiving water observations shall be made on a monthly basis. All receiving water observations shall be reported in the quarterly monitoring report. If no discharge occurred during the observation period, this shall be reported. Observations shall be descriptive where applicable, such that colors, approximate amounts, or types of materials are apparent. The following observations shall be made:

   a. Tidal stage, time, and date of monitoring
   b. Weather conditions

c. Color of water
d. Appearance of oil films or grease, or floatable materials
e. Extent of visible turbidity or color patches
f. Direction of tidal flow
g. Description of odor, if any, of the receiving water
h. Presence and activity of California Least Tern and California Brown Pelican.

D. Monitoring Locations SED-001, SED-002, SED-003, SED-004, SED-005, SED-006 and SED-007

1. The Discharger shall perform sediment sampling at Monitoring Locations SED-001, SED-002, SED-003, SED-004, SED-005, SED-006, and SED-007 as follows:

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Table E-7. SEDIMENT Monitoring Requirements – SED-001, SED-002, SED-003, SED-004, SED-005, SED-006, SED-007

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Cadmium, Total Recoverable	mg/Kg	Surface Grab[1]	1/year	[2]
Chlordane	mg/Kg	Surface Grab[1]	1/year	[2]
Chromium, Total	mg/Kg	Surface Grab[1]	1/year	[2]
Copper, Total Recoverable	mg/Kg	Surface Grab[1]	1/year	[2]
Lead, Total Recoverable	mg/Kg	Surface Grab[1]	1/year	[2]
Mercury, Total Recoverable	mg/Kg	Surface Grab[1]	1/year	[2]
Nickel, Total Recoverable	mg/Kg	Surface Grab[1]	1/year	[2]
Zinc, Total Recoverable	mg/Kg	Surface Grab[1]	1/year	[2]
PCBs[3]	mg/Kg	Surface Grab[1]	1/year	[2]
Sediment grain size	---	Surface Grab[1]	1/year	[2]
Chronic toxicity [4]	TUc	Surface Grab[1]	2/year	[2]
DDT[5]	mg/Kg	Surface Grab[1]	1/year	[2]
Total Organic Carbon	mg/Kg	Surface Grab[1]	1/year	[2]
Total Petroleum Hydrocarbons	mg/Kg	Surface Grab[1]	1/year	[2]
Tributyltin	mg/Kg	Surface Grab[1]	1/year	[2]
PAHs[6]	mg/Kg	Surface Grab[1]	1/year	[2]
Note odor, color, and visible aquatic life in sediment	---	Surface Grab[1]	1/year	[2]

[1] Grab samples containing the upper two centimeters of sediment shall be taken from an Ekman grab sampler (or another method approved by the Executive Officer).
[2] Pollutants shall be analyzed in accordance with USEPA or American Society for Testing and Materials (ASTM) methodologies where such methods exist. For priority pollutants the methods must meet the lowest MLs specified in Attachment 4 of the SIP and included as Attachment H. If no methods are specified for a given pollutant, use methods approved by this Regional Water Board or the State Water Board.
[3] Sum of Arochlor 1016, Arochlor, 1221, Arochlor 1232, Arochlor 1242, Archlor 1248, Arochlor 1254, and Arochlor 1260
[4] See Section V.

[5] Sum of 4,4'-DDT, 2,4'-DDT, 4,4'-DDE, 2,4'-DDE, 4,4'-DDD, and 2,4'-DDD.
[6] Sum of acenaphthene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo(k)fluoranthene, 1,12-benzoperylene, benzo(a)pyrene, chrysene, dibenzo(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, and pyrene.

E. Biomonitoring

As required under Special Provision VI.C.2 of this Order, the Discharger shall submit an updated work plan for biomonitoring to the Executive Officer of the Regional Board within 90 days of the effective date of this Order. The work plan shall detail a proposed biomonitoring assessment including, but not limited to, details for: using caged bivalves, specifying species to be used, other parameters of tests (including an acceptable size or age range of organisms), bivalve or sampling locations (including upstream and downstream of discharge), time periods when outplanting will occur, durations of the outplants and analytical parameters.

F. Coordinated Monitoring

The Discharger may participate in a coordinated receiving water, biomonitoring, and sediment monitoring program with other dischargers to the Dominguez Channel Estuary in order to provide the Regional Water Board with a comprehensive water and sediment quality database for this water body. Upon approval by the Regional Water Board of such a coordinated water quality and sediment quality monitoring program, provisions of Section VIII of this MRP may be revised, as appropriate.

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IX. OTHER MONITORING REQUIREMENTS

A. Stormwater Monitoring

1. **Rainfall Monitoring**. The Discharger shall measure and record the rainfall on each day of the month. This information shall be included in the monitoring report for that quarter.

2. **Visual Observation.** The Discharger shall make visual observations of the stormwater discharge location at Discharge Point 004 during at least one storm event per month that produces a significant discharge of stormwater commingled with process wastewater. Observations shall note the presence of floating and suspended materials, oil and grease, discoloration, turbidity, and odor at the stormwater discharge locations. A "significant stormwater discharge" is a continuous discharge of stormwater commingled with process wastewater for a minimum of one hour, or the intermittent discharge of stormwater commingled with process wastewater for a minimum of 3 hours in a 12-hour period.

B. SWPPP, BMPP and Spill Contingency Plan Status and Effectiveness Repor

1. As required under Special Provision VI.C.3 of this Order, the Discharger shall submit the following plans to the Executive Officer of the Regional Water Board for approval within 90 days of the effective date of this Order:

Updated SWPPP. The plan shall describe site-specific management practices for minimizing contamination of stormwater runoff, and for preventing contaminated stormwater runoff from being discharged to waters of the State. The SWPPP shall be developed in accordance with the requirements in Attachment G.

Updated BMPP. The plan shall entail 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 updated BMPP shall be consistent with the general guidance contained in the USEPA *Guidance Manual for Developing Best Management Practices (BMPs)* (EPA 833-B-93-004). In particular, a risk assessment of each area identified by the Discharger shall be performed to determine the potential for hazardous or toxic waste/material discharge to surface waters.

The plans 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 points (e.g., chemical storage areas); describe the activities in each area and the potential for contamination of stormwater runoff and the discharge of hazardous waste/material; and address the feasibility of containment and/or treatment of the stormwater.

Updated Spill Contingency Plan. This plan shall be site specific and shall cover all areas of the Facility. The plan shall include technical report on the preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. The technical report should:

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

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

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

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

The Regional Water Board, after review of the technical report, may establish conditions which it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions may be incorporated as part of this Order, upon notice to the Discharger.

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2. The Discharger shall implement SWPPP, BMPP and Spill Contingency Plan within 10 days of the approval by the Executive Officer.

3. Annually, the Discharger shall report the status of the implementation and the effectiveness of the SWPPP, BMPP and Spill Contingency Plan Status required under Special Provision VI.C.3 of this Order. The SWPPP, BMPP and Spill Contingency Plan 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 discharged from the Facility are addressed in the SWPPP, BMPP and Spill Contingency Plan status will be summarized in the first quarterly monitoring report submitted after review and update.

C. Chemical Use Report

1. The Discharger shall submit to the Regional Water Board, together with the first monitoring report required by this Order, a list of all chemicals and proprietary additives which could affect the waste discharge, including quantities of each.

2. The Discharger shall report annually summarizing the quantities of all chemicals, listed by both trade and chemical names, which are used at the Facility and which are discharged or have the potential to be discharged.

3. The Discharger shall monitor the chemicals used at the Facility. Prior to any change in the use of chemicals at the Facility, the Discharger must inform the Regional Water Board. No changes in the type or amount of chemicals added to the process water shall be made without the written approval of the Regional Water Board's Executive Officer. The Discharger must submit a complete report of the change to the Regional Water Board before the proposed date of change.

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. 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.

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

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5. The Discharger shall report the results of acute and chronic toxicity testing, TRE and TIE as required in the Attachment E, Monitoring and Reporting, Section V.F.

B. Self Monitoring Reports (SMRs)

1. The Discharger shall electronically certify and submit Discharge Monitoring Reports (DMRs) together with SMRs using Electronic Self-Monitoring Reports module eSMR 2.5 or any upgraded version. Electronic DMR submittal shall be in addition to electronic SMR submittal. Information about electronic DMR submittal is available at the DMR website at: <http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring>.

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 SMRs including the results of all required monitoring using USEPA-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-8. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
1/Discharge Event	On Permit Effective Date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1
1/Quarter	On Permit Effective Date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1
1/Year	On Permit Effective Date	January 1 through December 31	February 1

4. Reporting Protocols. The Discharger shall report with each sample result the applicable reported Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in Part 136.

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

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

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

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+ 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.

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

7. Multiple Sample Data. When determining compliance with an AMEL or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "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.

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

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

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

SMRs SMRs must be submitted to the Regional Water Board electronically as specified in finding X.B.1, above, signed and certified as required by the Standard Provisions (Attachment D). If the size of the submittal necessitates the submittal of a disk, please mail it to the address listed below:

California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

C. Discharge Monitoring Reports (DMRs)

1. As described in section X.B of this MRP, at any time during the term of this permit, the State or Regional Water Board may notify the discharger to electronically submit SMRs that will satisfy the federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.
2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to the address listed below:

STANDARD MAIL	FEDEX/UPS/OTHER PRIVATE CARRIERS
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center P.O. Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15th Floor Sacramento, CA 95814

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

D. Other Report

1. The Discharger shall report the results of any acute toxicity testing and TRE/TIE, SWPPP, BMPP and SCP required by Special Provisions – VI.C. 2 and 3 of this Order. The Discharger shall submit reports with the first monthly SMR scheduled to be submitted on or immediately following the report due date.

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

a. Initial Investigation TRE Workplan

b. Updated SWPPP and BMPP

c. Updated SCP

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ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

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

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

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I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

WDID	4B192010008
Discharger	Tesoro Refining & Marketing Company LLC
Name of Facility	Tesoro Los Angeles Refinery – Carson Operations
Facility Address	1801 East Sepulveda Boulevard
	Carson, CA 90749
	Los Angeles County
Facility Contact, Title and Phone	Robert Stockdale, Lead Environmental Engineer (310) 522-6281
Authorized Person to Sign and Submit Reports	Dave Foster, Vice President, Los Angeles Refinery (310) 847-5209
Mailing Address	2350 E. 223rd Street, Carson, CA 90801
Billing Address	Same
Type of Facility	Petroleum Refinery
Major or Minor Facility	Major
Threat to Water Quality	2
Complexity	A
Pretreatment Program	Not applicable (N/A)
Reclamation Requirements	N/A
Facility Permitted Flow	Up to 0.045 million gallons per day (MGD) low-volume wastes; and 4.4 MGD of process wastewater, stormwater runoff, and boiler blowdown
Facility Design Flow	N/A
Watershed	Dominguez Channel Watershed
Receiving Water	Dominguez Channel Estuary
Receiving Water Type	Channel

A. Tesoro Refining and Marketing Company LLC (hereinafter Discharger) owns and operates the Tesoro Los Angeles Refinery – Carson Operations (hereinafter Facility), a petroleum refining facility.

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

B. The Facility discharges wastewater to the Dominguez Channel Estuary, a water of the United States, and is currently regulated by Order No. R4-2007-0015 which was adopted on March 1, 2007. The Order expired on February 10, 2012. 40 CFR Part 122.6, "Continuation of expiring permits", stipulates that the conditions of an expired permit continue in full force until the effective date of the new permit, if the permittee has submitted a timely application. The Permittee has submitted a timely application.

C. The Discharger filed a report of waste discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit dated August 11, 2011. Supplemental information was requested on September 9, 2011 and received on September 16, 2011. A site visit was conducted on August 11, 2011, to observe operations and collect additional data to develop permit limitations and conditions.

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II. FACILITY DESCRIPTION

On June 1, 2013, Tesoro Refining and Marketing Company LLC purchased the former BP West Coast Products LLC Carson Refinery. Tesoro now owns and operates the Los Angeles Refinery – Carson Operations, a petroleum oil refinery which processes an average of 265,000 barrels per day of crude to produce gasoline, diesel fuel, jet fuel, sulfur, coke, liquefied petroleum gas (LPG), and polypropylene.

BP West Coast Products (the previous owner of the refinery) manufactured polypropylene at the Carson Refinery until December, 2005. Since that time, the polypropylene operation has been owned and operated by INEOS. The real property on which INEOS operates is owned by Tesoro Refining and Marketing Company LLC and leased to INEOS.

The Los Angeles Refinery is equipped with an "oily water drain" system designed to capture stormwater from process areas of the refinery. The Refinery also has a "clean water drain" system designed to capture other stormwater, such as stormwater outside of process areas. Discharges of this stormwater are regulated under the California Industrial Stormwater General Permit, rather than this permit.[1]

A. Description of Wastewater Treatment or Controls

The refinery processes at the Facility include crude atmospheric distillation, vacuum distillation, chemical treating superfractionation, alkylation/MTBE, catalytic cracking, hydrocracking, hydrotreating, delayed coking, catalytic reforming, hydro-desulfurization,

[1] The Industrial Stormwater Permit is State Water Resources Control Board Permit No. CAS000001, Water Quality Order No. 97-03-DWQ, or any later version of this permit.

petrochemical production, natural gas liquids production, cogeneration/steam production, gasoline blending, and sulfur recovery. Primary process units include three crude units, a fluid catalytic cracker (FCC), three reformers, two delayed cokers, a hydrocracker, a hydrotreater, an alkylation plant, an isomerization plant, a sulfur tail gas recovery unit, two hydrogen plants and a cogeneration unit.

Petroleum refining is the physical, thermal, and chemical separation of crude oil into its major distillation fractions that are then further processed through a series of separation and conversion steps into finished petroleum products. These processes can be separated into two phases. The first phase includes desalting of crude oil and the subsequent distillation into various components/fractions. The second phase includes downstream processes to convert the distillation fractions into petroleum products through any combination of different cracking, coking, reforming, and alkylation processes.

Desalting – Before separation into fractions, crude oil must first be treated to remove corrosive salts. Desalting involves the mixing of heated crude oil with water so that the salts are dissolved in the water. The water must then be separated from the crude oil in a separating vessel by adding demulsifier chemicals to assist in breaking the emulsion.

Distillation – The desalted crude oil is then heated in a heat exchanger and furnace to about 750°F and fed to a distillation column at atmospheric pressure where most of the feed is vaporized and separated into its various fractions (atmospheric distillation). The light fractions condense and are collected at the top of the column. The heavier fractions are collected at the bottom of the column and are further separated by distillation at a very low pressure to increase volatilization and separation (vacuum distillation).

Cracking – Thermal cracking, or visbreaking, uses heat and pressure to break large hydrocarbon molecules into smaller, lighter molecules. This process has been largely replaced by catalytic cracking that uses catalyst in addition to heat and pressure to break large hydrocarbon molecules into smaller, lighter molecules. Catalytic cracking is able to produce gasoline with higher octane.

Catalytic Hydrocracking – Catalytic hydrocracking utilizes a fixed-bed catalytic reactor under high pressure (1,200 to 2,000 psig) with the presence of hydrogen. This process is used to break crude oil fractions that are the most difficult to crack or cannot be cracked effectively in catalytic cracking units.

Coking – Coking is a cracking process used to reduce refinery production of low-value residual fuel oils to gasoline and diesel. Coking also produces petroleum coke, a solid carbon used as a fuel for power plants.

Hydrotreating – Hydrotreating is a process used to remove impurities such as sulfur, nitrogen, oxygen, halides, and trace metal impurities that may deactivate process catalysts. Hydrotreating also increases the quality of fractions by converting olefins and diolefins to paraffins for the purposes of reducing gum formation in fuels.

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Alkylation – Alkylation is used to produce a high octane gasoline from isobutane formed primarily during catalytic cracking and coking operations. Alkylation joins an olefin and an isoparaffin compound using either a sulfuric acid or hydrofluoric acid as a catalyst.

Catalytic Reforming – Catalytic reforming uses catalytic reactions to process low octane gasolines and naphthas into high octane aromatics (including benzene). There are four major types of reactions that occur during reforming processes: (1) dehydrogeneration of napthenes to aromatics; (2) dehydrocyclization of paraffins to aromatics; (3) isomerization; and (4) hydrocracking.

Chemical treating – Chemical treating is used to remove or change the undesirable properties associated with sulfur, nitrogen, or oxygen compound contaminates in petroleum products. This can be done by either extraction or oxydation.

Isomerization – Isomerization is used to alter the arrangement of a molecule without adding or removing anything from the original molecule. Typically, paraffins (butane or pentane) are converted to isoparaffins having a much higher octane. The reaction takes place at temperatures in the range of 200 to 400°F with the presence of platinum as a catalyst.

During normal operations, all the wastewater generated from the Refinery process units and stormwater runoff from process areas captured in oily water drains are treated at the centralized wastewater treatment system and discharged to the Los Angeles County Sanitation Districts' (LACSD) sewer system. The Refinery's centralized wastewater treatment system consists of an American Petroleum Institute (API) separator, five lift stations, five tanks and three induced gas flotation (IGF) units.

There are five distinct waste streams discharged from the Facility. Only Waste Streams 1, 2, and 3 are authorized for discharge to surface waters by this NPDES Permit. Waste Stream 1 consists of low volume wastes of steam condensate, atmospheric condensate, non-contaminated service water, air conditioning condensate and fire system water. Low Volume Waste discharges are intermittent with flow rates up to 0.045 MGD. During normal operations, low volume wastes are captured in oily water drains treated at the centralized wastewater treatment system and discharged to the LACSD sewer system. In the event of emergency or pump failure, low volume wastes are discharged into Dominguez Channel Estuary through Discharge Points 001, 002, 003, 004 and 005, which are also used during storms of 0.1 inch or more to discharge stormwater captured in clean water drains, as explained more fully in the Refinery's Stormwater Pollution Prevention Plan.

Waste Stream 2 consists of process wastewater from the Refinery and stormwater runoff from process areas while Waste Stream 3 consists of boiler blowdown from boiler feed water in the Refinery and cogeneration facility. The process area wastewater and stormwater are normally captured in oily water drains, treated at the centralized wastewater treatment system and discharged to the LACSD sewer system. However, when rainfall exceeds 0.1-inch, the Refinery is required to divert some of the combined

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process area wastewater and stormwater flow to storage tanks (Tank Nos. 19, 20, 21, 14, and 35). When the tank capacity is exceeded, the commingled process area wastewater and stormwater are diverted to the two retention basins (East Retention Basin and West Retention Basin) and a 50-million gallon reservoir (Reservoir 505) that hold the water for 24 or more hours. After cessation of the storm, the stored wastewater and stormwater are sent to the sewer during off-peak hours. However, during extended storms when Reservoir 505 is filled to 40 million gallons or more and discharge to the sewer is restricted, the process area wastewater and stormwater in the reservoir may be required to be discharged to Dominguez Channel through Discharge Points 003 and/or 004 at the rate of up to 4.4 mgd[2]. The discharge consists of about 70% stormwater and about 30% wastewater with boiler blowdown contributing less than 5% of the total discharge. The discharge continues until the volume of water in the reservoir is reduced to 20 million gallons or until discharge to the sewer is allowed. This volume allows sufficient impound capacity to accommodate runoff from rainfall in the event there should be successive days of heavy rainfall in excess of 0.1-inch.

Waste Stream 4 consists of cooling tower blowdown from cooling towers in the Refinery, cogeneration facility, and LPG and the INEOS polypropylene manufacturing facility. Waste Stream 5 consists of treated ground water generated from the groundwater cleanup operation. These waste streams are not authorized for surface water discharge and are not covered by this NPDES permit.

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B. Discharge Points and Receiving Waters

Waste Stream 1 consisting of low volume wastes is discharged intermittently through Discharge Points 001, 002, 003, 004, and 005 to the Dominguez Channel Estuary. Waste Stream 2 consisting of process wastewater commingled with stormwater and Waste Stream 3 consisting of boiler blowdown are discharged intermittently through Discharge Point 004 to the Dominguez Channel Estuary. The Facility discharged process wastewater commingled with stormwater once during the entire term of the existing Order, during the first quarter of 2008.

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

Order R4-2007-0015 contains the following effluent limitations and representative monitoring data collected during the term of Order R4-2007-0015 are as follows:

[2] In the ROWD, the Discharger requested that this wastewater be authorized for discharge through Discharge Point 003 and Discharge Point 004. Previously, the discharge was only allowed through Discharge Point 004.

Table F-2. Historic Effluent Limitations and Monitoring Data – Low Volume Waste

Parameter	Units	Effluent Limitations			Monitoring Data
		Average Monthly	Maximum Daily	Instantaneous Minimum/Maximum	
Biochemical Oxygen Demand 5-day @ 20 (BOD)	mg/L	20	30	--	0.68 – 48
	lbs/day[2]	7.5	11	--	9.02×10^{-5} – 0.05
Oil and Grease	mg/L	10	15	--	2 – 3
	lbs/day[2]	3.8	5.6	--	0.00031 – 0.036
pH	Standard units	--	--	6.5/8.8	7.5 – 8.16
Total Suspended Solids (TSS)	mg/L	50	75	--	33
	lbs/day	19	28	--	0.0006
Copper, Total Recoverable	µg/L	2.4	4.8	--	2.2 – 9.5
	lbs/day	0.009	0.0018	--	0.0003 – 0.113
Antimony	µg/L	--	--	--	0.31 – 0.83
Arsenic	µg/L	--	--	--	2.2 – 8.1
Cadmium	µg/L	--	--	--	0.15
Chromium (VI) [2]	µg/L	--	--	--	2.2
Lead	µg/L	--	--	--	4.2 – 5.8
Mercury, Total Recoverable	µg/L	0.05	0.1	--	<0.1
	lbs/day	0.000019	0.000038	--	--
Nickel, Total Recoverable	µg/L	6.7	13	--	0.9 – 11
	lbs/day	0.0025	0.0051	--	0.0416
Selenium	µg/L	--	--	--	1.5
Silver, Total Recoverable	µg/L	0.95	1.9	--	<0.03
	lbs/day	0.00036	0.00071	--	--
Thallium	µg/L	--	--	--	<0.2
Zinc, Total Recoverable	µg/L	37	95	--	40 – 620
	lbs/day	0.014	0.036	--	7.37
Cyanide	µg/L	--	--	--	27
Bromoform	µg/L	--	--	--	2.3
Methylene Chloride	µg/L	1,600	3,210	--	<0.095
	lbs/day	0.60	1.2	--	--
Pentaclorophenol	µg/L	6.5	13	--	<3.3
	lbs/day	0.0024	0.0049	--	--
Benzo(a)anthracene	µg/L	0.049	0.098	--	<1.9
	lbs/day	0.000018	0.000037	--	--
Chrysene	µg/L	0.049	0.098	--	<2.4
	lbs/day[2]	0.000018	0.000037	--	--
Fluoranthene	µg/L	42	742	--	<2.8
	lbs/day	0.016	0.28	--	--

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Parameter	Units	Effluent Limitations			Monitoring Data
		Average Monthly	Maximum Daily	Instantaneous Minimum/Maximum	
Aldrin	µg/L	0.00014	0.00028	--	<0.00015
	lbs/day	5.3×10^{-8}	1.1×10^{-7}	--	--
4,4'-DDE	µg/L	0.00059	0.00118	--	<0.0003
	lbs/day	2.2×10^{-7}	4.4×10^{-7}	--	--
Heptachlor Epoxide	µg/L	0.00011	0.00022	--	<0.00025
	lbs/day	4.1×10^{-8}	8.3×10^{-8}	--	--
Toluene	µg/L	--	--	--	2.4
Bis(2-Ethylhexyl)Phthalate	µg/L	--	--	--	6.2
Naphthalene	µg/L	--	--	--	0.57
Phenanthrene	µg/L	--	--	--	0.041
Pyrene	µg/L	--	--	--	0.051
Acute Toxicity	% survival	[1]			100
Detergent (MBAS)	µg/L	--	0.5	--	89 – 220
	lbs/day	--	0.19	--	1.06
Residual Chlorine	µg/L	--	0.1	--	<0.1
	lbs/day	--	0.038	--	--
Sulfides	µg/L	--	1.0	--	43 – 67
	lbs/day[2]	--	0.38	--	0.66 – 0.009
Settleable Solids	ml/L	0.1	0.3	--	0.2
Temperature	ºF	--	--	--/86	65 – 76
Total Organic Carbon	mg/L	--	--	--	2.8 – 55
Tributyltin	µg/L	--	--	--	<0.004
Turbidity	NTU	50	75	--	0.58 – 29
Xylene	µg/L	--	10	--	<0.3
	lbs/day	--	0.0038	--	--

1. The acute toxicity of the effluent shall be such that the average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous low flow bioassay tests shall be at least ninety percent (90%) and no single test producing less than 70% survival.
2. Total chromium reported as chromium VI.

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Table F-3. Historic Effluent Limitations and Monitoring Data – Process Wastewater Comingled with Stormwater and Boiler Blowdown

Parameter	Units	Effluent Limitations			Monitoring Data [1]
		Average Monthly	Maximum Daily	Instantaneous Minimum/ Maximum	
Biochemical Oxygen Demand 5-day @ 20 (BOD)	mg/L	20	30	--	25 - 1600
	lbs/day [2]	733	1099	--	[3]
Oil and Grease	mg/L	10	15	--	120 - 150
	lbs/day [2]	366	550	--	[3]
pH	Standard units	--	--	6.5/8.5	6.59 – 7.23
Total Suspended Solids (TSS)	mg/L	50	75	--	25 - 51
	lbs/day [2]	1833	2745	--	[3]
Antimony	µg/L	--	--	--	1.3 – 1.4
Arsenic	µg/L	--	--	--	2
Cadmium	µg/L	--	--	--	0.37 – 0.51
Chromium (VI)	µg/L	46	106	--	3 – 3.5
	lbs/day [2]	1.7	3.9	--	[3]
Copper, Total Recoverable	µg/L	2.4	4.8	--	12 - 16
	lbs/day [2]	0.086	0.17	--	[3]
Lead	µg/L	--	--	--	4.2 – 4.5
Mercury, Total Recoverable	µg/L	0.05	0.1	--	<0.1
	lbs/day [2]	0.0018	0.0036	--	[3]
Selenium	µg/L	--	--	--	0.41 – 0.56
Silver, Total Recoverable	µg/L	0.95	1.9	--	<0.3
	lbs/day [2]	0.034	0.068	--	[3]
Zinc, Total Recoverable	µg/L	45	90	--	510 - 560
	lbs/day [2]	1.6	3.2	--	[3]
Cyanide	µg/L	0.5	1.0	--	<2.2
	lbs/day [2]	0.018	0.036		[3]
Benzene	µg/L	1.0	21	--	<0.28
	lbs/day	0.036	0.76	--	[3]
Carbon Tetrachloride	µg/L	--	0.5	--	<0.28
	lbs/day [2]	--	0.018	--	[3]
1,1-Dichloroethane	µg/L	--	5	--	<0.27
	lbs/day [2]	--	0.18	--	[3]
1,2-Dichloroethane	µg/L	--	0.5	--	<0.28
	lbs/day [2]	--	0.018	--	[3]
1,1-Dichloroethylene	µg/L	3.2	6	--	<0.42
	lbs/day [2]	0.12	0.22	--	--
Methylene Chloride	µg/L	1,600	3,210	--	NS
	lbs/day [2]	58	116	--	[3]
Tetrachloroethylene	µg/L	--	5	--	<0.32 - 0.56
	lbs/day [2]	--	0.18	--	[3]

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Parameter	Units	Effluent Limitations			Monitoring Data [1]
		Average Monthly	Maximum Daily	Instantaneous Minimum/ Maximum	
Trichloroethylene	µg/L	--	5	--	<0.26
	lbs/day [2]	--	0.18	--	[3]
Vinyl Chloride	µg/L	--	0.5	--	<0.30
	lbs/day [2]	--	0.18	--	[3]
Pentaclorophenol	µg/L	6.5	13	--	<18
	lbs/day [2]	0.23	0.47	--	[3]
2,4,6-Trichlorophenol	µg/L	1	--	--	<23
	lbs/day [2]	0.036	--	--	[3]
1,2-Dichlorobenzene	µg/L	17000	34105	--	<0.32
	lbs/day [2]	612	1229	--	[3]
1,3-Dichlorobenzene	µg/L	2600	5216	--	<0.35
	lbs/day [2]	94	188	--	[3]
1,4-Dichlorobenzene	µg/L	64	5216	--	<0.37
	lbs/day [2]	2.3	188	--	[3]
Fluoranthene	µg/L	42	742	--	<6
	lbs/day [2]	1.5	27	--	[3]
Hexachlorobenzene	µg/L	0.00069	0.0015	--	<6
	lbs/day [2]	0.000025	0.000054	--	[3]
alpha-BHC	µg/L	0.013	0.026	--	<0.0024
	lbs/day[2]	0.00047	0.00094	--	[3]
beta-BHC	µg/L	0.046	0.092	--	<0.0038
	lbs/day	0.0017	0.0033	--	[3]
gamma-BHC	µg/L	0.062	0.13	--	<0.0028
	lbs/day	0.0022	0.0047	--	[3]
Naphthalene	µg/L	--	--	--	5.9 – 6.5
Acute Toxicity	% survival	[4]			55 - 70
Ammonia as N	mg/L	0.035	0.233	--	NS
	lbs/day [2]	1.3	8.6	--	[3]
Chemical Oxygen Demand (COD)	mg/L	80	120	--	33
	lbs/day	2932	4398	--	[3]
Residual Chlorine	µg/L	--	0.1	--	<100
	lbs/day	--	3.6	--	[3]
Chromium, Total	µg/L	548	1066	--	<0.004
	lbs/day [2]	18	51	--	[3]
Detergent (MBAS)	µg/L	--	0.5	--	170 - 180
	lbs/day	--	18	--	[3]
Halomethanes	µg/L	480	--	--	NS
	lbs/day	17	--	--	[3]
Phenols (4AAP)	µg/L	409	1200	--	NS
	lbs/day [2]	15	44	--	[3]
Settleable Solids	ml/L	0.1	0.3	--	0.1 – 0.3

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Parameter	Units	Effluent Limitations			Monitoring Data [1]
		Average Monthly	Maximum Daily	Instantaneous Minimum/ Maximum	
Sulfides	µg/L	382	900	--	41 - 68
	lbs/day	14	33	--	[3]
Temperature	ºF	--	--	--/86	NS
Xylene	µg/L	--	10	--	<0.3
	lbs/day	--	0.36	--	[3]

[1] One rain event (February 25, 2008) caused the discharge of process wastewater comingled with stormwater and boiler blowdown through two outfalls (Discharge Points 003 and 004).
NS = No Sample
[2] Limits based on a maximum discharge of 4.4 MGD.
[3] The mass of pollutants discharged during this event was not calculated due to the small volume discharged, 3.75 gallons.

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Table F-4. Sediment Monitoring Data

Parameter	Units	Monitoring Data [1]	
		Minimum Value	Maximum Value
Cadmium	mg/Kg	0.597	0.742
Chromium, Total	mg/Kg	12.2	179
Copper	mg/Kg	35.4	468
Lead	mg/Kg	21.4	189
Nickel	mg/Kg	4.42	27.4
Zinc	mg/Kg	92.5	317
TOC	mg/Kg	16000	76000
Sediment Grain Size	mm	0.015	0.241
Chronic Toxicity	% survival	19	97
TPH	mg/Kg	33	21000
Tributyltin	µg/Kg	<3	12
4,4'-DDE	µg/Kg	<2	40
4,4'-DDD	µg/Kg	<2	37
2,4'-DDD	µg/Kg	<2	11
2,4'-DDE	µg/Kg	<2	5.3
2,4'-DDT	µg/Kg	<1	
4,4'-DDT	µg/Kg	<1	
PCBs	µg/Kg	<70	
Acenaphthene	mg/Kg	<5	
Acenaphthylene	mg/Kg	<5	
Anthracene	mg/Kg	<5	
Benzo(a)Anthracene	mg/Kg	5.9	
Benzo(a)Pyrene	mg/Kg	<5	
Benzo(b)Fluoranthene	mg/Kg	<5	
Benzo(ghi)Perylene	mg/Kg	<5	
Benzo(k)Fluoranthene	mg/Kg	<5	
Chrysene	mg/Kg	5.9	
Dibenzo (a,h) Anthracene	mg/Kg	<5	
Fluoranthene	mg/Kg	12	
Fluorene	mg/Kg	<5	
Indeno (1,2,3-cd)	mg/Kg	<5	
Pyrene	mg/Kg	47	
Naphthalene	mg/Kg	<5	
Phenanthrene	mg/Kg	<5	
Pyrene	mg/Kg	<5	

[1] Eleven samples taken during 2007, 2008 and 2009 at five different sampling locations.

D. Compliance Summary

On April 1, 2009 a compliance evaluation inspection (CEI) was conducted at the Facility by USEPA and the Regional Water Board. Two major findings were noted: The Facility exceeded the maximum daily effluent limitation for sulfide (1 µg/L) on July 2, 2008 (concentration 67 µg/L) and the Facility does not record the time of analysis when analyzing pH, residual chlorine and dissolved oxygen samples. Violations for Order R4-2007-0015 are summarized below.

Date	Monitoring Period	Violation Type	Pollutant	Reported Value	Permit Limitation	Units
April 11, 2007	2Q 2007	Maximum Daily	BOD	48	30	mg/L
April 11, 2007	2Q 2007	Maximum Daily	Zinc	580	90	µg/L
April 2007	2Q 2007	Average Monthly	BOD	580	20	µg/L
April 2007	2Q 2007	Average Monthly	Nickel	11	6.7	µg/L
February 7, 2008	1Q 2008	Maximum Daily	Copper	9.5	4.8	µg/L
February 7, 2008	1Q 2008	Maximum Daily	Zinc	620	90	µg/L
February 2008	1Q 2008	Average Monthly	Settleable Solids	0.2	0.1	ml/L
February 2008	1Q 2008	Copper	Average Monthly	9.5	2.4	µg/L

On August 23, 2010, the Regional Water Board issued Complaint No. OE-2010-0004 for Mandatory Minimum Penalties in the amount of $51,000 to the Facility for effluent limitation violations which occurred in 2001 through 2008.

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E. Planned Changes

No changes have been planned.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed 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 byUSEPA and chapter 5.5, division 7 of the California 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 California Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100 through 21177.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Quality Control Board (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. Beneficial uses applicable to the Dominguez Channel Estuary are as follows:

Table F-5. Basin Plan Beneficial Uses

Discharge Points	Receiving Water Name	Beneficial Use(s)
001, 002, 003, 004, 005	Dominguez Channel Estuary	Existing: Water contact recreation (REC-1); non-contact water recreation (REC-2); commercial and sport fishing (COMM); estuarine habitat (EST); marine habitat (MAR); wildlife habitat (WILD); preservation of rare and endangered species (RARE); migration of aquatic organisms (MIGR); and spawning, reproduction, and/or early development (SPWN). Potential: Navigation (NAV).

Requirements of this Order implement the Basin Plan.

Enclosed Bays and Estuaries Policy. The Water Quality Control Policy for the Enclosed Bays and Estuaries of California (Enclosed Bay and Estuaries Policy), adopted by the 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."*

Discharges to the Dominguez Channel Estuary would occur during heavy precipitation events. The Discharger typically directs discharges to the Los Angeles

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County Sanitation District's sewer system, but when rainfall exceeds 0.1-inch, flow is directed to on-site storage tanks and retention basins; after cessation of the storm, the stored wastewater and stormwater is sent to the sewer system. However, during an extended storm when discharge to the sewer system is restricted, the wastewater and stormwater in the reservoir is treated (carbon absorption filter/ion exchange or membrane unit) and discharged to the Dominguez Channel Estuary. The discharge would be comprised mostly of stormwater runoff (approximately 70% of the flow is stormwater). Nonetheless, this Order contains provisions necessary to protect the beneficial uses of the receiving water.

2. **Thermal Plan.** The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. Requirements of this Order implement the Thermal Plan. 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; typical aquatic life species present in surface water bodies in the Los Angeles Region. A maximum effluent temperature limitation of 86°F was determined to be appropriate for protection of aquatic life and it is included in this Order.

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

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

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

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effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

6. **Antidegradation Policy.** Section Federal regulation 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16. Resolution 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Los Angeles Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16.

7. **Anti-Backsliding Requirements.** Section 402(o)(2) 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 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.

   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.

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

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

Certain receiving waters in the Los Angeles and Ventura County watersheds do not fully support beneficial uses and therefore have been classified as impaired on the 2010 303(d) list and have been scheduled for TMDL development. On November 12, 2010, USEPA approved California's 2010 Section 303(d) list of impaired waters and disapproved the omission of several water bodies and associated pollutants that meet federal listing requirements. USEPA identified additional water bodies and pollutants for

inclusion on the State's 303(d) list. On October 11, 2011, USEPA issued its final decision regarding the waters USEPA added to the State's 303(d) list.

The Facility discharges into Dominguez Channel Estuary within the Los Angeles/Long Beach Harbor watershed. The 2010 State Water Board California 303 (d) list classifies the Dominguez Channel Estuary as impaired. The pollutants of concern in the Estuary include: cadmium, chromium, lead, mercury, zinc, polycyclic aromatic hydrocarbons (PAHs), dichorodiphenyltrichloroethane (DDT) and polychlorinated biphenyls (PCBs).

The following are summaries of the TMDLs for the Dominguez Channel Estuary:

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) (Resolution No. R11-008). The Harbor Toxic TMDL was approved by the State Water Board on February 7, 2012, the OAL on March 21, 2012, and the USEPA on March 23, 2012. The Harbor Toxics TMDL contains requirements applicable to this discharge. Therefore, this Order contains effluent limitations and monitoring requirements based on the TMDL. The Harbor Toxics TMDL includes:

   a. Sediment interim concentration-based allocations (in mg/kg sediment) for copper, lead, zinc, 4,4'-DDT, PAHs, and PCBs (Attachment A to Resolution No. R11-008, p. 11).

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

   c. Provisions Sediment final concentration-based allocations (in mg/kg dry sediment) for cadmium (Attachment A to Resolution No. R11-008, pp. 17).

   d. Bed sediment concentration –based allocations (in (µg/kg sediment) for chlordane, and dieldrin (Attachment A to Resolution No. R11-008, p. 21).

   e. Provisions for monitoring discharges and/or receiving waters during the TMDL's 20 year implementation schedule to determine attainment with wasteload and load allocations as appropriate.

<u>Implementation of the Harbor Toxics TMDL</u>

The provisions of this Order implement and are consistent with the assumptions and requirements of the WLAs established in the Harbor Toxics TMDL This Order requires final 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), PAHs [benzo(a)anthracene, benzo(a)pyrene, chrysene, and pyrene] (0.049), chlordane (0.00059), 4,4'-DDT (0.00059), dieldrin (0.00014), and total PCBs (0.00017)

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(referred to in this Order as CTR TMDL-based WLAs), converted from saltwater CTR criteria using CTR saltwater default translators, and relevant implementation provisions in section 1.4 of the State Implementation Policy. The TMDL includes 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 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 the Regional Water Board may authorize compliance schedules in NPDES permits for up to 20 years for non-MS4 storm water dischargers (General Construction, General Industrial, and individual industrial permittees) for copper, lead, zinc, chlordane, dieldrin, 4,4'-DDT, total PCBs, benzo(a)anthracene, benzo(a)pyrene, chrysene, and pyrene consistent with the implementation plan and schedule in the TMDL.

As discussed in more detail below, this Order includes a compliance schedule, with interim effluent limits and required tasks, for copper, zinc, chlordane, dieldrin, 4,4'-DDT, total PCBs, benzo(a)anthracene, benzo(a)pyrene, and chrysene that will lead to the Discharger's compliance with the corresponding final WQBELs within five years. Immediate compliance with the corresponding final effluent limits for these parameters is either not attainable or unknown under current facility performance as demonstrated by the most recent monitoring data.

The water column CTR TMDL-based WLAs for copper, lead, zinc, chlordane, dieldrin, 4,4'-DDT, total PCBs, benzo(a)anthracene, benzo(a)pyrene, chrysene, and pyrene were developed to ensure that the beneficial uses of the Dominguez Channel Estuary are preserved.

This Order also includes monitoring thresholds based on the TMDL's final sediment allocation for cadmium, chlordane and dieldrin, and interim sediment allocations for copper, lead, zinc, DDT, PAHs, and PCBs, 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 treatment technologies existing at the time of permit issuance, reissuance, or modification. The TMDL's final sediment

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allocations were developed to ensure that the beneficial uses of the Dominguez Channel Estuary are preserved.

The water column CTR TMDL-based WLAs for copper, lead, zinc, PAHs, chlordane, 4,4'-DDT, dieldrin, and total PCBs were developed to ensure that the beneficial uses of the Dominguez Channel Estuary are preserved. However, no water column CTR TMDL-based WLA was assigned for cadmium in the Dominguez Channel Estuary. Therefore, a performance goals for cadmium has been established based on CTR criteria and Section 1.4 of the SIP, to ensure proper implementation of the TMDL's final sediment allocations for this discharge. Since the discharge is composed of a mixture of wastewater and storm water runoff, both an AMEL and a MDEL are specified.

During each reporting period, if effluent monitoring results exceed both a TSS effluent limit and an effluent limit or performance goal for cadmium, copper, lead, zinc, DDT, PAHs, PCBs, chlordane, or dieldrin then the Discharger has not demonstrated attainment with the sediment allocations set forth in the Harbor Toxics TMDL 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 Tables 5, 6, and 7 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 three-year average concentration for sediment monitoring results is at or below the applicable sediment allocation.

Performance Goals for Cadmium

The performance goal for cadmium is 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. The performance goal for cadmium is not an enforceable effluent limitation. It acts as a trigger to determine when sediment monitoring of the effluent is required for this compound.

The performance goals are based on the CTR criteria calculated using the SIP procedures.

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

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 Dominguez Channel Estuary and Greater Los Angeles and Long Beach Harbor Waters. These plans shall

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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 joins a group already formed, the Discharger shall notify the Regional Water Board within 90 days of the effective date of the Order and provide documentation that Tesoro Carson Crude Terminal is participating in the group's efforts. 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 review and approval. The Discharger shall begin monitoring 6 months after the Monitoring Plan and QAPP are approved, unless otherwise directed by the Executive Officer. The compliance monitoring program shall include water column, sediment, and fish tissue monitoring.

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

E. 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: section 122.44(a) requires that permits include applicable technology-based limitations and standards; and section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

The Facility is a petrochemical refinery that processes crude oil into various products, including gasoline, diesel fuel, jet fuel, sulfur, coke, LPG, and polypropylene. The discharges from the Facility through Discharge Points 001, 002, 003, 004, and 005 consist of low volume wastes of steam condensate, atmospheric condensate, non-contaminated service water, air conditioning condensate, irrigation runoff and fire system water (Waste Stream 1). Typical pollutants of concern in these waste streams may include solids, oil and grease, heat, chlorine, sulfides, detergents, organic compounds, and metals. Solids and parameters contributing to oxygen demand are commonly present in wastewater of industrial facilities and therefore, 5-day biochemical oxygen demand @ 20°C (BOD), total suspended solids (TSS), turbidity, and settleable solids are pollutants of concern. Also, pH, temperature, chlorine, sulfides, detergents (MBAS) may be in the discharge and are of

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concern because the discharge of these pollutants have the potential to adversely affect the water quality and the aquatic life of the receiving water. These pollutants were regulated in Order R4-2007-0015 and are regulated in this Order.

In addition, these waste streams are a potential source of oil and grease, organic compounds and metals. Copper, nickel, silver, zinc, pentachlorophenol, benzo(a)anthracene, methylene chloride, fluoranthene, aldrin, chrysene, and 4,4'-DDE were considered pollutants of concern based on reasonable potential and were regulated in the existing Order (R4-2007-015). The Facility operation has not changed significantly since the existing Order was issued. Therefore, these pollutants are also considered pollutants of concern for this Order. In addition, reasonable potential to exceed water quality standards was determined using monitoring data from the current permit term for selenium, cyanide and bis(2-ethylhexyl)phthalate. New effluent limitations for these pollutants have been included in this Order for discharges of low volume wastes.

The Facility also discharges process wastewater commingled with stormwater (Waste Stream 2) and of boiler blowdown (Waste Stream 3) through Discharge Points 003 and 004. In Order R4-2007-0015 Waste Streams 2 and 3 were only authorized to be discharged through Discharge Point 004.

BOD, TSS, COD, oil and grease, phenolic compounds, ammonia as N, total chromium and chromium (VI) are regulated under the *Petroleum Refining Point Source Category Subpart B: Petrochemical Subcategory* effluent limitation guidelines and standards (ELGs) as defined in 40 CFR § 419.30. The *Development Document for Effluent Limitations Guidelines and Standards for the Petroleum Refining Point Source Category* (Subpart B: Petrochemical Category) indicates these pollutants are common in the wastewater discharged from these facilities and because the Facility is a petroleum refinery they are considered pollutants of concern. The Facility operation has not changed since Order R4-2007-0015 was issued; therefore, these pollutants are also considered pollutants of concern and are regulated in this Order. In addition, reasonable potential to exceed water quality standards was determined using monitoring data for aldrin collected during the term of Order R4-2007-0015. Effluent limitations for these pollutants have been included in this Order for discharges of process wastewater comingled with stormwater and boiler blowdown.

Typical pollutants present in these waste streams may include solids, oxygen demanding substances, chlorine, oil and grease, ammonia, sulfides, detergents, organic compounds, and metals. Solids are commonly present in wastewater of industrial facilities and therefore, TSS and settleable solids are pollutants of concern. Also, pH and temperature are pollutants of concern because the discharge of industrial wastewater and stormwater also has the potential to affect the pH and temperature of the receiving water body. Refinery process wastewater and polluted stormwater commonly contain oxygen-demanding substances and therefore, BOD and chemical oxygen demand (COD) are pollutants of concern. In addition, the Facility deals with crude oil and refinery products that are a potential source of oil and grease, ammonia, organic compounds, and metals.

Parameters such as sulfides, settleable solids, copper, zinc, pentachlorophenol, methylene chloride, fluoranthene, aldrin, MBAS, and heptachlor epoxide were regulated for low

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volume waste in Order R4-2007-0015. Because the current discharge of low volume waste through Discharge Points 001, 002, 003, 004, and 005 has not changed and the Facility operation has remained the same, all the above pollutants are still considered pollutants of concern for this Order. Limits for parameters such as copper, zinc, cyanide, 1,1-dicholorethylene, pentachlorophenol, hexachlorobenzene, alpha-BHC, beta-BHC, and gamma-BHC that are included in Order No. R4-2007-0015 for process wastewater mixed with storm water and boiler blowdown are considered pollutants of concern and are included in this Order because the Facility operation has not changed. Some of the other parameters that were included in Order No. R4-2007-0015 for both both low volume waste (mercury, silver) and process wastewater mixed with storm water and boiler blowdown (mercury, silver, benzene, carbon tetrachloride, 1,1-dichloroethene, tetrachloroethylene, trichloroethylene, 2,4,6-trichlorophenol, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, xylene, vinyl chloride, and halomethanes)) are not included in this Order because they did not demonstrate reasonable potential. Also, new limits are included in this Order for all pollutants that demonstrated reasonable potential for both low volume waste (lead, selenium, cyanide, bis(2-ethylhexyl)phthalate, chlordane, 4,4'-DDT, dieldrin, total PCBs, benzo(a)pyrene, and pyrene) and process wastewater mixed with storm water and boiler blowdown (lead, dieldrin, chlordane, toal PCBs, benzo(a)anthracene, benzo(a)pyrene,chrysene, and pyrene).

Generally, mass-based effluent limitations ensure that proper treatment, and not dilution, is employed to comply with the final effluent concentration limitations. 40 CFR 122.45(f)(1) requires that all limitations, standards or prohibitions in the Order 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 limitations in an Order on a case-by-case basis limitations based on mass are infeasible because the mass or pollutant cannot be related to a measure of production. The limitations, however, must ensure that dilution will not be used as a substitute for treatment.

The Report of Waste Discharge indicates that the discharge rate of low volume wastes through Discharge Points 001, 002, 003, 004, and 005 is 0.045 MGD. Therefore, the proposed mass-based limitations for discharge of low volume wastes are based on that flow.

The Report of Waste Discharge indicates that the discharge rate of process wastewater comingled with stormwater and boiler blowdown through Discharge Points 003 and 004 is 4.4 MGD. Therefore, the proposed technology-based mass limitations for select parameters for stormwater, boiler blowdown, and process wastewater discharged through Discharge Points 003 and 004 is based on a flow of 4.4 MGD. The discharge through Discharge Points 003 and 004 consists of approximately 70% (3 MGD) stormwater and 30% process wastewater (1.4 MGD) with boiler blowdown contributing to less than 5% (0.22 MGD) of the total discharge. This breakdown is used to calculate applicable ELG TBELs for this discharge.

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A. Discharge Prohibitions

The discharge prohibitions are based on the requirements of the Basin Plan, State Water Board's plans and policies, the California Water Code, and previous permit provisions, and are consistent with the requirements set for other discharges to the Dominguez Channel Estuary regulated by NPDES permits.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations, 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 section 122.23 (NPDES Permit Regulations) and Best Professional Judgment (BPJ) in accordance with 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 performance by plants 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 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 USEPA to develop ELGs representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and section 125.3 of the Code of Federal Regulations authorize the use of best professional judgment (BPJ) to derive

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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 permit writer must consider specific factors outlined in section 125.3.

Technology-based effluent limits are intended to achieve a minimum level of treatment of pollutants for point source discharges.

2. Applicable Technology-Based Effluent Limitations

Two discharges comprised of three different waste streams are authorized for discharge from the Facility – low volume wastes (Waste Stream 1) and process wastewater commingled with stormwater (Waste Stream 2) and boiler blowdown (Waste Stream 3).

Low Volume Wastes: In accordance with section 125.3, this Order includes technology-based effluent limitations for the discharge of low volume waste (Waste Stream 1) through Discharge Points 001, 002, 003, 004 and 005 based on BPJ. BOD, oil and grease, and TSS are pollutants of concern for this type of discharge and Order R4-2007-0015 included effluent limitations for these pollutants. The Regional Water Board determined based on BPJ, that these numeric effluent limitations continue to be applicable to the Facility. In addition, mass-based effluent limitations in this Order are established for BOD, oil and grease, and TSS.

A summary of the technology-based effluent limitations for Waste Stream 1 is shown in Table F-6.

Table F-6. Summary of Technology-based Effluent Limitations – Low Volume Waste Discharge Points 001, 002, 003, 004 and 005

Parameter	Units	Effluent Limitations	
		Average Monthly	Maximum Daily
BOD_5 @ 20°C	mg/L	20	30
	lbs/day[1]	7.5	11
Total Suspended Solids (TSS)	mg/L	50	75
	lbs/day[1]	19	28
Oil and Grease	mg/L	10	15
	lbs/day[1]	3.8	5.6

[1] Mass-based effluent limitations based upon a maximum authorized discharge of 0.045 MGD.

Process Wastewater Commingled with Stormwater and Boiler Blowdown: Process wastewater from the refinery commingled with the stormwater runoff from process areas (Waste Stream 2) and boiler blowdown from boiler feed water in the refinery and cogeneration facility (Waste Stream 3) are discharged through Discharge Points 003 and 004. Two types of technology-based effluent limitations (TBELs) apply to

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this comingled discharge – effluent limitation guidelines and best professional judgment.

The TBELs for Waste Stream 2 and Waste Stream 3 are calculated based upon the following flow rates:

Table F-7. Determination of Flow Rates Comprising Waste Streams 2 and 3

Total flow through Discharge Point 004 =	4.4 MGD
Waste Stream 3 flow (5% of discharge) =	0.22 MGD
Therefore, Waste Stream 2 flow =	4.4 – 0.22 = 4.18 MGD
Stormwater flow in Waste Stream 2 (70% of discharge) =	2.926 MGD
Process wastewater flow in Waste Stream 2 =	4.18 – 2.926 = 1.254 MGD

Based on the type of operation, the Facility is categorized as a petrochemical refinery as defined in section 419.30 (Effluent Limitation Guidelines and Standards for the Petroleum Refining Point Source Category, ELGs). The subpart applies to discharges resulting from the manufacture of petroleum products by topping, cracking, petrochemical operations and any other refinery process, except lube operations. Because Waste Stream 2 consists of process wastewater commingled with contaminated runoff, mass-based effluent limitations established in sections 419.32, 419.33, and 419.34 are applicable to the discharge. Sections 419.32, 419.33, and 419.34 contain the BPT, BAT, and BCT limitations for BOD, TSS, COD, oil and grease, ammonia, sulfides, phenolic compounds, total chromium, and hexavalent chromium (chromium VI) for process wastewater and contaminated stormwater. The effluent limitations for process wastewater and contaminated stormwater are determined separately by selecting the most stringent of the BPT, BAT, and BCT limitations. The application of the ELGs requires that technology-based effluent limitations for Discharge Points 003 and 004 be derived based on refinery production (the total crude oil throughput of the Facility) and the treatment processes used. Based on information provided by the Discharger in the Report of Waste Discharge, the effluent limitations in this permit are based on facility production rates of 300,000 barrels per operating day (BPOD) and the treatment processes used.

Limits = Throughput x Size Factor x Process Factor x Effluent Limit (found in 40 CFR).

Where the following was applicable:
Throughput = 300 (kbbl/day)
Size Factor = 1.13
Process Factor = 1.17

Using BOD as an example, and shown in Table F-8 below, the technology-based effluent limits for process wastewater were calculated as the following:

$$300 \times 1.13 \times 1.17 \times 12.1 = 4{,}799$$

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Table F-8 summarizes the technology-based effluent limitations based on the ELGs for process wastewater discharges that comprise part of Waste Stream 2:

Table F-8: Technology-based Effluent Limitations for Waste Stream 2 – Process Wastewater

Parameter	Effluent Limit in 40 CFR 419 C						Final Limit [1]		ELG Basis for Final Limit
	BPT 419.32		BAT 419.33		BCT 419.34				
	Daily Max (lb/kbbl)	30-day Avg. (lb/kbbl)	Daily Max (lb/kbbl)	30-day Avg. (lb/kbbl)	Daily Max (lb/kbbl)	30-day Avg. (lb/kbbl)	Daily Max (lb/day)	30-day Avg. (lb/day)	
BOD_5	12.1	6.5	---	---	12.1	6.5	4,799	2,578	BPT/BCT
TSS	8.3	5.25	---	---	8.3	5.25	3,292	2,082	BPT/BCT
COD	74	38.4	74	38.4	---	---	29,351	15,231	BPT/BAT
Oil and Grease	3.9	2.1	---	---	3.9	2.1	1,547	833	BPT/BCT
Phenolic Compounds	0.088	0.0425	[2]	[2]	0.088	0.0425	35	11	BPT/BAT
Ammonia as N	8.25	3.8	8.25	3.8	---	---	3,272	1,507	BPT/BAT
Sulfide	0.078	0.035	0.078	0.035	---	---	31	14	BPT/BAT
Total Chromium	0.183	0.107	[2]	[2]	---	---	36	13	BAT
Hexavalent Chromium	0.016	0.0072	[2]	[2]	---	---	2.3	1.0	BAT
pH	The pH of the wastes discharged shall at all times be within the range of 6.0 to 9.0 pH units.						6.0 – 9.0		BPT/BCT

[1] Final Limits = Throughput x Size Factor x Process Factor x Effluent Limit in ELGs. The feed rate for the Facility is 300; the Size Factor = 1.13; and the Process Factor = 1.17.

[2] See BAT effluent limitation factor for Phenolic Compounds, Total Chromium and Hexavalent Chromium at section 419.23(c).

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Per the ELGs, additional incremental limits are permitted for the contaminated stormwater flow that comprises part of Waste Stream 2. Technology-based effluent limitations for contaminated runoff have been calculated based on a stormwater flow of 2.9 MGD. These limits were calculated based on the effluent limitations allocated to contaminated runoff in the ELGs established at BPT 419.32(e); BAT 419.33(f); and BCT 419.34(e).

Limits = Effluent limit (found in 40 CFR) x Contaminated runoff flow

Using BOD as an example, the following is applicable:
Effluent limit found in ELGs: 0.4 lb/1000 gallons
Contaminated runoff flow: 2.926 MGD

$$\text{Limit} = 0.4 \times \frac{2{,}926{,}000 \text{ gallons/day}}{1{,}000 \text{ gallons}} = 1170.4 \text{ lb/day}$$

Table F-9 summarizes the contaminated stormwater runoff technology-based effluent limitations based on the ELGs for discharges that comprise part of Waste Stream 2:

Table F-9: Technology-based Effluent Limitations for Waste Stream 2 - Contaminated Stormwater Runoff

Parameter	Effluent Limit in 40 CFR 419 C						Final Limit		ELG Basis for Final Limit
	BPT 419.32(e)		BAT 419.33(f)		BCT 419.44(e)				
	Daily Max	30-day Avg.	Daily Max	30-day Avg.	Daily Max	30-day Avg.	Daily Max	30-day Avg.	
	(lb/1000 gal)	(lb/1000 gal)	(lb/1000 gal)	(lb/1000 gal)	(lb/1000 gal)	(lb/1000 gal)	(lb/day)	(lb/day)	
BOD_5	0.4	0.22	--	--	0.4	0.22	1,170	644	BPT/BCT
TSS	0.28	0.18	--	--	0.28	0.18	819	527	BPT/BCT
COD	3.0	1.5	3.0	1.5	--	--	8,778	4,389	BPT/BAT
Oil and Grease	0.13	0.067	--	--	0.13	0.067	380	196	BPT/BCT
Phenolic Compounds	0.0029	0.0014	0.0029	0.0014	--	--	8.5	4.1	BPT/BAT
Ammonia	--	--	--	--	--	--	--	--	--
Sulfide	--	--	--	--	--	--	--	--	--
Total Chromium	0.006	0.0035	0.005	0.0018	--	--	15	5.3	BPT/BAT
Hexavalent Chromium	0.00052	0.0002	0.0005	0.00023	--	--	1.5	0.67	BPT/BAT
pH	The pH of the wastes discharged shall at all times be within the range of 6.0 to 9.0 pH units.						6.0 – 9.0		BPT/BAT

The final mass-based effluent limitations for Waste Stream 2 are obtained by adding the stormwater mass-based effluent limits to those determined for the process wastewater.

Before discharge, Waste Stream 2 is mixed with boiler blowdown (Waste Stream 3) that constitutes less than 5% of the total discharge. To establish the mass-based effluent limitations for the combined discharge for Waste Stream 2 and Waste Stream 3, BPJ mass-based technology-based effluent limitations for BOD, TSS, COD, oil and grease, and sulfide for Waste Stream 3 are determined separately and added to those of Waste Stream 2. The mass-based limits for Waste Stream 3 are determined based on the concentration-based effluent limitations (BPJ) summarized below.

Table F-10. Best Professional Judgment (BPJ) Technology-based Effluent Limitations for Waste Stream 3 (Boiler Blowdown)

Parameter	Average Monthly	Maximum Daily	Flow	Average Monthly	Maximum Daily
	mg/L	mg/L	MGD	lbs/day	lbs/day
BOD	20	30	0.22	37	55
TSS	50	75	0.22	92	138
COD	80	120	0.22	147	220
Oil and Grease	10	15	0.22	18	28
Sulfide	--	1	0.22	--	1.8

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The limits are determined using the concentration limits for BOD, TSS, COD, oil and grease, and sulfide for Waste Stream 3 established in Order R4-2007-0015 based on the Regional Water Board's BPJ-technology effluent limitations and a flow of 0.22 MGD (boiler blowdown). The final mass-based technology-based effluent limitations for the process wastewater commingled with stormwater (derived from the ELGs) and boiler blowdown (derived from BPJ) are calculated by adding the mass-based effluent limits for Waste Streams 2 and 3.

$$\text{Process}_{ELG} + \text{Stormwater}_{ELG} + \text{Boiler}_{BPJ} = \text{Total ELG TBEL}_{\text{Mass}}$$

Table F-11. Mass-based ELG Technology-based Effluent Limitations – Process Wastewater Commingled with Stormwater and Boiler Blowdown

Parameter	Units	Process_{ELG}[1]		Stormwater_{ELG}[1]		Boiler_{BPJ}		Combined Limit for Waste Stream 2 and Waste Stream 3	
		Average Monthly	Maximum Daily	Average Monthly	Maximum Daily	Average Monthly	Maximum Daily	Average Monthly	Maximum Daily
Biochemical Oxygen Demand 5-day @ 20°C (BOD)	lbs/day	2,578	4,799	644	1,170	37	55	3,259	6,025
Oil and Grease	lbs/day	833	1,547	196	380	18	28	1,047	1,955
pH	standard units	The pH of the wastes discharged shall at all times be within the range of 6.0 - 9.0 pH units.							
Total Suspended Solids (TSS)	lbs/day	2,082	3,292	527	819	92	138	2,701	4,249
Ammonia as N	lbs/day	1,507	3,272	---	---	---	---	1,507	3,272
Chemical Oxygen Demand (COD)	lbs/day	15,231	29,351	4,389	8,778	147	220	19,766	38,349
Chromium, Total	lbs/day	13	36	5.3	15	---	---	18	51
Chromium (VI)	lbs/day	1.0	2.3	0.67	1.5	---	---	1.7	3.8
Phenols (4AAP)	lbs/day	11	35	4.1	8.5	---	---	15	43
Sulfide	lbs/day	14	31	---	---	---	1.8	14	33

[1] See the *USEPA Guide for the Application of Effluent Limitations Guidelines for the Petroleum Refining Industry* (June 1985) for specific details regarding the development of the ELG technology-based effluent limitations.

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The Tesoro Los Angeles Refinery – Carson Operations is categorized as a petrochemical refinery as defined in 40 CFR § 419.30 (Effluent Limitation Guidelines and Standards for the Petroleum Refining Point Source Category[ELGs]). The subpart applies to discharges resulting from the manufacture of petroleum products by topping, cracking, petrochemical operations and any other refinery process, except lube operations. Because Waste Stream 2 consists of process wastewater commingled with contaminated runoff, mass-based effluent limitations established in 40 CFR §§ 419.32, 419.33, and 419.34 are applicable to the discharge. 40 CFR §§ 419.32, 419.33, and 419.34 contain the BPT, BAT, and BCT limitations for BOD,

TSS, COD, oil and grease, ammonia, sulfides, phenolic compounds, total chromium, and chromium VI for process wastewater and contaminated storm water. The effluent limitations for process wastewater and contaminated storm water in the proposed Order are determined separately by selecting the most stringent of the BPT, BAT, and BCT limitations. The storm water effluent limitations are based on a storm water flow of 2.92 MGD. The final mass-based effluent limitations for Waste Stream 2 that based on ELGs are obtained by adding the storm water mass-based effluent limits to those determined for the process wastewater. The ELG mass-based technology-based effluent limitations for process wastewater and contaminated stormwater runoff plus the boiler blowdown BPJ limits have been established for BOD, TSS, COD, oil and grease, ammonia, sulfides, phenolic compounds, total chromium, and chromium VI (see Table F-11). The ELG limits are converted to concentration (see Table F-12 below).

In Order R4-2007-0015 technology based limits for process wastewater comingled with storm water were based on BPJ instead of ELGs.

Table F-12 summarizes the final proposed technology-based effluent limitations based on the ELGs and BPJ for the process wastewater commingled with stormwater and boiler blowdown (Waste Streams 2 and 3).

Table F-12. Summary of Final Technology-based Effluent Limitations – Process Wastewater Commingled with Stormwater and Boiler Blowdown Discharge Points 003 and 004

Parameter	Units	Effluent Limitations[1]		
		Average Monthly	Maximum Daily	Instantaneous Minimum/Maximum
BOD[3]	mg/L[2]	89	164	---
	lbs/day	3,259	6,025	---
Oil and Grease[3]	mg/L[2]	29	53	---
	lbs/day	1,047	1,955	---
pH	standard units	---	---	6.0/9.0
TSS [3]	mg/L[2]	74	116	---
	lbs/day	2,701	4,249	---
Ammonia as N[3]	mg/L[2]	41.07	89.17	---
	lbs/day	1,507	3,272	---
COD[3]	mg/L[2]	539	1,045	---
	lbs/day	19,766	38,349	---
Chromium, Total[3]	µg/L[2]	488	1,386	---
	lbs/day	18	51	---
Chromium (VI)[3]	µg/L[2]	46	104	---
	lbs/day	1.7	3.8	---
Phenols (4AAP)[3]	µg/L[2]	403	1,182	---
	lbs/day	15	43	---
Sulfide[3]	µg/L[2]	378	893	---
	lbs/day	14	33	---

[1] See the USEPA Guide for the Application of Effluent Limitations Guidelines for the Petroleum Refining Industry (June 1985) for specific details regarding the development of the ELG TBELs.

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[2] Concentration based effluent limitations are calculated based upon a maximum authorized discharge of 4.4 MGD.

[3] ELG mass-based effluent limitations based upon a refinery production of 300,000 bbls and discharge flow volumes as described above.

In addition, Order R4-2007-0015 required the Discharger to develop and implement a Stormwater Pollution Prevention Plan (SWPPP) (Attachment G). This Order requires the Discharger to update and continue to implement, the existing SWPPP. The revised SWPPP will reflect current operations, treatment activities, and staff responsible for implementing and supporting the SWPPP. The SWPPP will outline site-specific management processes for minimizing stormwater runoff contamination and for preventing contaminated stormwater runoff from being discharged directly into the storm drain.

This Order also requires that the Discharger develop and implement a Best Management Practices Plan (BMPP). The BMPP shall include a summary of BMPs aimed at controlling the potential exposure of pollutants to stormwater, inspection practices, schedules of preventive maintenance, housekeeping procedures, vehicle management practices, and spill containment and cleanup procedures. The BMPP should demonstrate the Discharger's continued effective implementation of the SWPPP.

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C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and 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) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable 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.

The specific procedures for determining reasonable potential and, if necessary, calculating WQBELs are contained in the SIP for the discharge of wastewater from the Tesoro Los Angeles Refinery-Carson Operations Facility.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

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

Priority pollutant water quality criteria in the CTR are applicable to the Dominguez Channel Estuary. The CTR contains both saltwater and freshwater criteria. Because a distinct separation generally does not exist between freshwater and saltwater aquatic communities, the following apply, in accordance with section 131.38(c)(3), freshwater criteria apply at salinities of 1 part per thousand (ppt) and below at locations where this occurs 95 percent or more of the time. The salinity of the receiving water is high because it is located within a coastal waterway. The maximum salinity reported for the receiving water is 37 grams/kg (at RSW-005B in Order R4-2007-0015). Therefore, the CTR criteria for saltwater or human health for consumption of organisms, whichever is more stringent, are used to prescribe the effluent limitations in this Order to protect the beneficial uses of the Dominguez Channel Estuary, a water of the United States in the vicinity of the discharge.

Tables F-13a and F-13b summarize the applicable water quality criteria/objective for priority pollutants reported in detectable concentrations in the effluent or receiving water for the individual outfalls evaluated based on data submitted to the Regional Water Board. These criteria were used in conducting the RPAs for this Order.

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Table F-13a. Applicable Water Quality Criteria – Low Volume Wastes

CTR No.	Constituent	Selected Criteria	CTR/NTR Water Quality Criteria					
			Saltwater		Freshwater		Human Health for Consumption of:	
			Acute	Chronic	Acute	Chronic	Water & Organisms	Organisms only
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
1	Antimony	4,300	--	--	N/A			4,300
2	Arsenic	36	69	36				--
4	Cadmium	9.36	42.25	9.36				--
5b	Chromium, VI	50.35	1,107.75	50.35				--
6	Copper	3.73	5.78	3.73				--
7	Lead	8.52	220.82	8.52				--
9	Nickel	8.28	74.75	8.28				4,600
10	Selenium	71.14	290.58	71.14				--

CTR No.	Constituent	Selected Criteria	CTR/NTR Water Quality Criteria					
			Saltwater		Freshwater		Human Health for Consumption of:	
			Acute	Chronic	Acute	Chronic	Water & Organisms	Organisms only
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
13	Zinc	85.62	95.14	85.62				--
14	Cyanide	1.00	1	1				220,000
20	Bromoform	360	--	--				360
39	Toluene	200,000	--	--				200,000
68	Bis(2-Ethylhexyl)Phthalate	5.9	--	--				5.9
94	Napthalene	NC	--	--				--
99	Phenanthrene	NC	--	--				--
100	Pyrene	11,000	--	--				11,000

"N/A" indicates the receiving water body is not characterized as freshwater, nor are the water quality criteria for the protection of human health for the consumption of water and organisms applicable.
"NC" indicates there are no criteria that are applicable to that particular pollutant.

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Table F-13b. Applicable Water Quality Criteria – Process Waste Water Commingled with Stormwater and Boiler Blowdown

CTR No.	Constituent	Selected Criteria	CTR/NTR Water Quality Criteria					
			Saltwater		Freshwater		Human Health for Consumption of:	
			Acute	Chronic	Acute	Chronic	Water & Organisms	Organisms only
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
1	Antimony	4,300	--	--				4,300
2	Arsenic	36	69	36				--
4	Cadmium	9.36	42.25	9.36				--
5b	Chromium, VI	50.35	1,107.75	50.35				--
6	Copper	3.73	5.78	3.73				--
7	Lead	8.52	220.82	8.52				--
8	Mercury	0.051	--	--				0.051
9	Nickel	8.28	74.75	8.28				4,600
10	Selenium	71.14	290.58	71.14				--
13	Zinc	85.62	95.14	85.62				--
38	Tetrachloroethylene	8.85	--	--				8.85
39	Toluene	200,000	--	--				200,000
94	Napthalene	NC	--	--				--
102	Aldrin	0.00014	1.3					0.00014

"N/A" indicates the receiving water body is not characterized as freshwater, nor are the water quality criteria for the protection of human health for the consumption of water and organisms applicable.
"NC" indicates there are no criteria that are applicable to that particular pollutant.

3. Determining the Need for WQBELs

In accordance with Section 1.3 of the SIP, the Regional Water Board conducts a reasonable potential analysis (RPA) for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the permit. 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/criteria (C) in the CTR, NTR, and the Basin Plan. For all pollutants that have a reasonable potential to cause or contribute to an excursion above a state water quality standard, numeric WQBELs are required. To conduct the RPA, the Regional Water Board identifies the MEC and maximum background concentration in the receiving water for each constituent, based on data provided by the Discharger.

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:

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

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

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

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 was performed for the priority pollutants regulated in the CTR for which data are available. Three effluent data sets characterizing low volume wastes were available for Discharge Point 005 with the exception of pesticides and PCBs, for which only two data sets were submitted. Two data sets were available for process wastewater commingled with stormwater and boiler blowdown, one set from Discharge Point 003 and one set from Discharge Point 004, both from the same discharge event. One receiving water data set was available for the discharges from Discharge Point 005 and one data set was available for the discharge from Discharge Points 003 and 004. Based on the RPA, pollutants that demonstrate reasonable potential for low volume waste are copper, nickel, selenium, zinc,

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cyanide and bis(2-ethylhexyl)phthalate and for process wastewater commingled with stormwater and boiler blowdown, the pollutants which demonstrate reasonable potential are copper, mercury, zinc and aldrin. Refer to Attachment J for a summary of the RPAs and associated effluent limitation calculations.

Tables F-14a and F-14b summarize the results of the RPA.

Table F-14a. Summary Reasonable Potential Analysis – Low Volume Waste – Discharge Points 001, 002, 003, 004 and 005

CTR No.	Constituent	Applicable Water Quality Criteria (C)	Max Effluent Conc. (MEC)	Maximum Detected Receiving Water Conc. (B)	RPA Result - Need Limit?	Reason
		µg/L	µg/L	µg/L		
1	Antimony	4,300	0.83	--	No	MEC<C
2	Arsenic	36	8.10	--	No	MEC<C
4	Cadmium	9.36	0.15	--	No	MEC<C
5b	Chromium, VI	50.35	2.2	--	No	MEC<C
6	Copper	3.73	9.5	8.4	Yes	MEC>C
7	Lead	8.52	5.8	--	No	MEC<C
9	Nickel	8.28	11	14	Yes	MEC>C
10	Selenium	71.14	1.5	170	Yes	B>C & pollutant detected in effluent
13	Zinc	85.62	620	21	Yes	MEC>C
14	Cyanide	1.00	27	--	Yes	MEC>C
20	Bromoform	360	2.3	--	No	MEC<C
39	Toluene	200,000	2.4	--	No	MEC<C
68	Bis(2-Ethylhexyl)Phthalate	5.9	6.2	--	Yes	MEC>C
94	Napthalene	NC	0.57	--	No	No criteria
99	Phenanthrene	NC	0.04	--	No	No criteria
100	Pyrene	11,000	0.05	--	No	MEC<C

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In addition, Order R4-2007-0015 included effluent limitations for silver, methylene chloride, pentachlorophenol, and fluoranthene based on Trigger 3. The Regional Water Board considers them pollutants of concern for this type of discharge. Effluent limitations for these pollutants are included in this Order.

Table F-14b. Summary Reasonable Potential Analysis – Process Wastewater Commingled with Stormwater and Boiler Blowdown - Discharge Points 003 and 004

CTR No.	Constituent	Applicable Water Quality Criteria (C)	Max Effluent Conc. (MEC)	Maximum Detected Receiving Water Conc. (B)	RPA Result - Need Limit?	Reason
		µg/L	µg/L	µg/L		
1	Antimony	4,300	1.4	0.91	No	MEC<C
2	Arsenic	36	2	2	No	MEC<C & B<=C
4	Cadmium	9.36	0.51	0.12	No	MEC<C
5b	Chromium, VI	50.35	3.5	2.9	No	MEC<C
6	Copper	3.73	16	9.3	Yes	MEC>C
7	Lead	8.52	4.5	3.5	No	MEC<C
8	Mercury	0.051	0.1	--	Yes	MEC>C
9	Nickel	8.28	4.2	2	No	MEC<C
10	Selenium	71.14	0.56	0.41	No	MEC<C
13	Zinc	85.62	569	44	Yes	MEC>C
38	Tetrachloroethylene	8.85	0.56	--	No	MEC<C
39	Toluene	200,000	--	0.38	No	MEC<C
94	Napthalene	NC	6.5	--	No	No criteria
102	Aldrin	0.00014	0.0021	--	Yes	MEC>C

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Waste Stream 2 (process wastewater commingled with stormwater) and Waste Stream 3 (boiler blowdown) are mixed prior to discharge through Discharge Points 003 and 004. Cyanide, pentachlorophenol, 1,1-dichloroethylene, hexachlorobenzene, alpha-BHC, beta-BHC, and gamma-BHC, and MBAS for both Waste Stream 2 and Waste Stream 3 are considered pollutants of concern. Effluent limitations were included in Order R4-2007-0015 and are included in this Order based on Trigger 3 (consideration of additional information).

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 of the wasteload allocation (WLA) established as part of a total maximum daily load (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, nickel, selenium, zinc, cyanide and bis(2-ethylhexyl)phthalate for discharges of low volume waste (Waste Stream 1) and WQBELs for copper, mercury, zinc, and aldrin for discharges of process wastewater commingled with stormwater and boiler blowdown (Waste Streams 2 and 3) have been developed for Discharge Points 001, 002, 003, 004, and 005 (Waste Stream 1) and Discharge Points 003 and 004 (Waste Streams 2 and 3). These WQBELs are based on monitoring results and following the procedure based on the steady-state model, available in Section 1.4 of the SIP.

c. Since many of the streams in the Region have minimal upstream flows, mixing zones and dilution credits are usually not appropriate. Therefore, in this Order, no dilution credit is included. However, in accordance with the reopener provision in Section VI.C.1.e, 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 nickel as an example, the following demonstrates how WQBELs were established for this Order. The tables in Attachment J summarize the development and calculation of all WQBELs for this Order using the process described below.

Concentration-Based Effluent Limitations

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

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 criteria, determine the effluent concentration allowance (ECA) using the following steady state equation:

$$ECA = C + D(C-B) \quad \text{when } C > B, \text{ and}$$
$$ECA = C \quad \text{when } C <= B,$$

Where C = The priority pollutant criterion/objective, adjusted if necessary for hardness, pH and translators. In this Order, for the RPA of low volume waste, a hardness value of 400 mg/L (as $CaCO_3$) was used for development of hardness-dependant criteria, and a pH of 7.7 was used for pH-

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

As discussed above, for this Order, dilution was not allowed; therefore:

ECA = C

For nickel, the applicable water quality criteria are:

ECA_{acute}= 74.45 µg/L
$ECA_{chronic}$= 8.28 µg/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 data set and whether it is an acute or chronic criterion/objective. Table 1 of the SIP provides pre-calculated values for the multipliers based on the value of the CV. Equations to develop the multipliers in place of using values in the tables are provided in Section 1.4, Step 3 of the SIP and will not be repeated here.

$LTA_{acute} = ECA_{acute} \times Multiplier_{acute\ 99}$

$LTA_{chronic} = ECA_{chronic} \times Multiplier_{chronic\ 99}$

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.

For nickel, the following data was used to develop the acute and 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 $Multiplier_{acute\ 99}$	ECA $Multiplier_{chronic\ 99}$
4	0.60	0.32	0.53

LTA_{acute} = 74.45 µg/L x 0.32 = 24.00 µg/L

$LTA_{chronic}$ = 8.28 µg/L x 0.53 = 4.37 µg/L

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

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

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

$$LTA = 4.37\ \mu g/L$$

Step 4: Calculate the WQBELs by multiplying the LTA by a factor (multiplier). WQBELs are expressed as Average Monthly Effluent Limitations (AMEL) and Maximum Daily Effluent Limitation (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 coefficient of variation (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.

$$AMEL_{aquatic\ life} = LTA \times AMEL_{multiplier\ 95}$$

$$MDEL_{aquatic\ life} = LTA \times MDEL_{multiplier\ 99}$$

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 nickel, the following data were used to develop the AMEL and MDEL for aquatic life using equations provided in Section 1.4, Step 5 of the SIP (Table 2 of the SIP also provides this data up to two decimals):

No. of Samples Per Month	CV	$Multiplier_{MDEL\ 99}$	$Multiplier_{AMEL\ 95}$
4	0.60	3.11	1.55

$$AMEL_{aquatic\ life} = 4.37\ \mu g/L \times 1.55 = 6.78\ \mu g/L$$

$$MDEL_{aquatic\ life} = 4.37\ \mu g/L \times 3.11 = 13.61\ \mu g/L$$

Calculation of human health AMEL and MDEL:

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 nickel:

$$ECA_{human\ health} = 4{,}600\ \mu g/L$$

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

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

For nickel, 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

$$MDEL_{human\ health} = 4{,}600\ \mu g/L \times 2.01 = 9{,}228\ \mu g/L$$

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

For nickel:

$AMEL_{aquatic\ life}$	$MDEL_{aquatic\ life}$	$AMEL_{human\ health}$	$MDEL_{human\ health}$
6.78 µg/L	13.61 µg/L	4,600 µg/L	9,228 µg/L

The lowest (most restrictive) of the aquatic life and human health effluent limits for nickel are based on aquatic toxicity and were incorporated into this Order for discharges of low volume wastes at Discharge Points 001, 002, 003, 004, and 005.

In addition, for low volume waste discharge of selenium there is no human health criteria; therefore, the AMEL and MDEL based on aquatic life criteria is established as the WQBELs for selenium. Aquatic life criteria are more stringent than the human health criteria for nickel and cyanide. For bis(2-ethylhexyl)phthalate there is no aquatic life criteria; therefore, the AMEL and MDEL based on human health criteria is established as the WQBELs. The limit in Order R4-2007-0015 for nickel is more stringent therefore is included in the proposed permit. New effluent limitations for selenium, cyanide, and bis(2-ethylhexyl)phthalate have been established.

For process wastewater commingled with stormwater and boiler blowdown discharges (Discharge Points 001, 002, 003, 004, and 005), the effluent limitation for aldrin is based on human health criteria and is more stringent than the effluent limitation based on protection of aquatic life. New effluent limitations for aldrin are included in this Order. The effluent limitation for mercury is based upon human health criteria as no aquatic life criteria exist. The limit in Order R4-2007-0015 for mercury is more stringent therefore is included in the proposed Order.

The waste load allocations (WLAs) based on Harbor Toxics TMDL for Dominguez Channel Estuary are applicable for discharges of both low volume wastes and process wastewater commingled with storm water and boiler blowdown. The following are the applicable WLAs for: copper (3.73 µg/L), lead (8.52 µg/L), zinc

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(85.6 µg/L), dieldrin (0.00014 µg/L), 4,4'-DDT (0.00059 µg/L), total PCBs (0.00017 µg/L), and PAHs (0.049 µg/L).

5. WQBELS based on Basin Plan Objectives

The Basin Plan Objectives applicable to the Discharger are identified in Table F-15. These objectives were evaluated with respect to effluent monitoring data and Facility operations.

Table F-15. Applicable Basin Plan Numeric Water Quality Objectives

Constituent	Units	Water Quality Objectives
pH	s.u.	The pH of bays and estuaries shall not be depressed below 6.5 or raised above 8.5 as a result of waste discharges. Ambient pH levels shall not be changed more than 0.2 units from natural conditions as a result of waste discharge.
Ammonia	mg un-ionized NH_3/L	*For waters where salinity is equal to or greater than 10 parts per thousand (ppt) more than 95% of the time:* 4-day average = 0.035 un-ionized NH_3/L 1-hour average = 0.233 un-ionized NH_3/L
Bacteria	MPN/100 ml	*Marine Waters Designated for Water Contact Recreation (REC-1):* Geometric Means Limits i. Total coliform density shall not exceed 1,000/100 ml/ ii. Fecal coliform density shall not exceed 200/100 ml. iii. Enterococcus density shall not exceed 35/100 ml. Single Sample Limits i. Total coliform density shall not exceed 10,000/100 ml. ii. Fecal coliform density shall not exceed 400/100 ml. iii. Enterococcus density shall not exceed 104/100 ml. iv. Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.
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 receiving waters at any concentration that causes impairment of beneficial uses.
Dissolved Oxygen	mg/L	For all waters, the mean annual dissolved oxygen concentration shall be greater than 7 mg/L, and no single determination shall be less than 5.0 mg/L, except when natural conditions cause lesser concentrations.
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%.

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

b. **Bacteria.** The Discharger does not engage in activities that are likely to contribute bacteria to the effluent. In lieu of effluent limitations, this Order establishes new effluent monitoring requirements for bacteria as specified in the Monitoring and Reporting Program to determine reasonable potential.

c. **Total Residual Chlorine.** The effluent limitation for total residual chlorine is the same as the limit included in Order No. R4-2007-0015 and is equal to the Basin Plan objective.

d. **Dissolved Oxygen.** This Order applies the water quality objective for dissolved oxygen as a receiving water limitation.

e. **Turbidity.** The Basin Plan requirements for turbidity are as follows:

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

   ii. Where natural turbidity is greater than 50 NTU, increases shall not exceed 10%.

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

f. **Temperature.** The Basin Plan lists temperature requirements for the receiving waters and references the Thermal Plan. Based on the requirements of the Thermal Plan and a white paper developed by Regional Water Board staff entitled *Temperature and Dissolved Oxygen Impacts on Biota in Tidal Estuaries and Enclosed Bays in the Los Angeles Region*, a maximum effluent temperature limitation of 86°F is included in this Order. The white paper evaluated the optimum temperatures for steelhead, topsmelt, ghost shrimp, brown rock crab, jackknife clam, and blue mussel.

g. **Ammonia.** This Order carries over the effluent limitations for ammonia from Order R4-2007-0015, which are based on the Basin Plan water quality objectives.

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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 toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Detrimental response includes 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.

Chronic toxicity is a more stringent requirement than acute toxicity. A chemical at a low concentration can have chronic effects but no acute effects. This Order

establishes a chronic toxicity effluent limitation at Discharge Point 001 using USEPA's 2010 TST statistical approach. Chronic toxicity limitations are expressed as "Pass" or "Fail" and "% Effect" for maximum daily single result. Since the storm water discharge is intermittent, no average monthly effluent limitation for the chronic toxicity is prescribed. The chronic toxicity effluent limitations in this Order are as stringent as necessary to protect the Basin Plan Water Quality Objective for chronic toxicity.

7. Final WQBELs

Table F-16a. Summary of Water Quality-based Effluent Limitations – Low Volume Waste - Discharge Points 001, 002, 003, 004, 005

Parameter	Units	Effluent Limitations			Performance Goal[4]
		Average Monthly	Maximum Daily	Instantaneous Minimum/ Maximum	Maximum Daily/ Average Monthly
pH	standard units	---	---	6.5/8.5	---
Cadmium, Total Recoverable	µg/L	---	---	---	7.6/15.4[3]
	lbs/day[1]	---	---	---	0.003/0.007
Copper, Total Recoverable[3]	µg/L	3.1	6.1	---	---
	lbs/day[1]	0.001	0.002	---	---
Lead, Total Recoverable[3]	µg/L	7	14		---
	lbs/day[1]	0.003	0.005		---
Nickel, Total Recoverable	µg/L	6.7	13	---	---
	lbs/day[1]	0.0025	0.005	---	---
Selenium, Total Recoverable	µg/L	58	117	---	---
	lbs/day[1]	0.022	0.044	---	---
Zinc, Total Recoverable[3]	µg/L	70	141	---	---
	lbs/day[1]	0.02	0.05	---	---
Cyanide	µg/L	0.5	1.0	---	---
	lbs/day[1]	0.0002	0.0004	---	---
Methylene Chloride	µg/L	1,600	3,210	---	---
	lbs/day[1]	0.6	1.2	---	---
Pentachlorophenol	µg/L	6.5	13	---	---
	lbs/day[1]	0.0024	0.005	---	---
Bis(2-Ethylhexyl)Phthalate	µg/L	5.9	11.8	---	---
	lbs/day[1]	0.002	0.004	---	---
Fluoranthene	µg/L	42	742	---	---
	lbs/day[1]	0.02	0.3	---	---
Aldrin[3]	µg/L	0.00014	0.00028	---	---
	lbs/day[1]	0.00000005	0.0000001	---	---
Chlordane[3]	µg/L	0.00059	0.0012	---	---
	lbs/day[1]	0.0000002	0.0000005	---	---
Dieldrin[3]	µg/L	0.00014	0.00028	---	---
	lbs/day[1]	0.00000005	0.0000001	---	---
4,4'-DDT[3]	µg/L	0.00059	0.001	---	---
	lbs/day[1]	0.0000002	0.0000005	---	---
Total PCBs[3]	µg/L	0.00017	0.0003	---	---
	lbs/day[1]	0.00000006	0.0000001	---	---

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Parameter	Units	Effluent Limitations			Performance Goal[4]
		Average Monthly	Maximum Daily	Instantaneous Minimum/ Maximum	Maximum Daily/ Average Monthly
Detergent (MBAS)	mg/L	---	0.5	---	---
	lbs/day[1]	---	0.2	---	---
Heptachlor Epoxide	µg/L	0.0001	0.0002	---	---
	lbs/day[1]	0.00000004	0.00000008	---	---
Residual Chlorine	mg/L	---	0.1	---	---
	lbs/day[1]	---	0.04	---	---
Sulfides	mg/L	---	1.0	---	---
	lbs/day[1]	---	0.4	---	---
Settleable Solids	ml/L	0.1	0.3	---	---
Temperature	°F	---	86	---	---
Turbidity	NTU	50	75	---	---
Chronic Toxicity[2]	Pass or Fail, % Effect, TST	---	Pass or % Effect <50	---	---
PAHs[5]					
Benzo(a)anthracene[3]	µg/L	0.049	0.1	---	---
	lbs/day[1]	0.00002	0.00004	---	---
Benzo(a)pyrene[3]	µg/L	0.049	0.1	---	---
	lbs/day[1]	0.00002	0.00004	---	---
Chrysene[3]	µg/L	0.049	0.1	---	
	lbs/day[1]	0.00002	0.00004	---	---
Pyrene[3]	µg/L	11,000	22068	---	---
	lbs/day[1]	4.13	8.25	---	---

[1] Mass-based effluent limitations based upon a discharge of 0.045 MGD.

[2] "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitations (MDEL). The Discharger demonstrates compliance with the chronic toxicity MDELs if the chronic toxicity testing result meet one of the following:

i. The chronic toxicity testing result is "Pass"; or
ii. The percent effect is less than 50 if the chronic toxicity result is "Fail".

[3] The new effluent limitations are based on the USEPA-approved Harbor Toxics TMDL WLAs and calculated using the CTR-SIP procedures.

[4] Performance goals are intended to ensure that effluent concentrations and mass discharges do not exceed levels currently achieved by the permitted facility. These performance goals are not considered as limitations or standards for the regulation of the facility. They act as triggers to determine when sediment monitoring is required for this category of pollutants.

[5] CTR human health criteria were not established for total PAHs. Therefore, the performance goals are based on the CTR human health criteria for the individual PAHs; benzo(a)pyrene, benzo(a)anthracene, pyrene, and chrysene.

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Table F-16b. Summary of Water Quality-Based Effluent Limitations – Process Wastewater Comingled with Stormwater and Boiler Blowdown Discharge Points 003 and 004

Parameter	Units	Effluent Limitations			Performance Goal[4]
		Average Monthly	Maximum Daily	Instantaneous Minimum/ Maximum	Average Monthly/ Maximum Daily
pH	standard units	---	---	6.5/8.5	---
Cadmium, Total Recoverable	µg/L	---	---	---	7.7/15.4
	lbs/day[1]	---	---	---	0.3/0.6
Chromium (VI)	µg/L	46	104	---	---
	lbs/day[1]	1.7	3.8	---	---
Copper, Total Recoverable	µg/L	3.1	6.1	---	---
	lbs/day[1]	0.1	0.24	---	---
Lead, Total Recoverable	µg/L	7	14	---	---
	lbs/day[1]	0.25	0.5	---	---
Selenium, Total Recoverable	µg/L	58.3	117	---	---
	lbs/day[1]	2.2	4.3	---	---
Zinc, Total Recoverable	µg/L	70	141	---	---
	lbs/day[1]	2.6	5.2	---	---
Cyanide	µg/L	0.5	1.0	---	---
	lbs/day[1]	0.02	0.04	---	---
Detergent (MBAS)	mg/L	---	0.5	---	---
	lbs/day[1]	---	0.18	---	---
1,1-Dichloroethylene	µg/L	3.2	6	---	---
	lbs/day[1]	0.1	0.2	---	---
Pentachlorophenol	µg/L	6.5	13	---	---
	lbs/day[1]	0.2	0.5	---	---
Hexachlorobenzene	µg/L	0.0007	0.0015	---	---
	lbs/day[1]	0.00003	0.00006	---	---
Aldrin	µg/L	0.00014	0.0003	---	---
	lbs/day[1]	0.000005	0.00001	---	---
Chlordane	µg/L	0.0006	0.001	---	---
	lbs/day[1]	0.00002	0.00004	---	---
Dieldrin	µg/L	0.00014	0.0003	---	---
	lbs/day[1]	0.000005	0.00001	---	---
alpha-BHC	µg/L	0.013	0.026	---	---
	lbs/day[1]	0.0005	0.001	---	---
beta-BHC	µg/L	0.05	0.09	---	---
	lbs/day[1]	0.0017	0.003	---	---
gamma-BHC	µg/L	0.06	0.13	---	---
	lbs/day[1]	0.002	0.005	---	---
Ammonia, as N	mg/L	41	89	---	---
	lbs/day[1]	1501	3269	---	---
Chlorine, Residual	mg/L	---	0.10	---	---
	lbs/day[1]	---	3.7	---	---
Settleable Solids	ml/L	0.1	0.3	---	---
Temperature	°F	---	86	---	---

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Parameter	Units	Effluent Limitations			Performance Goal[4]
		Average Monthly	Maximum Daily	Instantaneous Minimum/ Maximum	Average Monthly/ Maximum Daily
Chronic Toxicity[2]	Pass or Fail, % Effect, TST	---	Pass or % Effect <50	---	---
PAHs					
Benzo(a) antracene [3,5]	µg/L	0.049	0.1	---	---
	lbs/day[1]	0.002	0.004	---	---
Benzo(a) pyrene [3,5]	µg/L	0.049	0.1	---	---
	lbs/day[1]	0.002	0.004	---	---
Chrysene [3,5]	µg/L	0.049	0.1	---	---
	lbs/day[1]	0.002	0.004	---	---
Pyrene [3,5]	µg/L	11000	22068	---	---
	lbs/day[1]	402	806	---	---

1 Mass-based effluent limitations based upon a discharge of 4.4 MGD.
2 "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitations (MDEL). The Discharger demonstrates compliance with the chronic toxicity MDELs if the chronic toxicity testing result meet one of the following:
i. Thechronic toxicity testing result is "Pass"; or
ii. The percent effect is less than 50 if the chronic toxicity result is "Fail".
3 The new effluent limitations are based on the USEPA-approved Harbor Toxics TMDL WLAs and calculated using the CTR-SIP procedures.
4 Performance goals are intended to ensure that effluent concentrations and mass discharges do not exceed levels currently achieved by the permitted facility. These performance goals are not considered as limitations or standards for the regulation of the facility. They act as triggers to determine when sediment monitoring is required for this category of pollutants.
5 CTR human health criteria were not established for total PAHs. Therefore, the lmits are based on the CTR human health criteria for the individual PAHs; benzo(a)pyrene, benzo(a)antracene, pyrene, and chrysene.

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D. Final Effluent Limitations

Section 402(o) of the CWA and section 122.44(l) require that effluent limitations or conditions in reissued Orders be at least as stringent as those in the existing Orders based on the submitted sampling data. Effluent limitations for BOD, COD, TSS, and oil and grease are included in this Order for the discharge low volume waste (Waste Stream 1) from Discharge Points 001, 002, 003, 004, and 005. Further, copper, nickel, selenium, zinc, cyanide and bis-2(ethylhexyl)phthalate exhibited reasonable potential; however, the effluent limitations for copper, and zinc are based on the Harbor Toxics TMDL. New effluent limitations for bis-2(ethylhexyl)phthalate, cyanide, and selenium are included in this Order. Low volume waste discharges did not demonstrate reasonable potential for methylene chloride, pentachlorophenol, fluoranthene, residual chlorine, sulfides, turbidity, or settleable solids, however, WQBELs for these pollutants are included in Order R4-2007-0015 and as conditions have not changed at the Facility, are still considered pollutants of concern in this Order. Therefore, the effluent limitations have been retained.

Technology-based effluent limitations based on ELGs are applicable to the discharge of process wastewater commingled with stormwater and based on BPJ for boiler

blowdown. The applicable limitations from the ELG and the Basin Plan objectives for ammonia were also compared and the limits derived Basin Plan ammonia amendment were the most stringent. Additional ELG-based limitations are applicable to the discharge of chromium (VI), chromium (total), and phenols (4AAP). The discharge also demonstrated reasonable potential for copper, mercury, zinc and aldrin, however, the Harbor Toxics TMDL based limits for copper and zinc were included. A new effluent limitation was established for nickel, selenium, and aldrin. Finally, existing limitations have been included based for 1,1-dichloroethylene, pentachlorophenol, hexachlorobenzene, alpha-BHC, beta-BHC, gamma-BHC, total residual chlorine, and detergents (MBAS), based on the type of operation.

Effluent limitations for pH and temperature for all waste streams and Discharge Points implement water quality objectives in the Basin Plan, Thermal Plan, and a White Paper, as discussed in section IV.C.5 of this Fact Sheet. The pH limitations found in the Thermal Plan are more stringent than those found in the applicable ELG. Effluent limitations for total coliform, fecal coliform, and enterococcus are established to implement the water quality objectives contained in the Basin Plan.

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1. Satisfaction of Anti-Backsliding Requirements

Effluent limitations in this Order are at least as stringent as the effluent limitations in the Order R4-2007-0015 with the exception of Technology Based Effluent Limitation for process wastewater comingled with storm water. Based on the type of operation, the Tesoro Los Angeles Refinery – Carson Operations is categorized as a petrochemical refinery as defined in 40 CFR § 419.30 (Effluent Limitation Guidelines and Standards for the Petroleum Refining Point Source Category[ELGs]). The subpart applies to discharges resulting from the manufacture of petroleum products by topping, cracking, petrochemical operations and any other refinery process, except lube operations. Discharges of process wastewater commingled with polluted runoff is subject to mass-based effluent limitations established in 40 CFR §§ 419.32, 419.33, and 419.34. The referenced sections contain the BPT, BAT, and BCT limitations for BOD, TSS, COD, oil and grease, ammonia, sulfides, phenolic compounds, total chromium, and chromium VI for process wastewater and polluted stormwater. The effluent limitations for process wastewater and polluted storm water in this Order are determined separately by selecting the most stringent of the BPT, BAT, and BCT limitations. In Order R4-2007-0015 technology based limits for process wastewater comingled with storm water were based on BPJ. The applicable ELG limits are less stringent than the BPJ limits.

The inclusion of less stringent effluent limits for this discharge is authorized under the anti-backsliding provisions of Clean Water Act section 402(o)(2)(B)(ii) because the Regional Board determined that technical mistakes were made in adopting Order R4-2007-0015. The effluent limits should have been based on the ELGs in 40 CFR §§ 419.32, 419.33, and 419.34 that existed at the time of adoption of Order R4-2007-0015, rather than BPJ.

2. Satisfaction of Antidegradation Policy

Section 131.12 requires that the state water quality standards include an anti-degradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 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.

This Order does not provide for an increase in the permitted design flow or allow for a reduction in the level of treatment. The final limitations in this Order meet the requirements of the SIP and hold the Discharger to performance levels that will not cause or contribute to water quality impairment. Further, compliance with these requirements will result in the use of best practicable treatment or control of the discharge. Hence, the permitted discharge is consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations which apply to Waste Stream 1 consist of restrictions on BOD, oil and grease and TSS. In addition, technology-based effluent limitations which apply to Waste Streams 2 and 3 consist of restrictions on BOD, oil and grease, TSS, COD, chromium (VI), chromium (total) phenols, and sulfide. Restrictions on these pollutants are discussed in section IV of the Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements per sections 419.32, 419.33, 419, 34 for petrochemical refineries.

In addition to the technology-based effluent limitations, the SWPPP, BMPP, and SCP will also be required in order to carry out the purposes and intent of the CWA.

WQBELs have been scientifically 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 WQBELs for toxic pollutants were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual WQBELs for priority pollutants are based on the SIP, which was approved by USEPA on May 18, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

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Table F-17a. Summary of Final Effluent Limitations – Low Volume Wastes - Discharge Points 001, 002, 003, 004 and 005

Pollutant	Unit	Effluent Limitations			Performance Goals[4]	Basis[1]
		Average Monthly	Maximum Daily	Instantaneous Minimum/ Maximum	Average Monthly/ Maximum Daily	
pH	standard units	---	---	6.5/8.5	---	BP
BOD_5 @ 20°C	mg/L	20	30	---	---	E, BPJ
	lbs/day[2]	7.5	11	---	---	
Total Suspended Solids (TSS)	mg/L	50	75	---	---	E, BPJ
	lbs/day[2]	19	28	---	---	
Oil and Grease	mg/L	10	15	---	---	E, BPJ
	lbs/day[2]	3.8	5.6	---	---	
Cadmium, Total Recoverable[3]	µg/L	---	---	---	7.6/15.4	TMDL, CTR
	lbs/day[2]	---	---	---	0.003/0.007	
Copper, Total Recoverable[3]	µg/L	3.1	6.1	---	---	TMDL, CTR
	lbs/day[2]	0.001	0.002	---	---	
Lead, Total Recoverable[3]	µg/L	7	14	---	---	TMDL, CTR
	lbs/day[2]	0.003	0.005	---	---	
Nickel, Total Recoverable	µg/L	6.7	13	---	---	E, CTR
	lbs/day[2]	0.0025	0.005	---	---	
Selenium, Total Recoverable	µg/L	58	117	---	---	E, CTR
	lbs/day[2]	0.022	0.044	---	---	
Zinc, Total Recoverable[3]	µg/L	70	141	---	---	TMDL, CTR
	lbs/day[2]	0.02	0.05	---	---	
Cyanide	µg/L	0.5	1.0	---	---	CTR
	lbs/day[2]	0.0002	0.0004	---	---	
Methylene Chloride	µg/L	1,600	3,210	---	---	E
	lbs/day[2]	0.60	1.2	---	---	
Pentachlorophenol	µg/L	6.5	13	---	---	E
	lbs/day[2]	0.0024	0.005	---	---	
Bis(2-Ethylhexyl)Phthalate	µg/L	5.9	12	---	---	CTR
	lbs/day[2]	0.002	0.004	---	---	
Fluoranthene	µg/L	42	742	---	---	E
	lbs/day[2]	0.02	0.3	---	---	
Aldrin	µg/L	0.00014	0.00028	---	---	E
	lbs/day[2]	0.00000005	0.0000001	---	---	
Chlordane[3]	µg/L	0.00059	0.0012	---	---	TMDL, CTR
	lbs/day[2]	0.0000002	0.0000005	---	---	
Dieldrin[3]	µg/L	0.00014	0.00028	---	---	TMDL, CTR
	lbs/day[2]	0.00000005	0.0000001	---	---	

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Pollutant	Unit	Effluent Limitations			Performance Goals[4]	Basis[1]
		Average Monthly	Maximum Daily	Instantaneous Minimum/ Maximum	Average Monthly/ Maximum Daily	
4,4'-DDT[3]	µg/L	0.00059	0.0012	---	---	TMDL, CTR
	lbs/day[2]	0.0000002	0.0000005	---	---	
Total PCBs[3]	µg/L	0.00017	0.0003	---	---	TMDL, CTR
	lbs/day[2]	0.00000006	0.0000001	---	---	
Heptachlor Epoxide	µg/L	0.00011	0.00022	---	---	E
	lbs/day[2]	0.00000004	0.00000008	---	---	
Chronic Toxicity[6]	Pass or Fail, % Effect, TST	---	Pass or % Effect <50	---	---	TST
Residual Chlorine	mg/L	---	0.1	---	---	E, BPJ
	lbs/day[2]	---	0.04	---	---	
Sulfides	mg/L	---	1.0	---	---	E, BPJ
	lbs/day[2]	---	0.4	---	---	
Settleable Solids	ml/L	0.1	0.3	---	---	E, BPJ
Temperature	°F	---	86	---	---	E, BPJ TP
Turbidity	NTU	50	75	---	---	E, BPJ
Detergent (MBAS)	mg/L	---	0.5	---	---	E, BPJ
	lbs/day[2]	---	0.2	---	---	
PAHs						
Benzo(a)anthracene[3,5]	µg/L	0.049	0.1	---	---	TMDL, CTR
	lbs/day[2]	0.00002	0.00004	---	---	
Benzo(a)pyrene[3,5]	µg/L	0.049	0.1	---	---	TMDL, CTR
	lbs/day[2]	0.00002	0.00004	---	---	
Chrysene[3,5]	µg/L	0.049	0.1	---	---	TMDL, CTR
	lbs/day[2]	0.00002	0.00004	---	---	
Pyrene[3,5]	µg/L	11,0000	22068	---	---	TMDL, CTR
	lbs/day[2]	4.13	8.25	---	---	

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[1] BP = Basin Plan; E = Existing; TP = Thermal Plan; BPJ = Best professional judgment; CTR=California Toxics Rule; TMDL = Total Maximum Daily Loads (Based on harbor toxics TMDL)

[2] The mass-based effluent limitations are based upon a discharge of 0.045 MGD

[3] The effluent limitations are based on the Harbor Toxics TMDL WLAs and were calculated based on CTR-SIP procedures.

[4] Performance goals are intended to ensure that effluent concentrations and mass discharges do not exceed levels currently achieved by the permitted facility. These performance goals are not considered as limitations or standards for the regulation of the facility. They act as triggers to determine when sediement monitoring is required for this category of pollutants.

[5] CTR human health criteria were not established for total PAHs. Therefore, the limits are based on the CTR human health criteria for the individual PAHs; benzo(a)anthracene, benzo(a)pyrene, pyrene, and chrysene.

[6] "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitations (MDEL). The Discharger demonstrates compliance with the acute toxicity MDELs if the acute toxicity testing result meets one of the following:

i. The acute toxicity testing result is "Pass"; or

ii. The percent effect is less than 50 if the acute toxicity result is "Fail".

Table F-17b. Summary of Final Effluent Limitations – Process Wastewater Commingled with Stormwater and Boiler Blowdown - Discharge Points 003 and 004

Pollutant	Unit	Average Monthly	Maximum Daily	Instantaneous Minimum/ Maximum	Performance Goal [5] Average Monthly/ Maximum Daily	Basis[1]
pH	standard units	---	---	6.5/8.5	---	BP
BOD	mg/L	89	164	---	---	ELG
	lbs/day[2]	3,259	6,025	---	---	
Oil and Grease	mg/L	29	53	---	---	ELG
	lbs/day[2]	1,047	1,955	---	---	
TSS	mg/L	74	116	---	---	ELG
	lbs/day[2]	2,701	4,249	---	---	
Cadmium, Total Recoverable[4]	µg/L	---	---	---	7.7/15.4	TMDL, CTR
	lbs/day[2]	---	---	---	0.3/0.6	
Chromium (VI)	µg/L	46	104	---	---	ELG
	lbs/day[2]	1.7	3.8	---	---	
Copper, Total Recoverable[4]	µg/L	3.1	6.1	---	---	TMDL, CTR
	lbs/day[2]	0.1	0.24	---	---	
Lead, Total Recoverable[4]	µg/L	7	14	---	---	TMDL, CTR
	lbs/day[2]	0.25	0.5	---	---	
Zinc, Total Recoverable[4]	µg/L	70	141	---	---	TMDL, CTR
	lbs/day[2]	2.6	5.2	---	---	
Cyanide	µg/L	0.5	1.0	---	---	E
	lbs/day[2]	0.018	0.04	---	---	
1,1-Dichloroethylene	µg/L	3.2	6	---	---	E
	lbs/day[2]	0.1	0.2	---	---	
Pentachlorophenol	µg/L	6.5	13	---	---	E, CTR
	lbs/day[2]	0.2	0.5	---	---	
Hexachlorobenzene	µg/L	0.0007	0.0015	---	---	E, CTR
	lbs/day[2]	0.00003	0.00006	---	---	
Aldrin	µg/L	0.00014	0.0003	---	---	CTR
	lbs/day[2]	0.000005	0.00001	---	---	
Chlordane	µg/L	0.00059	0.001	---	---	TMDL
	lbs/day[2]	0.00002	0.00004	---	---	
Dieldrin	µg/L	0.00014	0.0003	---	---	TMDL
	lbs/day[2]	0.000005	0.00001	---	---	
alpha-BHC	µg/L	0.013	0.026	---	---	E, CTR
	lbs/day[2]	0.0005	0.001	---	---	
beta-BHC	µg/L	0.05	0.09	---	---	E, CTR
	lbs/day[2]	0.0017	0.0034	---	---	
gamma-BHC	µg/L	0.06	0.13	---	---	E, CTR
	lbs/day[2]	0.002	0.005	---	---	
4,4'-DDT	µg/L	0.00059	0.001	---	---	TMDL

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Pollutant	Unit	Average Monthly	Maximum Daily	Instantaneous Minimum/ Maximum	Performance Goal [5] Average Monthly/ Maximum Daily	Basis[1]
	lbs/day[2]	0.00002	0.00004	---	---	
Total PCBs	µg/L	0.00017	0.0003	---	---	TMDL
	lbs/day[2]	0.000006	0.00001	---	---	
Chronic Toxicity[3]	Pass or Fail, % Effect, TST	---	Pass or % Effect <50	---	---	TST
Detergent (MBAS)	mg/L	---	0.5	---	---	E, BPJ
	lbs/day[2]	---	18	---	---	
Ammonia as N	mg/L	0.035	0.23	---	---	ELG
	lbs/day[2]	1.3	8.6	---	---	
COD	mg/L	539	1,045	---	---	ELG
	lbs/day[2]	19,766	38,349	---	---	
Chlorine, Residual	mg/L	---	0.10	---	---	E, BPJ
	lbs/day[2]	---	3.7	---	---	
Chromium, Total	µg/L	490	1,390	---	---	ELG
	lbs/day[2]	18	51	---	---	
Phenols (4AAP)	µg/L	409	1,200	---	---	E, ELG
	lbs/day[2]	15	43	---	---	
Settleable Solids	ml/L	0.1	0.3	---	---	E, BPJ
Sulfide	µg/L	382	900	---	---	ELG
	lbs/day[2]	14	33	---	---	
Temperature	°F	---	86	---	---	E, TP, BP, WP
PAHs						
Benzo(a)anthracene[4,6]	µg/L	0.049	0.1	---	---	TMDL, CTR
	lbs/day[1]	0.002	0.004	---	---	
Benzo(a)pyrene[4,6]	µg/L	0.049	0.1	---	---	TMDL, CTR
	lbs/day[1]	0.002	0.004	---	---	
Chrysene[4,6]	µg/L	0.049	0.1	---	---	TMDL, CTR
	lbs/day[1]	0.002	0.004	---	---	
Pyrene[4,6]	µg/L	11,000	22068	---	---	TMDL, CTR
	lbs/day[1]	402	806	---	---	

[1] BP = Basin Plan; E = Existing; TP = Thermal Plan; WP = White Paper, BPJ = Best professional judgment; CTR=California Toxics Rule; ELG = Effluent Limitation Guidelines found at sections 419.32, 419.33, and 419.34, TST = EPA Test of Significant Toxicity Approach, TMDL = Total Maximum Daily Loads (Based on harbor Toxics TMDL)

[2] ELG mass-based effluent limitations based upon a refinery production of 300,000 bbls and discharge flow volumes as described in Section IV.B.2. All other mass-based effluent limitations based upon a maximum authorized discharge of 4.4 MGD.

[3] "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitations (MDEL). The Discharger demonstrates compliance with the acute toxicity MDELs if the acute toxicity testing result meets one of the following:

i. The acute toxicity testing result is "Pass"; or
ii. The percent effect is less than 50 if the acute toxicity result is "Fail".

[4] The effluent limitations are based on the Harbor Toxics TMDL WLAs and were calculated based on CTR-SIP procedures.

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[5] Performance goals are intended to ensure that effluent concentrations and mass discharges do not exceed levels currently achieved by the permitted facility. These performance goals are not considered as limitations or standards for the regulation of the facility. They act as triggers to determine when sediement monitoring is required for this pollutant.

[6] CTR human health criteria were not established for total PAHs. Therefore, the performance goals are based on the CTR human health criteria for the individual PAHs benzo(a)anthracene; benzo(a)pyrene, pyrene, and chrysene. The State's 2010 303(d) List classifies the Domingues Channel Estuary as impaired for these PAH compounds.

4. Mass-based Effluent Limitations

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)

E. Interim Effluent Limitations

This Order includes a compliance schedule, which exceeds one year, for the final effluent limitations for chlordane, dieldrin, 4,4'-DDT, and total PCBs. As discussed earlier in section III.D.2., the Regional Water Board is authorized by U.S. EPA, pursuant to CWA section 303(c)(2), to include compliance schedules in NPDES permits consistent with the interim and final CTR based WLAs and an associated implementation schedule based on the Harbors Toxics TMDL. 40 C.F.R. section 122.47(a)(3) requires compliance schedules that exceed one year to include interim requirements and dates for their achievements. The State Water Board's Resolution 2008-0025 "Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits" also requires the Regional Water Board to establish interim numeric effluent limitations for compliance schedules longer than one year. As such, this Order includes interim effluent limits for these parameters. The Regional Water Board's rationale for providing a compliance schedule for these parameters is provided in section VII.B.8. of this Fact Sheet. 40 C.F.R. section 122.47 does not include requirements for how interim effluent limits are to be established. The Compliance Schedule Policy requires that interim effluent limitations must be based on current facility performance or existing permit limitations, whichever is more stringent. While the Compliance Schedule Policy does not apply here, its requirements pertaining to the establishment of interim effluent limits is instructive. In addition, according to section 2.2.1 of the SIP (Interim Requirements under a Compliance Schedule), when compliance schedules are established in an Order, interim effluent limitations must be included based on current treatment facility performance or existing permit limitations, whichever is more stringent to maintain existing water quality.

Pursuant to 303(c) of the clean Water Act (CWA) EPA authorized compliance schedule in the NPDES permit for certain Total Maximum Daily Load (TMDL) constituents in Dominguez Channel and Greater Los Angeles and Long Beach Harbor Water (Harbors Toxics TMDL) that have Waste Load Allocations (WLAs). In the 303(c) letter, EPA authorized for Harbor Toxics TMDL constituents compliance schedules in NPDES permits for Non-MS4 stormwater dischargers for copper, lead, zinc, DDt, dieldrin, total

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PCBs, chlordane, and pyrene (applicable for process wastewater comingled with stormwater and boiler blowdown discharges of Carson Refinery) and for other non-stormwater discharges for copper, lead, and zinc (applicable to low volume waste of Carson Refinery)

The Discharger can meet the effluent limits for lead and the discharge limits for copper and zinc have increased based on the TMDL for both low volume waste and process wastewater comingled with stormwater and boiler blowdown. Therefore, no interim limits are included in the permit for copper, lead and zinc for both waste streams. For comingled process wastewater the Discharger can meet the pyrene limit. The final limits for DDT, dieldrin, total PCBs, and chlordane in the proposed permit are new limits based on Harbor Toxics TMDL. There were two discharges of comingled process water with stormwater in 2008. The monitoring results of stormwater mixed with process wastewater discharges had higher MDL values than the new final limits for these constituents. The interim limits included in the permit for process wastewater comingled with stormwater and boiler blowdown for chlordane, dieldrin, total PCBs, and DDT authorized under the 303(c) letter are based on method detection limit (MDL) of the discharge results, or prescribed minimum levels (MLs), whichever is lower.

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Table F-18. Interim Effluent Limitations (Process Wastewater Commingled with Stormwater and Boiler Blowdown - Discharge Points 003 and 004)

Parameter	Units	Interim Effluent Limitations	
		Maximum Daily	Average Monthly
Chlordane [4]	µg/L	0.03 [5]	0.03 [5]
	lbslday [1]	0.0011	0.0011
Dieldrin [4]	µg/L	0.002 [6]	0.002 [6]
	lbslday [1]	0.000073	0.000073
PCBs, Total [2,3,4]	µg/L	0.5 [7]	0.5 [7]
	lbslday [1]	0.018	0.018
4.4'-DDT [3,4]	µg/L	0.0038 [6]	0.0038 [6]
	lbslday [1]	0.00014	0.00014

1 The mass limitations for process wastewater comingled with stormwater and boiler blowdown are based on a maximum flow of 4.4 MGD and is calculated as follows: Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day.

2 Total PCBs (polychlorinated biphenyls) means the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Arolclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

3 The interim effluent limitations listed in this table do not represent thresholds in the determination of the need to conduct sediment monitoring. Rather, if the effluent monitoring results during each reporting period exceed both a TSS effluent limit and a CTR TMDL-based final effluent limit for copper, 4,4-DDT, total PCBs, benzo(a)pyrene, benzo(a)anthracene, or chrysene, as listed in Tables 5 and 6 of this Order, implementation of the effluent sediment monitoring program is required for that priority pollutant.

4 Samples analyzed must be unfiltered samples.

5 The pollutant was not monitored during the two discharges in 2007 and 2008. The value is based on the method detection level (MDL) of low volume waste and is lower than the prescribed minimum level (ML).

[6] The value is based on MDL and is lower than the prescribed ML

[7] MDL of the monitoring results was higher than ML. Therefore, the lower ML value is included as the interim limit.

The tasks target completion dates, and reporting dates are stipulated in Section VI.C.7 of the Order.

F. Land Discharge Specifications

Not Applicable

G. Reclamation 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 (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 and are based on the water quality objectives contained in the Basin Plan.

B. Groundwater

Not Applicable

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. California Water Code sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to 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

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B. Effluent Monitoring

Monitoring for those pollutants expected to be present and for which effluent limitations exist will be required as shown in the proposed MRP. To determine compliance with effluent limitations, the proposed monitoring plan includes monitoring requirements consistent with those included in Order No. R4-2007-0015 with some modifications. Monitoring for aldrin has been added for the discharge of process wastewater commingled with stormwater and boiler blowdown and monitoring for cyanide and bis(2-ethylhexyl)phthalate has been added to the requirements for the discharge of low volume wastes.

Monitoring once per discharge event for total coliform, fecal coliform, and enterococcus has been included based on the Basin Plan objectives for marine environments.

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 and TCDD Equivalents. 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. Chronic toxicity is a more stringent requirement than acute toxicity. A chemical at a low concentration can have chronic effects but no acute effects. For this permit, chronic toxicity in the discharge is limited and evaluated using USEPA's 2010 TST statistical approach. The chronic toxicity effluent limitations are as stringent as necessary to protect the Basin Plan Water Quality Objective for chronic toxicity. This Order also includes chronic toxicity monitoring requirements.

The chronic toxicity using the USEPA effluent toxicity tests shall be run using a multi-concentration test design only when required by EPA's short-term methods for estimating the chronic toxicity of effluents promulgated under 40 CFR 136. All NPDES effluent compliance monitoring for chronic toxicity shall be reported using the 100% effluent concentration and negative control, expressed in units of USEPA's TST statistical approach (pass or fail, % effect). The TST hypothesis (Ho) is statistically analyzed using only the permit-specified in-stream waste concentration and a negative control. The appropriate interpretation of measurement results from the TST (pass or fail) is, by design, independent from the concentration-response patterns of toxicity tests conducted using multi-concentration test designs. Therefore, when using the TST, application of concentration-response pattern review is not used because it does not improve the appropriate interpretation of the definitive TST result, as long as all Test

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Acceptability Criteria and other test review procedures (those related to Quality Assurance for effluent and receiving water toxicity tests, reference toxicant tests, and control performance described by the WET test methods manuals and TST guidance) are followed.

D. Receiving Water Monitoring

1. Surface Water

Surface water monitoring requirements were established in this Order to provide data to determine compliance with the receiving water limitations established. The Facility is also required to perform general observations of the receiving water monthly as well as 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.

The Regional Water Board is requiring that the Discharger conduct upstream receiving water monitoring for the pH, salinity, temperature, and CTR priority pollutants at Monitoring Location RSW-001A, RSW-002A, RSW-003A, RSW-004A, and RSW-005A. Further, the Discharger must analyze temperature, pH, salinity, ammonia, nitrate (as N) and dissolved oxygen of the downstream receiving water at the same time as the samples are collected for priority pollutants analysis.

2. Bed Sediment Monitoring

The final concentration based sediment WLAs for cadmium, chlordane, and dieldrin were included in the Harbor Toxics TMDL for Dominguez Channel Estuary. The bed sediment monitoring will provide data for the direct determination of compliance with these WLAs.

3. Groundwater

Not Applicable

E. Sediment Monitoring and Reporting

1. Effluent Sampling/Monitoring for Sediment

The Harbor Toxics TMDL requires attainment with both water column and sediment WLAs. This permit has utilized tools to translate the WLAs into permit effluent limitations and interim monitoring thresholds. Attainment with these CTR TMDL-based requirements will be demonstrated using TSS effluent monitoring, CTR TMDL-based priority pollutant effluent monitoring, monitoring for specific PAH compounds [e.g., benzo(a)pyrene and chrysene], and when required, sediment monitoring. Compliance with these requirements will ensure that discharges from the Tesoro Los Angeles Refinery-Carson Operations do not contribute to contaminant sediment concentrations in Dominguez Channel Estuary.

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2. Harbor Toxics TMDL Water and Sediment Monitoring Plan

As defined in the Harbor Toxics TMDL, the Discharger is a "responsible party" because it is an "Individual NPDES Permittee." As such, the Discharger, either alone, or as part of a collaborative effort, is responsible for monitoring water and sediment discharges. The Discharger, by itself, or as part of a collaborative monitoring effort (Responsible Parties), is required to prepare and submit a Monitoring and Reporting Plan (Monitoring Plan) and Quality Assurance Project Plan (QAPP), following TMDL Element - Monitoring Plan regulatory provisions in Attachment A to Resolution 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, subsequently, 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 Discharger 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 the proposed Monitoring Plan and QAPP 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 as specified in Section VI.C.2.c. of Limitations and Discharge Requirements.

3. Regional Monitoring

The Discharger is required to participate in the development of Regional Monitoring program(s) to address pollutants as specified in the Harbor Toxics TMDL.

F. Other Monitoring Requirements

1. Stormwater Monitoring

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 stormwater discharges in the vicinity of the discharge to observe the presence of floating and suspended materials, oil and grease, discoloration, turbidity, and odor.

2. SWPPP, BMPP and SCP Status and Effectiveness Report

The Discharger is required by Special Provision VI.C.3 of the Order to update and implement a SWPPP, BMPP and SCP. This Order requires the Discharger to report on the effectiveness of the plans and update them as needed to ensure all actual or potential sources of pollutants in the wastewater and stormwater discharged from the Facility are addressed in the SWPPP, BMPP and SCP.

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VII. 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.

40 C.F.R. section 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. 40 C.F.R. section 123.25(a)(12) 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 California Water Code section 13387(e).

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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 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. **Harbor Toxics TMDL Water and Sediment Monitoring Plan.** Monitoring Thresholds based on Sediment Interim Concentration-based Allocations in the Harbor Toxics TMDL for Sediment Monitoring of the Effluent. This Order implements the Harbor Toxics TMDL's interim sediment allocations (Long Beach Harbor) for copper, lead, zinc, DDT, PAHs, and PCBs as monitoring thresholds. Attainment with these thresholds shall be demonstrated in accordance with Table 5 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.

Harbor Toxics TMDL Water Column, Sediment, and Fish Tissue Monitoring for the Greater Los Angeles and Long Beach Harbor Waters Compliance Monitoring Program implements the Compliance Monitoring Program as required in the Harbor Toxics TMDL. The Compliance Monitoring Program include water column monitoring, sediment monitoring and fish tissue monitoring at monitoring stations in Fish Harbor.

3. Stormwater Pollution Prevention and Best Management Practices

The objective of this Order is to protect the beneficial uses of the receiving waters. To meet this objective, this Order requires the Discharger to update and continue to implement an updated SWPPP and address stormwater runoff to the Dominguez Channel Estuary. This is consistent with the SWPPP requirements in the NPDES General Permit for Stormwater Discharges Associated with Industrial Activity (State Water Board Order No. 97-03-DWQ, NPDES Permit No. CAS000001). A SWPPP outlines site-specific management processes for minimizing stormwater runoff contamination and for preventing contaminated stormwater runoff from being discharged directly into surface waters. Stormwater discharges do occur at the Facility, and best management practices are identified as one method to reduce contamination of stormwater.

This provision is based on section 122.44(k) and includes the requirement to develop a SWPPP.

The Discharger uses, stores, handles and disposes of materials, chemicals, and wastes at the facility, and conducts operational and maintenance activities to its facility and equipment that are potential or existing sources of pollutants in wastewater discharged from the facility to the receiving water. In addition, this Order prohibits the Discharger from causing or threatening to cause a nuisance and degrading water quality. Therefore, this Order requires the Discharger to develop and implement a BMPP that includes site-specific plans, procedures, and practices to minimize the amount of pollutants entering wastewater discharges from materials being stored and activities being conducted throughout the entire facility. To ensure the Discharger considers and implements appropriate and effective BMPs, the discharger is required to consider implementing BMPs contained in the USEPA *Guidance Manual for Developing Best Management Practices (BMPs)* (EPA 833-B-93-004) or equivalent alternatives when developing its BMPP.

4. Spill Contingency Plan (SCP)

An updated SCP that describes the preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. The SCP shall be reviewed at a minimum once per year and updated as needed. Any changes or revisions shall be summarized in the annual summary report.

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5. Construction, Operation, and Maintenance Specifications

This provision is based on the requirements of section 122.41(e) and the previous Order.

6. Special Provisions for Municipal Facilities (POTWs Only)

Not Applicable

7. Other Special Provisions

Not Applicable

8. Compliance Schedule

In general, an NPDES permit must include final effluent limitations that are consistent with CWA section 301 and with 40 C.F.R. section 122.44(d). Here, as previously discussed in section III.D.1. of this Fact Sheet, the Regional Water Board is authorized to include compliance schedules consistent with the interim and final CTR-based TMDL WLAs and the associated implementation schedule in the Harbors Toxics TMDL. Pursuant to 40 C.F.R. section 122.47, any compliance schedule must require compliance as soon as possible and may only be provided when necessary to allow a reasonable opportunity to attain compliance with requirements. Where a compliance schedule for a final effluent !imitation exceeds one year, the Order must include interim requirements, the dates for their achievements, and compliance reporting within 30 days after each interim date.

The final effluent limitations for chlordane, dieldrin, 4,4'-DDT, and total PCBs, are more stringent than the limitations previously implemented since Order R4-2007-0015 did not include effluent limits for these parameters. These new final limitations are based on the final WLAs in the Harbor Toxics TMDL that became effective on March 23, 2012. The Discharger submitted a request for a compliance schedule on September 30, 2014, which demonstrates the Discharger's need for additional time to implement actions to comply with the new limitations. A compliance schedule is necessary because immediate compliance with the new final effluent limits for these parameters is either not attainable or unknown under current facility performance as demonstrated by recent monitoring data. The Discharger must implement actions (including site specific assessments of storm water discharge concentrations, implementation of new and modified BMPs, assessment of the feasibility of engineered controls/treatment, and implementation of engineered controls/treatment) to comply with the more stringent final effluent limitations for these parameters. The Discharger needs adequate time to implement these actions. Therefore, a compliance schedule for the final effluent limitations for chlordane, dieldrin, 4,4'-DDT, and total PCBs, is established in this Order for process wastewater comingled with stormwater and boiler blowdown..

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While Order R4-2007-0015 did not include effluent limits for these parameters, the Discharger has made diligent efforts to date to quantify and reduce pollutant levels in the discharge, the sources of the pollutants in the waste stream, and has documented the results of those efforts. Additional source control efforts are currently underway and will be completed in accordance with the compliance schedule.

The five-year compliance schedule for chlordane, dieldrin, 4,4'-DDT, and total PCBs, provided in this Order is as short as possible considering the need for additional data and the number of new or significantly expanded programs that the Discharger must implement to come into compliance with the final effluent limitations. The compliance schedule will result in compliance as soon as possible within the timeframe allowed by the compliance schedule authorizing provisions in the Harbors Toxics TMDL.

The compliance schedule for chlordane, dieldrin, 4,4'-DDT, and total PCBs, is included in the Special Provisions section VI.C.7. The compliance schedule includes compliance reporting within 30 days after each interim completion date.

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VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Los Angeles Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the Tesoro Refining & Marketing Company LLC – Tesoro Los Angeles Refinery – Carson Operations facility. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Office of the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments must be received at the Regional Water Board offices by 5:00 p.m. on October 9, 2015.

C. Public Hearing

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

Date: December 10, 2015
Time: 9:00 a.m.
Location: Metropolitan Water District of Southern California
700 North Alameda Street
Los Angeles, California

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

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

D. Nature of Hearing

This will be a formal adjudicative hearing pursuant to section 648 et seq. of title 23 of the California Code of Regulations. Chapter 5 of the California Administrative Procedure Act (commencing with section 11500 of the Government Code) will not apply to this proceeding.

Ex Parte Communications Prohibited: As a quasi-adjudicative proceeding, no board member may discuss the subject of this hearing with any person, except during the public hearing itself. Any communications to the Regional Water Board must be directed to staff.

E. Parties to the Hearing

The following are the parties to this proceeding:

1. The applicant/permittee

Any other persons requesting party status must submit a written or electronic request to staff not later than 20 business days before the hearing. All parties will be notified if other persons are so designated.

F. Public Comments and Submittal of Evidence

Persons wishing to comment upon or object to the tentative waste discharge requirements, or submit evidence for the Regional Water Board to consider, are invited to submit them in writing to losangeles@waterboards.ca.gov with a copy submitted to Mazhar Ali at mazhar.ali@waterboards.ca.gov. To be evaluated and responded to by staff, included in the Regional Water Board's agenda folder, and fully considered by the

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Regional Water Board, written comments must be received no later than 5 p.m. on October 9, 2015. Comments or evidence received after that date will not be included in administrative record without express approval of the Chair prior to the end of the hearing. Additionally, if the Regional Water Board receives only supportive comments, the permit may be placed on the Regional Water Board's consent calendar, and approved without oral testimony.

G. Hearing Procedure

The meeting, in which the hearing will be a part of, will start at 9:00 a.m. Interested persons are invited to attend. Staff will present the matter under consideration, after which oral statements from parties or interested persons will be heard. For accuracy of the record, all important testimony should be in writing. The Regional Water Board will include in the administrative record written transcriptions of oral testimony that is actually presented at the hearing. Oral testimony may be limited to 3 minutes maximum or less for each speaker, depending on the number of persons wishing to be heard. Parties or persons with similar concerns or opinions are encouraged to choose one representative to speak. At the conclusion of testimony, the Regional Water Board will deliberate in open or close session, and render a decision.

Parties or persons with special procedural requests should contact staff. Any procedure not specified in this hearing notice will be waived pursuant to section 648(d) of title 23 of the California Code of Regulations. Objections to any procedure to be used during this hearing must be submitted in writing not later than close of 15 business days prior to the date of the hearing. Procedural objections will not be entertained at the hearing.

If there should not be a quorum on the scheduled date of this meeting, all cases will be automatically continued to the next scheduled meeting. A continuance will not extend any time set forth herein.

H. Reconsideration of Waste Discharge Requirements

Any person aggrieved by this action of the Regional Water Board may petition the State Water Board to review the action in accordance with California Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must *receive* the petition by 5:00 p.m., 30 days after the date of adoption of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:
http://www.waterboards.ca.gov/public_notices/petitions/water_quality
or will be provided upon request.

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The State Water Board's mailing address is the following:

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

I. Information and Copying

The Report of Waste Discharge (ROWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (213) 576–6600.

J. 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.

K. Additional Information

Requests for additional information or questions regarding this order should be directed to Mazhar Ali at (213) 576-6652.

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ATTACHMENT G – STORMWATER POLLUTION PREVENTION PLAN REQUIREMENTS

I. Implementation Schedule

A stormwater pollution prevention plan (SWPPP) shall be updated and submitted to the Regional Water Board within 90 days following the adoption of this Order. The SWPPP shall be implemented 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 stormwater discharges and authorized non-stormwater 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 stormwater discharges and authorized non-stormwater 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, over-head 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 stormwater 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, stormwater pollution prevention teams may consist of one individual where appropriate.

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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 stormwater 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 STORMWATER 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-stormwater discharges Assess pollutant risks

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

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IMPLEMENTATION PHASE

Train employees
Implement BMPs
Conduct recordkeeping and reporting

EVALUATION / MONITORING

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

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The following information shall be included on the site map:

A. The facility boundaries; the outline of all stormwater 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 stormwater discharges and authorized non-stormwater discharges may be received.

B. The location of the stormwater collection and conveyance system, associated points of discharge, and direction of flow. Include any structural control measures that affect stormwater discharges, authorized non-stormwater 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 A.6.a.iv. 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 A.4.e above, associated potential pollutant sources, and potential pollutants that could be discharged in stormwater discharges or authorized non-stormwater discharges. At a minimum, the following items related to a facility's industrial activities shall be considered:

1. **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.

2. **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.

3. **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.

4. **Significant Spills and Leaks.** Describe materials that have spilled or leaked in significant quantities in stormwater discharges or non-stormwater discharges since April 17, 1994. Include toxic chemicals (listed in 40 CFR, Part 302) that have been discharged to stormwater as reported on USEPA Form R, and oil and hazardous substances in excess of reportable quantities (see 40 Code of Federal Regulations [CFR], 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 stormwater or non-stormwater 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.

5. **Non-Stormwater Discharges.** Facility operators shall investigate the facility to identify all non-stormwater discharges and their sources. As part of this

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investigation, all drains (inlets and outlets) shall be evaluated to identify whether they connect to the storm drain system.

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

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

6. **Soil Erosion.** Describe the facility locations where soil erosion may occur as a result of industrial activity, stormwater discharges associated with industrial activity, or authorized non-stormwater 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 A.8. 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 A.6. above to determine:

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

2. Which pollutants are likely to be present in stormwater discharges and authorized non-stormwater discharges. Facility operators shall consider and evaluate various factors when performing this assessment such as current stormwater BMPs; quantities of significant materials handled, produced, stored, or disposed of; likelihood of exposure to stormwater or authorized non-stormwater 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 stormwater discharges and authorized non-stormwater discharges.

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Facility operators are required to develop and implement additional BMPs as appropriate and necessary to prevent or reduce pollutants associated with each pollutant source. The BMPs will be narratively described in Section 8 below.

VIII. Stormwater Best Management Practices

The SWPPP shall include a narrative description of the stormwater BMPs to be implemented at the facility for each potential pollutant and its source identified in the site assessment phase (Sections A.6. and 7. above). The BMPs shall be developed and implemented to reduce or prevent pollutants in stormwater discharges and authorized non-stormwater 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.

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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 stormwater 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 stormwater discharges and authorized non-stormwater 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 stormwater discharges and authorized non-stormwater 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 A.8.b. below). Below is a list of non-structural BMPs that should be considered:

1. **Good Housekeeping.** Good housekeeping generally consist of practical procedures to maintain a clean and orderly facility.

2. **Preventive Maintenance.** Preventive maintenance includes the regular inspection and maintenance of structural stormwater 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 stormwater and authorized non-stormwater 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 stormwater. 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.

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8. **Erosion Control and Site Stabilization.** This includes a description of all sediment and erosion control activities. This may include the planting and maintenance of vegetation, diversion of run-on and runoff, placement of sandbags, silt screens, or other sediment control devices, etc.

9. **Inspections.** This includes, in addition to the preventative maintenance inspections identified above, an inspection schedule of all potential pollutant sources. Tracking and follow-up procedures shall be described to ensure adequate corrective actions are taken and SWPPPs are made.

10. **Quality Assurance.** This includes the procedures to ensure that all elements of the SWPPP and Monitoring Program are adequately conducted.

B. Structural BMPs.

Where non-structural BMPs as identified in Section A.8.a. above are not effective, structural BMPs shall be considered. Structural BMPs generally consist of structural devices that reduce or prevent pollutants in stormwater discharges and authorized non-stormwater 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 stormwater and authorized non-stormwater discharges.

2. **Retention Ponds.** This includes basins, ponds, surface impoundments, bermed areas, etc. that do not allow stormwater 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 stormwater discharges and authorized non-stormwater 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:

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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 A.10.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 stormwater management agency (local agency) which receives the stormwater 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 stormwater discharge, (ii) cause a new area of industrial activity at the facility to be exposed to stormwater, 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.

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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 stormwater discharges and authorized non-stormwater discharges. Such reports are subject to Regional Water Board approval and/or modifications. Facility operators shall provide written notification to the Regional Water Board within 14 days after the SWPPP revisions are implemented.

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

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ATTACHMENT H – STATE WATER BOARD MINIMUM LEVELS

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

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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		

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

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

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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

Table 2d – PESTICIDES – PCBs*	GC
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

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ATTACHMENT I – LIST OF PRIORITY POLLUTANTS

CTR Number	Parameter	CAS Number	Suggested Analytical Methods
			[1]
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]
10	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	107028	[1]
18	Acrylonitrile	107131	[1]
19	Benzene	71432	[1]
20	Bromoform	75252	[1]
21	Carbon Tetrachloride	56235	[1]
22	Chlorobenzene	108907	[1]
23	Chlorodibromomethane	124481	[1]
24	Chloroethane	75003	[1]
25	2-Chloroethylvinyl Ether	110758	[1]
26	Chloroform	67663	[1]
27	Dichlorobromomethane	75274	[1]
28	1,1-Dichloroethane	75343	[1]
29	1,2-Dichloroethane	107062	[1]
30	1,1-Dichloroethylene	75354	[1]
31	1,2-Dichloropropane	78875	[1]
32	1,3-Dichloropropylene	542756	[1]
33	Ethylbenzene	100414	[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	108883	[1]
40	1,2-Trans-Dichloroethylene	156605	[1]
41	1,1,1-Trichloroethane	71556	[1]
42	1,12-Trichloroethane	79005	[1]

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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	105679	[1]
48	2-Methyl-4,6-Dinitrophenol	534521	[1]
49	2,4-Dinitrophenol	51285	[1]
50	2-Nitrophenol	88755	[1]
51	4-Nitrophenol	100027	[1]
52	3-Methyl-4-Chlorophenol	59507	[1]
53	Pentachlorophenol	87865	[1]
54	Phenol	108952	[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	108601	[1]
68	Bis(2-Ethylhexyl)Phthalate	117817	[1]
69	4-Bromophenyl Phenyl Ether	101553	[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	106467	[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]

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CTR Number	Parameter	CAS Number	Suggested Analytical Methods
87	Fluorene	86737	[1]
88	Hexachlorobenzene	118741	[1]
89	Hexachlorobutadiene	87863	[1]
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]
100	Pyrene	129000	[1]
101	1,2,4-Trichlorobenzene	120821	[1]
102	Aldrin	309002	[1]
103	alpha-BHC	319846	[1]
104	beta-BHC	319857	[1]
105	gamma-BHC	58899	[1]
106	delta-BHC	319868	[1]
107	Chlordane	57749	[1]
108	4,4'-DDT	50293	[1]
109	4,4'-DDE	72559	[1]
110	4,4'-DDD	72548	[1]
111	Dieldrin	60571	[1]
112	alpha-Endosulfan	959988	[1]
113	beta-Endosulfan	33213659	[1]
114	Endosulfan Sulfate	1031078	[1]
115	Endrin	72208	[1]
116	Endrin Aldehyde	7421934	[1]
117	Heptachlor	76448	[1]
118	Heptachlor Epoxide	1024573	[1]
119	PCB-1016	12674112	[1]
120	PCB-1221	11104282	[1]
121	PCB-1232	11141165	[1]
122	PCB-1242	53469219	[1]
123	PCB-1248	12672296	[1]
124	PCB-1254	11097691	[1]
125	PCB-1260	11096825	[1]
126	Toxaphene	8001352	[1]

[1] Pollutants shall be analyzed using the methods described in 40 CFR Part 136.

REVISED TENTATIVE

ATTACHMENT J – SUMMARY OF REASONABLE POTENTIAL ANALYSIS (RPA)

REVISED TENTATIVE

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L) Saltwater C acute = CMC tot	Saltwater C chronic = CCC tot	Human Health for consumption of: Water & organisms	Organisms only	Lowest C	REASONABLE POTENTIAL ANALYSIS (RPA) MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL)	Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL>C?	If B>C, effluent limit required
1	Antimony	ug/L	0.6	0.83				4300.00	4300.00	No	No	Y	Y	1		N	No detected value of B, Step 7
2	Arsenic	ug/L	0.6	8.1	69.00	36.00			36.00	No	No	Y	Y	3.5		N	No detected value of B, Step 7
3	Beryllium	ug/L	0.6	No Criteria				Narrative	No Criteria	No Criteria	No Criteria	Y	Y	1		N	No Criteria
4	Cadmium	ug/L	0.6	0.15	42.25	9.36		Narrative	9.36	No	No	Y	Y	0.55		N	No detected value of B, Step 7
5a	Chromium (III)		0.6	No Criteria				Narrative	No Criteria	No Criteria	No Criteria	N					No Criteria
5b	Chromium (VI)	ug/L	0.6	2.2	1107.75	50.35		Narrative	50.35	No	No	Y	Y	3.5		N	No detected value of B, Step 7
6	Copper	ug/L	0.6	9.5		3.73			3.73	Yes	Yes	Y	N		8.4		Limit required, B>C & pollutant
7	Lead	ug/L	0.6	5.8		8.52		Narrative	8.52	No	No	Y	Y	1.5		N	No detected value of B, Step 7
8	Mercury	ug/L	0.6		Reserved	Reserved		0.051	0.051			Y	Y	0.2		Y	No detected value of B, Step 7
9	Nickel	ug/L	0.6	11	74.75	8.28		4600.00	8.28	Yes	Yes	Y	N		14		Limit required, B>C & pollutant
10	Selenium	ug/L	0.6	1.5	290.58	71.14		Narrative	71.14	No	No	Y	N		170		Limit required, B>C & pollutant
11	Silver	ug/L	0.6	0.3	2.24				2.24	No	No	Y	Y	1.5		N	No detected value of B, Step 7
12	Thallium	ug/L	0.6	0.2				6.30	6.30	No	No	Y	Y	1		N	No detected value of B, Step 7
13	Zinc	ug/L	0.6	620		85.62			85.62	Yes	Yes	Y	N		21		B<=C, Step 7
14	Cyanide	ug/L	0.6	27	1.00	1.00		220000.00	1.00	Yes	Yes	Y	Y	2.2		Y	No detected value of B, Step 7
15	Asbestos	Fibers/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	N					No Criteria
16	2,3,7,8 TCDD	ug/L	0.6					0.000000014	0.000000014			N					No detected value of B, Step 7
17	Acrolein	ug/L	0.6	4				780	780	No	No	Y	Y	4		N	No detected value of B, Step 7
18	Acrylonitrile	ug/L	0.6					0.66	0.660			Y	Y	0.7		Y	No detected value of B, Step 7
19	Benzene	ug/L	0.6	0.28				71	71.0	No	No	Y	Y	0.28		N	No detected value of B, Step 7
20	Bromoform	ug/L	0.6	2.3				360	360.0	No	No	Y	Y	0.4		N	No detected value of B, Step 7
21	Carbon Tetrachloride	ug/L	0.6	0.28				4.4	4.40	No	No	Y	Y	0.28		N	No detected value of B, Step 7
22	Chlorobenzene	ug/L	0.6	0.36				21000	21000	No	No	Y	Y	0.36		N	No detected value of B, Step 7
23	Chlorodibromomethane	ug/L	0.6	0.3				34	34.00	No	No	Y	Y	0.28		N	No detected value of B, Step 7
24	Chloroethane	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	0.4		N	No Criteria
25	2-Chloroethylvinyl ether	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	1.8		N	No Criteria
26	Chloroform	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y				No Criteria
27	Dichlorobromomethane	ug/L	0.6	0.41				46	46.00	No	No	Y	Y	0.3		N	No detected value of B, Step 7
28	1,1-Dichloroethane	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	0.27		N	No Criteria
29	1,2-Dichloroethane	ug/L	0.6	0.28				99	99.00	No	No	Y	Y	0.28		N	No detected value of B, Step 7
30	1,1-Dichloroethylene	ug/L	0.6	0.42				3.2	3.200	No	No	Y	Y	0.42		N	No detected value of B, Step 7
31	1,2-Dichloropropane	ug/L	0.6	0.32				39	39.00	No	No	Y	Y	0.35		N	No detected value of B, Step 7
32	1,3-Dichloropropylene	ug/L	0.6	0.32				1700	1700	No	No	Y	Y	0.32		N	No detected value of B, Step 7
33	Ethylbenzene	ug/L	0.6	0.25				29000	29000	No	No	Y	Y	0.25		N	No detected value of B, Step 7
34	Methyl Bromide	ug/L	0.6	0.42				4000	4000	No	No	N					No detected value of B, Step 7
35	Methyl Chloride	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	N					No Criteria
36	Methylene Chloride	ug/L	0.6	0.95				1600	1600.0	No	No	Y	Y	0.95		N	No detected value of B, Step 7
37	1,1,2,2-Tetrachloroethane	ug/L	0.6	0.24				11	11.00	No	No	Y	Y	0.24		N	No detected value of B, Step 7
38	Tetrachloroethylene	ug/L	0.6	0.32				8.85	8.9	No	No	Y	Y	0.32		N	No detected value of B, Step 7
39	Toluene	ug/L	0.6	2.4				200000	200000	No	No	Y	Y	0.36		N	No detected value of B, Step 7
40	1,2-Trans-Dichloroethylene	ug/L	0.6	0.27				140000	140000	No	No	N					No detected value of B, Step 7
41	1,1,1-Trichloroethane	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	0.3		N	No Criteria
42	1,1,2-Trichloroethane	ug/L	0.6	0.3				42	42.0	No	No	Y	Y	0.3		N	No detected value of B, Step 7
43	Trichloroethylene	ug/L	0.6	0.26				81	81.0	No	No	Y	Y	0.26		N	No detected value of B, Step 7
44	Vinyl Chloride	ug/L	0.6	0.3				525	525	No	No	Y	Y	0.3		N	No detected value of B, Step 7
45	2-Chlorophenol	ug/L	0.6	2.9				400	400	No	No	Y	Y	2.8		N	No detected value of B, Step 7
46	2,4-Dichlorophenol	ug/L	0.6	3.3				790	790	No	No	Y	Y	3.3		N	No detected value of B, Step 7
47	2,4-Dimethylphenol	ug/L	0.6	3.3				2300	2300	No	No	Y	Y	3.3		N	No detected value of B, Step 7
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	ug/L	0.6	7.7				765	765.0	No	No	Y	Y	3.3		N	No detected value of B, Step 7
49	2,4-Dinitrophenol	ug/L	0.6	3.3				14000	14000	No	No	Y	Y	3.3		N	No detected value of B, Step 7
50	2-Nitrophenol	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	3.3		N	No Criteria
51	4-Nitrophenol	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	5.2		N	No Criteria
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	N					No Criteria
53	Pentachlorophenol	ug/L	0.6	4.3	13.00	7.90		8.2	7.90	No	No	Y	Y	3.3		N	No detected value of B, Step 7
54	Phenol	ug/L	0.6	2.9				4600000	4600000	No	No	Y	Y	1.9		N	No detected value of B, Step 7
55	2,4,6-Trichlorophenol	ug/L	0.6	2.9				6.5	6.5	No	No	Y	Y	4.3		N	No detected value of B, Step 7
56	Acenaphthene	ug/L	0.6	1.9				2700	2700	No	No	Y	Y	2.8		N	No detected value of B, Step 7
57	Acenaphthylene	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	2.8		N	No Criteria
58	Anthracene	ug/L	0.6	1.9				110000	110000	No	No	Y	Y	1.9		N	No detected value of B, Step 7
59	Benzidine	ug/L	0.6					0.00054	0.00054			Y	Y	8		Y	No detected value of B, Step 7
60	Benzo(a)Anthracene	ug/L	0.6					0.049	0.0490			Y	Y	1.9		Y	No detected value of B, Step 7
61	Benzo(a)Pyrene	ug/L	0.6					0.049	0.0490			Y	Y	1.9		Y	No detected value of B, Step 7
62	Benzo(b)Fluoranthene	ug/L	0.6					0.049	0.0490			Y	Y	1.9		Y	No detected value of B, Step 7

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L) Saltwater C acute = CMC tot	Saltwater C chronic = CCC tot	Human Health for consumption of: Water & organisms	Organisms only	Lowest C	REASONABLE POTENTIAL ANALYSIS (RPA) MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL)	Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL>C?	If B>C, effluent limit required
63	Benzo(ghi)Perylene	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	3.8		N	No Criteria
64	Benzo(k)Fluoranthene	ug/L	0.6					0.049	0.0490			Y	Y	2.4		Y	No detected value of B, Step 7
65	Bis(2-Chloroethoxy)Methan	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	2.8		N	No Criteria
66	Bis(2-Chloroethyl)Ether	ug/L	0.6					1.4	1.400			Y	Y	2.8		Y	No detected value of B, Step 7
67	Bis(2-Chloroisopropyl)Ethe	ug/L	0.6	2.9				170000	170000	No	No	Y	Y	2.4		N	No detected value of B, Step 7
68	Bis(2-Ethylhexyl)Phthalate	ug/L	0.6	6.2				5.9	5.9	Yes	Yes	Y	Y	3.8		N	No detected value of B, Step 7
69	4-Bromophenyl Phenyl Eth	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	2.8		N	No Criteria
70	Butylbenzyl Phthalate	ug/L	0.6	2.4				5200	5200	No	No	Y	Y	3.8		N	No detected value of B, Step 7
71	2-Chloronaphthalene	ug/L	0.6	2.4				4300	4300	No	No	Y	Y	2.8		N	No detected value of B, Step 7
72	4-Chlorophenyl Phenyl Eth	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	2.4		N	No Criteria
73	Chrysene	ug/L	0.6	0.0056				0.049	0.0490	No	No	Y	Y	2.4		Y	No detected value of B, Step 7
74	Dibenzo(a,h)Anthracene	ug/L	0.6	0.011				0.049	0.0490	No	No	Y	Y	2.8		Y	No detected value of B, Step 7
75	1,2-Dichlorobenzene	ug/L	0.6	0.32				17000	17000	No	No	Y	Y	0.32		N	No detected value of B, Step 7
76	1,3-Dichlorobenzene	ug/L	0.6	0.35				2600	2600	No	No	Y	Y	0.35		N	No detected value of B, Step 7
77	1,4-Dichlorobenzene	ug/L	0.6	0.37				2600	2600	No	No	Y	Y	0.37		N	No detected value of B, Step 7
78	3,3 Dichlorobenzidine	ug/L	0.6					0.077	0.08			Y	Y	2.8		Y	No detected value of B, Step 7
79	Diethyl Phthalate	ug/L	0.6	3.3				120000	120000	No	No	Y	Y	3.3		N	No detected value of B, Step 7
80	Dimethyl Phthalate	ug/L	0.6	1.9				2900000	2900000	No	No	Y	Y	1.9		N	No detected value of B, Step 7
81	Di-n-Butyl Phthalate	ug/L	0.6	2.9				12000	12000	No	No	Y	Y	2.8		N	No detected value of B, Step 7
82	2,4-Dinitrotoluene	ug/L	0.6	3.3				9.10	9.10	No	No	Y	Y	3.3		N	No detected value of B, Step 7
83	2,6-Dinitrotoluene	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	1.9		N	No Criteria
84	Di-n-Octyl Phthalate	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	3.3		N	No Criteria
85	1,2-Diphenylhydrazine	ug/L	0.6					0.54	0.540			N					No detected value of B, Step 7
86	Fluoranthene	ug/L	0.6	0.031				370	370	No	No	Y	Y	2.8		N	No detected value of B, Step 7
87	Fluorene	ug/L	0.6	0.028				14000	14000	No	No	Y	Y	2.8		N	No detected value of B, Step 7
88	Hexachlorobenzene	ug/L	0.6					0.00077	0.00077			Y	Y	2.8		Y	No detected value of B, Step 7
89	Hexachlorobutadiene	ug/L	0.6	0.34				50	50.00	No	No	Y	Y	0.38		N	No detected value of B, Step 7
90	Hexachlorocyclopentadiene	ug/L	0.6	4.9				17000	17000	No	No	Y	Y	4.7		N	No detected value of B, Step 7
91	Hexachloroethane	ug/L	0.6	2.9				8.9	8.9	No	No	Y	Y	3.3		N	No detected value of B, Step 7
92	Indeno(1,2,3-cd)Pyrene	ug/L	0.6	0.021				0.049	0.0490	No	No	Y	Y	3.3		Y	No detected value of B, Step 7
93	Isophorone	ug/L	0.6	1.9				600	600.0	No	No	Y	Y	2.4		N	No detected value of B, Step 7
94	Naphthalene	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	0.41		N	No Criteria
95	Nitrobenzene	ug/L	0.6	2.4				1900	1900	No	No	Y	Y	2.4		N	No detected value of B, Step 7
96	N-Nitrosodimethylamine	ug/L	0.6	2.4				8.10	8.10000	No	No	N					No detected value of B, Step 7
97	N-Nitrosodi-n-Propylamine	ug/L	0.6					1.40	1.400			Y	Y	3.3		Y	No detected value of B, Step 7
98	N-Nitrosodiphenylamine	ug/L	0.6	2.4				16	16.0	No	No	Y	Y	1.9		N	No detected value of B, Step 7
99	Phenanthrene	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	3.3		N	No Criteria
100	Pyrene	ug/L	0.6	0.051				11000	11000	No	No	Y	Y	3.8		N	No detected value of B, Step 7
101	1,2,4-Trichlorobenzene	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	2.4		N	No Criteria
102	Aldrin	ug/L	0.6		1.30			0.00014	0.00014			Y	Y				No detected value of B, Step 7
103	alpha-BHC	ug/L	0.6					0.013	0.0130			Y	Y				No detected value of B, Step 7
104	beta-BHC	ug/L	0.6					0.046	0.046			Y	Y	0.0038		N	No detected value of B, Step 7
105	gamma-BHC	ug/L	0.6		0.16			0.063	0.063			Y	Y	0.0028		N	No detected value of B, Step 7
106	delta-BHC	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	0.0033		N	No Criteria
107	Chlordane	ug/L	0.6		0.00	0.000		0.00059	0.00059			Y	Y	0.028		Y	No detected value of B, Step 7
108	4,4'-DDT	ug/L	0.6		0.00	0.000		0.00059	0.00059			Y	Y	0.0038		Y	No detected value of B, Step 7
109	4,4'-DDE (linked to DDT)	ug/L	0.6					0.00059	0.00059			Y	Y	0.0028		Y	No detected value of B, Step 7
110	4,4'-DDD	ug/L	0.6					0.00084	0.00084			Y	Y	0.0019		Y	No detected value of B, Step 7
111	Dieldrin	ug/L	0.6		0.71	0.0019		0.00014	0.00014			Y	Y	0.0019		Y	No detected value of B, Step 7
112	alpha-Endosulfan	ug/L	0.6		0.034	0.0087		240	0.0087			Y	Y	0.0019		N	No detected value of B, Step 7
113	beta-Endolsulfan	ug/L	0.6		0.034	0.0087		240	0.0087			Y	Y	0.0028		N	No detected value of B, Step 7
114	Endosulfan Sulfate	ug/L	0.6					240	240			Y	Y	0.0028		N	No detected value of B, Step 7
115	Endrin	ug/L	0.6		0.037	0.0023		0.81	0.0023			Y	Y	0.0019		N	No detected value of B, Step 7
116	Endrin Aldehyde	ug/L	0.6					0.81	0.81			Y	Y	0.0019		N	No detected value of B, Step 7
117	Heptachlor	ug/L	0.6		0.053	0.0036		0.00021	0.00021			Y	Y	0.0028		Y	No detected value of B, Step 7
118	Heptachlor Epoxide	ug/L	0.6		0.053	0.0036		0.00011	0.00011			Y	Y	0.0024		Y	No detected value of B, Step 7
119-125	PCBs sum (2)	ug/L	0.6			0.03		0.00017	0.00017			Y	Y	1.9		Y	No detected value of B, Step 7
126	Toxaphene	ug/L	0.6		0.21	0.0002		0.00075	0.0002			Y	Y	0.066		Y	No detected value of B, Step 7

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

CTR#	Parameters	Tier 3 - other info. ?	RPA Result - Need Limit?	Reason	HUMAN HEALTH CALCULATIONS			AQUATIC LIFE CALCULATIONS								
					Organisms only			Saltwater / Freshwater / Basin Plan								
					AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh	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
1	Antimony		No	MEC<C & B is ND												
2	Arsenic		No	MEC<C & B is ND												
3	Beryllium	No Criteria	Uc	No Criteria												
4	Cadmium	TMDL Sedimen	No	MEC<C & B is ND		2.01		0.32	13.58	0.53	4.94	4.94	1.55	7.65	3.11	15.37538
5a	Chromium (III)	No Criteria	Uc	No Criteria												
5b	Chromium (VI)		No	MEC<C & B is ND												
6	Copper	TMDL WLA	Yes	MEC>=C		2.01		0.32		0.53	1.97	1.97	1.55	3.06	3.11	6.14
7	Lead	TMDL WLA	Yes	MEC<C & B is ND		2.01		0.32		0.53	4.49	4.49	1.55	6.97	3.11	14.00
8	Mercury		No	UD; effluent ND, MDL>C, and		FALSE										
9	Nickel		Yes	MEC>=C	4600	2.01	9228.47012	0.32	24.00	0.53	4.37	4.37	1.55	6.78	3.11	13.60595
10	Selenium		Yes	B>C & pollutant detected in e		2.01		0.32	93.30	0.53	37.52	37.52	1.55	58.25	3.11	116.86
11	Silver		No	MEC<C & B is ND												
12	Thallium		No	MEC<C & B is ND												
13	Zinc	TMDL WLA	Yes	MEC>=C		2.01		0.32		0.53	45.16	45.16	1.55	70.11	3.11	140.6514
14	Cyanide		Yes	MEC>=C	220000	2.01	441361.61457	0.32	0.32	0.53	0.53	0.32	1.55	0.50	3.11	1.00
15	Asbestos	No Criteria	Uc	No Criteria												
16	2,3,7,8 TCDD		Ud	No effluent data & no B												
17	Acrolein		No	MEC<C & B is ND												
18	Acrylonitrile		No	UD; effluent ND, MDL>C, and												
19	Benzene		No	MEC<C & B is ND												
20	Bromoform		No	MEC<C & B is ND												
21	Carbon Tetrachloride		No	MEC<C & B is ND												
22	Chlorobenzene		No	MEC<C & B is ND												
23	Chlorodibromomethane		No	MEC<C & B is ND												
24	Chloroethane	No Criteria	Uc	No Criteria												
25	2-Chloroethylvinyl ether	No Criteria	Uc	No Criteria												
26	Chloroform	No Criteria	Uc	No Criteria												
27	Dichlorobromomethane		No	MEC<C & B is ND												
28	1,1-Dichloroethane	No Criteria	Uc	No Criteria												
29	1,2-Dichloroethane		No	MEC<C & B is ND												
30	1,1-Dichloroethylene		No	MEC<C & B is ND												
31	1,2-Dichloropropane		No	MEC<C & B is ND												
32	1,3-Dichloropropylene		No	MEC<C & B is ND												
33	Ethylbenzene		No	MEC<C & B is ND												
34	Methyl Bromide		No	Ud;MEC<C & no B												
35	Methyl Chloride	No Criteria	Uc	No Criteria												
36	Methylene Chloride		No	MEC<C & B is ND												
37	1,1,2,2-Tetrachloroethane		No	MEC<C & B is ND												
38	Tetrachloroethylene		No	MEC<C & B is ND												
39	Toluene		No	MEC<C & B is ND												
40	1,2-Trans-Dichloroethylene		No	Ud;MEC<C & no B												
41	1,1,1-Trichloroethane	No Criteria	Uc	No Criteria												
42	1,1,2-Trichloroethane		No	MEC<C & B is ND												
43	Trichloroethylene		No	MEC<C & B is ND												
44	Vinyl Chloride		No	MEC<C & B is ND												
45	2-Chlorophenol		No	MEC<C & B is ND												
46	2,4-Dichlorophenol		No	MEC<C & B is ND												
47	2,4-Dimethylphenol		No	MEC<C & B is ND												
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)		No	MEC<C & B is ND												
49	2,4-Dinitrophenol		No	MEC<C & B is ND												
50	2-Nitrophenol	No Criteria	Uc	No Criteria												
51	4-Nitrophenol	No Criteria	Uc	No Criteria												
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	No Criteria	Uc	No Criteria												
53	Pentachlorophenol		No	MEC<C & B is ND												
54	Phenol		No	MEC<C & B is ND												
55	2,4,6-Trichlorophenol		No	MEC<C & B is ND												
56	Acenaphthene		No	MEC<C & B is ND												
57	Acenaphthylene	No Criteria	Uc	No Criteria												
58	Anthracene		No	MEC<C & B is ND												
59	Benzidine		No	UD; effluent ND, MDL>C, and												
60	Benzo(a)Anthracene	TMDL WLA	Yes	UD; effluent ND, MDL>C, and	0.049	2.01	0.09846						1.55		3.11	
61	Benzo(a)Pyrene	TMDL WLA	Yes	UD; effluent ND, MDL>C, and	0.049	2.01	0.09846						1.55		3.11	
62	Benzo(b)Fluoranthene		No	UD; effluent ND, MDL>C, and												

CTR#	Parameters	Tier 3 - other info. ?	RPA Result - Need Limit?	Reason	HUMAN HEALTH CALCULATIONS Organisms only AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh	AQUATIC LIFE CALCULATIONS 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
63	Benzo(ghi)Perylene	No Criteria	Uc	No Criteria												
64	Benzo(k)Fluoranthene		No	UD; effluent ND, MDL>C, and												
65	Bis(2-Chloroethoxy)Methan	No Criteria	Uc	No Criteria												
66	Bis(2-Chloroethyl)Ether		No	UD; effluent ND, MDL>C, and												
67	Bis(2-Chloroisopropyl)Ethe		No	MEC<C & B is ND												
68	Bis(2-Ethylhexyl)Phthalate		Yes	MEC>=C	5.9	2.01	11.83652						1.55		3.11	
69	4-Bromophenyl Phenyl Eth	No Criteria	Uc	No Criteria												
70	Butylbenzyl Phthalate		No	MEC<C & B is ND												
71	2-Chloronaphthalene		No	MEC<C & B is ND												
72	4-Chlorophenyl Phenyl Eth	No Criteria	Uc	No Criteria												
73	Chrysene	TMDL WLA	Yes	MEC<C & B is ND	0.049	2.01	0.09846						1.55		3.11	
74	Dibenzo(a,h)Anthracene		No	MEC<C & B is ND												
75	1,2-Dichlorobenzene		No	MEC<C & B is ND												
76	1,3-Dichlorobenzene		No	MEC<C & B is ND												
77	1,4-Dichlorobenzene		No	MEC<C & B is ND												
78	3,3 Dichlorobenzidine		No	UD; effluent ND, MDL>C, and												
79	Diethyl Phthalate		No	MEC<C & B is ND												
80	Dimethyl Phthalate		No	MEC<C & B is ND												
81	Di-n-Butyl Phthalate		No	MEC<C & B is ND												
82	2,4-Dinitrotoluene		No	MEC<C & B is ND												
83	2,6-Dinitrotoluene	No Criteria	Uc	No Criteria												
84	Di-n-Octyl Phthalate	No Criteria	Uc	No Criteria												
85	1,2-Diphenylhydrazine		Ud	No effluent data & no B												
86	Fluoranthene		No	MEC<C & B is ND												
87	Fluorene		No	MEC<C & B is ND												
88	Hexachlorobenzene		No	UD; effluent ND, MDL>C, and												
89	Hexachlorobutadiene		No	MEC<C & B is ND												
90	Hexachlorocyclopentadiene		No	MEC<C & B is ND												
91	Hexachloroethane		No	MEC<C & B is ND												
92	Indeno(1,2,3-cd)Pyrene		No	MEC<C & B is ND												
93	Isophorone		No	MEC<C & B is ND												
94	Naphthalene	No Criteria	Uc	No Criteria												
95	Nitrobenzene		No	MEC<C & B is ND												
96	N-Nitrosodimethylamine		No	Ud;MEC<C & no B												
97	N-Nitrosodi-n-Propylamine		No	UD; effluent ND, MDL>C, and												
98	N-Nitrosodiphenylamine		No	MEC<C & B is ND												
99	Phenanthrene	No Criteria	Uc	No Criteria												
100	Pyrene	TMDL WLA	Yes	MEC<C & B is ND	11000	2.01	22068.08073						1.55		3.11	
101	1,2,4-Trichlorobenzene	No Criteria	Uc	No Criteria												
102	Aldrin		ud	No effluent data & B is ND												
103	alpha-BHC		ud	No effluent data & B is ND												
104	beta-BHC		ud	No effluent data & B is ND												
105	gamma-BHC		ud	No effluent data & B is ND												
106	delta-BHC	No Criteria	Uc	No Criteria												
107	Chlordane	TMDL WLA	Yes	No effluent data & B is ND	0.00059	2.01	0.00119						#VALUE!		3.11	
108	4,4'-DDT	TMDL WLA	Yes	No effluent data & B is ND	0.00059	2.01	0.00119						#VALUE!		3.11	
109	4,4'-DDE (linked to DDT)		ud	No effluent data & B is ND												
110	4,4'-DDD		ud	No effluent data & B is ND												
111	Dieldrin	TMDL WLA	Yes	No effluent data & B is ND	0.00014	2.01	0.00028						#VALUE!		3.11	
112	alpha-Endosulfan	0.00	ud	No effluent data & B is ND												
113	beta-Endolsulfan		ud	No effluent data & B is ND												
114	Endosulfan Sulfate		ud	No effluent data & B is ND												
115	Endrin		ud	No effluent data & B is ND												
116	Endrin Aldehyde		ud	No effluent data & B is ND												
117	Heptachlor		ud	No effluent data & B is ND												
118	Heptachlor Epoxide		ud	No effluent data & B is ND												
119-125	PCBs sum (2)	TMDL WLA	Yes	UD; effluent ND, MDL>C, and	0.00017	2.01	0.00034						#VALUE!		3.11	
126	Toxaphene		ud	No effluent data & B is ND												

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

CTR#	Parameters	LIMITS Lowest AMEL	LIMITS Lowest MDEL	Recommendation	Comment
1	Antimony			No Limit	
2	Arsenic			No Limit	
3	Beryllium			No Limit	
4	Cadmium	7.65	15.4	Performance Goal	TMDL Sediment Allocation
5a	Chromium (III)			No Limit	
5b	Chromium (VI)			No Limit	
6	Copper	3.1	6.1	TMDL Limits Applied	
7	Lead	7.0	14.0	TMDL Limits Applied	
8	Mercury			No Limit	
9	Nickel	6.78	13.61	Effluent limit	
10	Selenium	58.3	116.9	Effluent limit	
11	Silver			No Limit	
12	Thallium			No Limit	
13	Zinc	70.1	140.7	TMDL Limits Applied	
14	Cyanide	0.5	1.0	Effluent limit	
15	Asbestos			No Limit	
16	2,3,7,8 TCDD			No Limit	
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	Existing limit used based on CTR-SIP and BPJ
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	Existing limit used based on CTR-SIP and BPJ
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	0.049	0.098	TMDL Limits Applied	
61	Benzo(a)Pyrene	0.049	0.098	TMDL Limits Applied	
62	Benzo(b)Fluoranthene			No Limit	

CTR#	Parameters	LIMITS		Recommendation	Comment
		Lowest AMEL	Lowest MDEL		
63	Benzo(ghi)Perylene			No Limit	
64	Benzo(k)Fluoranthene			No Limit	
65	Bis(2-Chloroethoxy)Methan			No Limit	
66	Bis(2-Chloroethyl)Ether			No Limit	
67	Bis(2-Chloroisopropyl)Ethe			No Limit	
68	Bis(2-Ethylhexyl)Phthalate	5.90	11.84	Effluent Limit	
69	4-Bromophenyl Phenyl Eth			No Limit	
70	Butylbenzyl Phthalate			No Limit	
71	2-Chloronaphthalene			No Limit	
72	4-Chlorophenyl Phenyl Eth			No Limit	
73	Chrysene	0.049	0.098	TMDL Limits Applied	
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	Existing limit used based on CTR-SIP and BPJ
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	11000.00	22068.00	TMDL Limits Applied	
101	1,2,4-Trichlorobenzene			No Limit	
102	Aldrin			No Limit	Existing limit used based on CTR-SIP and BPJ
103	alpha-BHC			No Limit	
104	beta-BHC			No Limit	
105	gamma-BHC			No Limit	
106	delta-BHC			No Limit	
107	Chlordane	0.00059	0.00120	TMDL Limits Applied	
108	4,4'-DDT	0.00059	0.00120	TMDL Limits Applied	
109	4,4'-DDE (linked to DDT)			No Limit	
110	4,4'-DDD			No Limit	
111	Dieldrin	0.00014	0.00028	TMDL Limits Applied	
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	Existing limit used based on CTR-SIP and BPJ
119-125	PCBs sum (2)	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
C = Water Quality Criteria
B = Background receiving water data

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L) Saltwater C acute = CMC tot	Saltwater C chronic = CCC tot	Human Health for consumption of: Water & organisms	Organisms only	Lowest C	REASONABLE POTENTIAL ANALYSIS (RPA) MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL)	Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL>C?	If B>C, effluent limit required
1	Antimony	ug/L	0.6	1.4				4300.00	4300.00	No	No	Y	N		0.91		B<=C, Step 7
2	Arsenic	ug/L	0.6	2	69.00	36.00		0.00	36.00	No	No	Y	N		2		B<=C, Step 7
3	Beryllium	ug/L	0.6	No Criteria	0.00	0.00		Narrative	No Criteria	No Criteria	No Criteria	Y	Y	0.2		N	No Criteria
4	Cadmium	ug/L	0.6	0.51	42.25	9.36		Narrative	9.36	No	No	Y	Y		0.12		B<=C, Step 7
5a	Chromium (III)		0.6	No Criteria				Narrative	No Criteria	No Criteria	No Criteria	N	N				No Criteria
5b	Chromium (VI)	ug/L	0.6	3.5	1100.00	50.00		Narrative	50.00	No	No	Y			2.9		B<=C, Step 7
6	Copper	ug/L	0.6	16		3.73			3.73	Yes	Yes	Y	N		9.3		Limit required, B>C & pollutant
7	Lead	ug/L	0.6	4.5		8.52		Narrative	8.52	No	No	Y	N		3.5		B<=C, Step 7
8	Mercury	ug/L	0.6	0.1	Reserved	Reserved		0.051	0.051	Yes	Yes	Y	N	0.1		Y	No detected value of B, Step 7
9	Nickel	ug/L	0.6	4.2	74.75	8.28		4600.00	8.28	No	No	Y	Y		2		B<=C, Step 7
10	Selenium	ug/L	0.6	0.56	290.58	71.14		Narrative	71.14	No	No	Y	N		0.41		B<=C, Step 7
11	Silver	ug/L	0.6	0.3	2.24				2.24	No	No	Y	N	0.3		N	No detected value of B, Step 7
12	Thallium	ug/L	0.6	0.2				6.30	6.30	No	No	Y	Y	1		N	No detected value of B, Step 7
13	Zinc	ug/L	0.6	560		85.62			85.62	Yes	Yes	Y	Y		44		B<=C, Step 7
14	Cyanide	ug/L	0.6		1.00	1.00		220000.00	1.00			Y	N	2.2		Y	No detected value of B, Step 7
15	Asbestos	Fibers/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	N					No Criteria
16	2,3,7,8 TCDD	ug/L	0.6					0.000000014	0.000000014			N					No detected value of B, Step 7
17	Acrolein	ug/L	0.6	4				780	780	No	No	N					No detected value of B, Step 7
18	Acrylonitrile	ug/L	0.6					0.66	0.660			N					No detected value of B, Step 7
19	Benzene	ug/L	0.6	0.28				71	71.0	No	No	Y	Y	0.28		N	No detected value of B, Step 7
20	Bromoform	ug/L	0.6	0.4				360	360.0	No	No	N					No detected value of B, Step 7
21	Carbon Tetrachloride	ug/L	0.6	0.28				4.4	4.40	No	No	Y	Y	0.28		N	No detected value of B, Step 7
22	Chlorobenzene	ug/L	0.6	0.36				21000	21000	No	No	Y	Y	1		N	No detected value of B, Step 7
23	Chlorodibromomethane	ug/L	0.6	0.28				34	34.00	No	No	Y	Y	0.28		N	No detected value of B, Step 7
24	Chloroethane	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	1		N	No Criteria
25	2-Chloroethylvinyl ether	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	N					No Criteria
26	Chloroform	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y				No Criteria
27	Dichlorobromomethane	ug/L	0.6					46	46.00			Y	Y	0.3		N	No detected value of B, Step 7
28	1,1-Dichloroethane	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	0.27		N	No Criteria
29	1,2-Dichloroethane	ug/L	0.6	0.28				99	99.00	No	No	Y	Y	0.28		N	No detected value of B, Step 7
30	1,1-Dichloroethylene	ug/L	0.6	0.42				3.2	3.200	No	No	Y	Y	0.42		N	No detected value of B, Step 7
31	1,2-Dichloropropane	ug/L	0.6	0.35				39	39.00	No	No	Y	Y	0.35		N	No detected value of B, Step 7
32	1,3-Dichloropropylene	ug/L	0.6	0.32				1700	1700	No	No	Y	Y	0.32		N	No detected value of B, Step 7
33	Ethylbenzene	ug/L	0.6	0.25				29000	29000	No	No	Y	Y	0.5		N	No detected value of B, Step 7
34	Methyl Bromide	ug/L	0.6	0.42				4000	4000	No	No	Y	Y	0.42		N	No detected value of B, Step 7
35	Methyl Chloride	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	N					No Criteria
36	Methylene Chloride	ug/L	0.6					1600	1600.0			Y	Y	0.95		N	No detected value of B, Step 7
37	1,1,2,2-Tetrachloroethane	ug/L	0.6	0.24				11	11.00	No	No	Y	Y	0.24		N	No detected value of B, Step 7
38	Tetrachloroethylene	ug/L	0.6	0.56				8.85	8.9	No	No	Y	Y	0.32		N	No detected value of B, Step 7
39	Toluene	ug/L	0.6	0.36				200000	200000	No	No	Y	N		0.38		B<=C, Step 7
40	1,2-Trans-Dichloroethylene	ug/L	0.6	0.27				140000	140000	No	No	Y	Y	0.27		N	No detected value of B, Step 7
41	1,1,1-Trichloroethane	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	0.3		N	No Criteria
42	1,1,2-Trichloroethane	ug/L	0.6	0.3				42	42.0	No	No	Y	Y	0.3		N	No detected value of B, Step 7
43	Trichloroethylene	ug/L	0.6	0.26				81	81.0	No	No	Y	Y	0.26		N	No detected value of B, Step 7
44	Vinyl Chloride	ug/L	0.6	0.3				525	525	No	No	Y	Y	0.3		N	No detected value of B, Step 7
45	2-Chlorophenol	ug/L	0.6	15				400	400	No	No	Y	Y	3		N	No detected value of B, Step 7
46	2,4-Dichlorophenol	ug/L	0.6					790	790			Y	Y	3.5		N	No detected value of B, Step 7
47	2,4-Dimethylphenol	ug/L	0.6					2300	2300			Y	Y	3.5		N	No detected value of B, Step 7
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	ug/L	0.6					765	765.0			Y	Y	4		N	No detected value of B, Step 7
49	2,4-Dinitrophenol	ug/L	0.6	41				14000	14000	No	No	Y	Y	8		N	No detected value of B, Step 7
50	2-Nitrophenol	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	3.5		N	No Criteria
51	4-Nitrophenol	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	5.5		N	No Criteria
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	N					No Criteria
6.5	Pentachlorophenol	ug/L	0.6		13.00	7.90		8.2	7.90			Y	Y	3.5		N	No detected value of B, Step 7
54	Phenol	ug/L	0.6	10				4600000	4600000	No	No	Y	Y	2		N	No detected value of B, Step 7
55	2,4,6-Trichlorophenol	ug/L	0.6					6.5	6.5			Y	Y	4.5		N	No detected value of B, Step 7
56	Acenaphthene	ug/L	0.6	15				2700	2700	No	No	Y	Y	3		N	No detected value of B, Step 7
57	Acenaphthylene	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	3		N	No Criteria
58	Anthracene	ug/L	0.6	10				110000	110000	No	No	Y	Y	2		N	No detected value of B, Step 7
59	Benzidine	ug/L	0.6					0.00054	0.00054			Y	Y	8.5		Y	No detected value of B, Step 7
60	Benzo(a)Anthracene	ug/L	0.6					0.049	0.0490			Y	Y	2		Y	No detected value of B, Step 7
61	Benzo(a)Pyrene	ug/L	0.6					0.049	0.0490			Y	Y	2		Y	No detected value of B, Step 7
62	Benzo(b)Fluoranthene	ug/L	0.6					0.049	0.0490			Y	Y	2		Y	No detected value of B, Step 7

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L) Saltwater C acute = CMC tot	Saltwater C chronic = CCC tot	Human Health for consumption of: Water & organisms	Organisms only	Lowest C	REASONABLE POTENTIAL ANALYSIS (RPA) MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL)	Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL>C?	If B>C, effluent limit required
63	Benzo(ghi)Perylene	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	4		N	No Criteria
64	Benzo(k)Fluoranthene	ug/L	0.6					0.049	0.0490			Y	Y	2.5		Y	No detected value of B, Step 7
65	Bis(2-Chloroethoxy)Methan	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	3		N	No Criteria
66	Bis(2-Chloroethyl)Ether	ug/L	0.6					1.4	1.400			Y	Y	3		Y	No detected value of B, Step 7
67	Bis(2-Chloroisopropyl)Ethe	ug/L	0.6	13				170000	170000	No	No	Y	Y	2.5		N	No detected value of B, Step 7
68	Bis(2-Ethylhexyl)Phthalate	ug/L	0.6					5.9	5.9			Y	Y	4		N	No detected value of B, Step 7
69	4-Bromophenyl Phenyl Eth	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	3		N	No Criteria
70	Butylbenzyl Phthalate	ug/L	0.6	20				5200	5200	No	No	Y	Y	4		N	No detected value of B, Step 7
71	2-Chloronaphthalene	ug/L	0.6	15				4300	4300	No	No	Y	Y	3		N	No detected value of B, Step 7
72	4-Chlorophenyl Phenyl Eth	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	2.5		N	No Criteria
73	Chrysene	ug/L	0.6					0.049	0.0490			Y	Y	2.5		Y	No detected value of B, Step 7
74	Dibenzo(a,h)Anthracene	ug/L	0.6					0.049	0.0490			Y	Y	3		Y	No detected value of B, Step 7
75	1,2-Dichlorobenzene	ug/L	0.6	0.32				17000	17000	No	No	Y	Y	1		N	No detected value of B, Step 7
76	1,3-Dichlorobenzene	ug/L	0.6	0.35				2600	2600	No	No	Y	Y	0.37		N	No detected value of B, Step 7
77	1,4-Dichlorobenzene	ug/L	0.6	0.37				2600	2600	No	No	Y	Y	2.5		N	No detected value of B, Step 7
78	3,3 Dichlorobenzidine	ug/L	0.6					0.077	0.08			Y	Y	3		Y	No detected value of B, Step 7
79	Diethyl Phthalate	ug/L	0.6	18				120000	120000	No	No	Y	Y	3.5		N	No detected value of B, Step 7
80	Dimethyl Phthalate	ug/L	0.6	10				2900000	2900000	No	No	Y	Y	2		N	No detected value of B, Step 7
81	Di-n-Butyl Phthalate	ug/L	0.6	15				12000	12000	No	No	Y	Y	3		N	No detected value of B, Step 7
82	2,4-Dinitrotoluene	ug/L	0.6					9.10	9.10			Y	Y	3.5		N	No detected value of B, Step 7
83	2,6-Dinitrotoluene	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	2		N	No Criteria
84	Di-n-Octyl Phthalate	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	3.5		N	No Criteria
85	1,2-Diphenylhydrazine	ug/L	0.6					0.54	0.540			N					No detected value of B, Step 7
86	Fluoranthene	ug/L	0.6	15				370	370	No	No	Y	Y	3		N	No detected value of B, Step 7
87	Fluorene	ug/L	0.6	15				14000	14000	No	No	Y	Y	3		N	No detected value of B, Step 7
88	Hexachlorobenzene	ug/L	0.6					0.00077	0.00077			Y	Y	3		Y	No detected value of B, Step 7
89	Hexachlorobutadiene	ug/L	0.6	0.38				50	50.00	No	No	Y	Y	0.38		N	No detected value of B, Step 7
90	Hexachlorocyclopentadiene	ug/L	0.6	26				17000	17000	No	No	Y	Y	5		N	No detected value of B, Step 7
91	Hexachloroethane	ug/L	0.6					8.9	8.9			Y	Y	3.5		N	No detected value of B, Step 7
92	Indeno(1,2,3-cd)Pyrene	ug/L	0.6					0.049	0.0490			Y	Y	3.5		Y	No detected value of B, Step 7
93	Isophorone	ug/L	0.6	13				600	600.0	No	No	Y	Y	2.5		N	No detected value of B, Step 7
94	Naphthalene	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	0.41		N	No Criteria
95	Nitrobenzene	ug/L	0.6	13				1900	1900	No	No	Y	Y	2.5		N	No detected value of B, Step 7
96	N-Nitrosodimethylamine	ug/L	0.6					8.10	8.10000			Y	Y	2		N	No detected value of B, Step 7
97	N-Nitrosodi-n-Propylamine	ug/L	0.6					1.40	1.400			Y	Y	3.5		Y	No detected value of B, Step 7
98	N-Nitrosodiphenylamine	ug/L	0.6					16	16.0			N					No detected value of B, Step 7
99	Phenanthrene	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	3.5		N	No Criteria
100	Pyrene	ug/L	0.6	20				11000	11000	No	No	Y	Y	4		N	No detected value of B, Step 7
101	1,2,4-Trichlorobenzene	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	2.5		N	No Criteria
102	Aldrin	ug/L	0.6	0.0021	1.30			0.00014	0.00014	Yes	Yes	Y	Y				No detected value of B, Step 7
103	alpha-BHC	ug/L	0.6	0.0024				0.013	0.0130	No	No	Y	Y				No detected value of B, Step 7
104	beta-BHC	ug/L	0.6	0.0038				0.046	0.046	No	No	Y	Y	0.0038		N	No detected value of B, Step 7
105	gamma-BHC	ug/L	0.6	0.0028	0.16			0.063	0.063	No	No	Y	Y	0.0028		N	No detected value of B, Step 7
106	delta-BHC	ug/L	0.6	No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	0.0033		N	No Criteria
107	Chlordane	ug/L	0.6		0.09	0.004		0.00059	0.00059			N					No detected value of B, Step 7
108	4,4'-DDT	ug/L	0.6		0.13	0.001		0.00059	0.00059			Y	Y	0.0038		Y	No detected value of B, Step 7
109	4,4'-DDE (linked to DDT)	ug/L	0.6					0.00059	0.00059			Y	Y	0.0028		Y	No detected value of B, Step 7
110	4,4'-DDD	ug/L	0.6					0.00084	0.00084			N					No detected value of B, Step 7
111	Dieldrin	ug/L	0.6		0.71	0.0019		0.00014	0.00014			Y	Y	0.0019		Y	No detected value of B, Step 7
112	alpha-Endosulfan	ug/L	0.6	0.0019	0.034	0.0087		240	0.0087	No	No	Y	Y	0.0019		N	No detected value of B, Step 7
113	beta-Endolsulfan	ug/L	0.6	0.0028	0.034	0.0087		240	0.0087	No	No	Y	Y	0.0019		N	No detected value of B, Step 7
114	Endosulfan Sulfate	ug/L	0.6	0.0028				240	240	No	No	Y	Y	0.0028		N	No detected value of B, Step 7
115	Endrin	ug/L	0.6	0.0019	0.037	0.0023		0.81	0.0023	No	No	Y	Y	0.0028		Y	No detected value of B, Step 7
116	Endrin Aldehyde	ug/L	0.6	0.0019				0.81	0.81	No	No	Y	Y	0.0019		N	No detected value of B, Step 7
117	Heptachlor	ug/L	0.6		0.053	0.0036		0.00021	0.00021			Y	Y	0.0019		Y	No detected value of B, Step 7
118	Heptachlor Epoxide	ug/L	0.6		0.053	0.0036		0.00011	0.00011			Y	Y	0.0024		Y	No detected value of B, Step 7
119-125	PCBs sum (2)	ug/L	0.6			0.03		0.00017	0.00017			Y	Y	1.9		Y	No detected value of B, Step 7
126	Toxaphene	ug/L	0.6		0.21	0.0002		0.00075	0.0002			Y	Y	0.0066		Y	No detected value of B, Step 7

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

CTR#	Parameters	Tier 3 - other info. ?	RPA Result - Need Limit?	Reason	HUMAN HEALTH CALCULATIONS			AQUATIC LIFE CALCULATIONS								
					Organisms only			Saltwater / Freshwater / Basin Plan								
					AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh	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
1	Antimony		No	MEC<C & B<=C												
2	Arsenic		No	MEC<C & B<=C												
3	Beryllium	No Criteria	Uc	No Criteria												
4	Cadmium	TMDL Sedimen	Yes	MEC<C & B is ND		2.01		0.32	13.58	0.53	4.94	4.94	1.55	7.66	3.11	15.37538
5a	Chromium (III)	No Criteria	Uc	No Criteria												
5b	Chromium (VI)		No	Ud;MEC<C & no B												
6	Copper	TMDL WLA	Yes	MEC>=C		2.01		0.32		0.53	1.97	1.97	1.55	3.05	3.11	6.13
7	Lead	TMDL WLA	Yes	MEC<C & B<=C	Y/N for 'HH criteria reqd?'	2.01				0.53	4.49	4.49	1.55	6.97	3.11	13.99
8	Mercury		No	MEC>=C	0								0.00		0.00	
9	Nickel		No	MEC<C & B is ND	4600	0.00		0.32	24.00	0.53	4.37	4.37	1.55	6.78	3.11	13.6
10	Selenium		No	MEC<C & B<=C	0	2.01	0.00000	0.32	93.30	0.53	37.52	37.52	1.55	58.25	3.11	116.86
11	Silver		No	ud; B>C & effluent ND	0	2.01										
12	Thallium		No	MEC<C & B is ND												
13	Zinc	TMDL WLA	Yes	MEC>=C		2.01		0.32		0.53	45.16	45.16	1.55	70.11	3.11	140.65
14	Cyanide		no	ud; effluent ND, MDL>C & B>	220000	2.01	##########	0.32	0.32	0.53	0.53	0.53	1.55	0.50	3.11	1.00
15	Asbestos	No Criteria	Uc	No Criteria												
16	2,3,7,8 TCDD		Ud	No effluent data & no B												
17	Acrolein		No	Ud;MEC<C & no B												
18	Acrylonitrile		No	UD;Effluent ND,MDL>C & No												
19	Benzene		No	MEC<C & B is ND												
20	Bromoform		No	Ud;MEC<C & no B												
21	Carbon Tetrachloride		No	MEC<C & B is ND												
22	Chlorobenzene		No	MEC<C & B is ND												
23	Chlorodibromomethane		No	MEC<C & B is ND												
24	Chloroethane	No Criteria	Uc	No Criteria												
25	2-Chloroethylvinyl ether	No Criteria	Uc	No Criteria												
26	Chloroform	No Criteria	Uc	No Criteria												
27	Dichlorobromomethane		ud	No effluent data & B is ND												
28	1,1-Dichloroethane	No Criteria	Uc	No Criteria												
29	1,2-Dichloroethane		No	MEC<C & B is ND												
30	1,1-Dichloroethylene		No	MEC<C & B is ND												
31	1,2-Dichloropropane		No	MEC<C & B is ND												
32	1,3-Dichloropropylene		No	MEC<C & B is ND												
33	Ethylbenzene		No	MEC<C & B is ND												
34	Methyl Bromide		No	MEC<C & B is ND												
35	Methyl Chloride	No Criteria	Uc	No Criteria												
36	Methylene Chloride		ud	No effluent data & B is ND												
37	1,1,2,2-Tetrachloroethane		No	MEC<C & B is ND												
38	Tetrachloroethylene		No	MEC<C & B is ND												
39	Toluene		No	MEC<C & B<=C												
40	1,2-Trans-Dichloroethylene		No	MEC<C & B is ND												
41	1,1,1-Trichloroethane	No Criteria	Uc	No Criteria												
42	1,1,2-Trichloroethane		No	MEC<C & B is ND												
43	Trichloroethylene		No	MEC<C & B is ND												
44	Vinyl Chloride		No	MEC<C & B is ND												
45	2-Chlorophenol		No	MEC<C & B is ND												
46	2,4-Dichlorophenol		ud	No effluent data & B is ND												
47	2,4-Dimethylphenol		ud	No effluent data & B is ND												
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)		ud	No effluent data & B is ND												
49	2,4-Dinitrophenol		No	MEC<C & B is ND												
50	2-Nitrophenol	No Criteria	Uc	No Criteria												
51	4-Nitrophenol	No Criteria	Uc	No Criteria												
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	No Criteria	Uc	No Criteria												
6.5	Pentachlorophenol		No	UD; effluent ND, MDL>C, and												
54	Phenol		No	MEC<C & B is ND												
55	2,4,6-Trichlorophenol		No	UD; effluent ND, MDL>C, and												
56	Acenaphthene		No	MEC<C & B is ND												
57	Acenaphthylene	No Criteria	Uc	No Criteria												
58	Anthracene		No	MEC<C & B is ND												
59	Benzidine		No	UD; effluent ND, MDL>C, and												
60	Benzo(a)Anthracene	TMDL WLA	No	UD; effluent ND, MDL>C, and	0.049	2.01	0.09849						1.55		3.11	
61	Benzo(a)Pyrene	TMDL WLA	No	UD; effluent ND, MDL>C, and	0.049	2.01	0.09849						1.55		3.11	
62	Benzo(b)Fluoranthene		No	UD; effluent ND, MDL>C, and												

CTR#	Parameters	Tier 3 - other info. ?	RPA Result - Need Limit?	Reason	HUMAN HEALTH CALCULATIONS			AQUATIC LIFE CALCULATIONS								
					Organisms only			Saltwater / Freshwater / Basin Plan								
					AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh	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
63	Benzo(ghi)Perylene	No Criteria	Uc	No Criteria												
64	Benzo(k)Fluoranthene		No	UD; effluent ND, MDL>C, and												
65	Bis(2-Chloroethoxy)Methan	No Criteria	Uc	No Criteria												
66	Bis(2-Chloroethyl)Ether		No	UD; effluent ND, MDL>C, and												
67	Bis(2-Chloroisopropyl)Ethe		No	MEC<C & B is ND												
68	Bis(2-Ethylhexyl)Phthalate		No	UD; effluent ND, MDL>C, and												
69	4-Bromophenyl Phenyl Eth	No Criteria	Uc	No Criteria												
70	Butylbenzyl Phthalate		No	MEC<C & B is ND												
71	2-Chloronaphthalene		No	MEC<C & B is ND												
72	4-Chlorophenyl Phenyl Eth	No Criteria	Uc	No Criteria												
73	Chrysene	TMDL WLA	No	UD; effluent ND, MDL>C, and	0.049	2.01	0.09849						1.55		3.11	
74	Dibenzo(a,h)Anthracene		No	UD; effluent ND, MDL>C, and												
75	1,2-Dichlorobenzene		No	MEC<C & B is ND												
76	1,3-Dichlorobenzene		No	MEC<C & B is ND												
77	1,4-Dichlorobenzene		No	MEC<C & B is ND												
78	3,3 Dichlorobenzidine		No	UD; effluent ND, MDL>C, and												
79	Diethyl Phthalate		No	MEC<C & B is ND												
80	Dimethyl Phthalate		No	MEC<C & B is ND												
81	Di-n-Butyl Phthalate		No	MEC<C & B is ND												
82	2,4-Dinitrotoluene		No	UD; effluent ND, MDL>C, and												
83	2,6-Dinitrotoluene	No Criteria	Uc	No Criteria												
84	Di-n-Octyl Phthalate	No Criteria	Uc	No Criteria												
85	1,2-Diphenylhydrazine		Ud	No effluent data & no B												
86	Fluoranthene		No	MEC<C & B is ND												
87	Fluorene		No	MEC<C & B is ND												
88	Hexachlorobenzene		No	UD; effluent ND, MDL>C, and												
89	Hexachlorobutadiene		No	MEC<C & B is ND												
90	Hexachlorocyclopentadiene		No	MEC<C & B is ND												
91	Hexachloroethane		No	UD; effluent ND, MDL>C, and												
92	Indeno(1,2,3-cd)Pyrene		No	UD; effluent ND, MDL>C, and												
93	Isophorone		No	MEC<C & B is ND												
94	Naphthalene	No Criteria	Uc	No Criteria												
95	Nitrobenzene		No	MEC<C & B is ND												
96	N-Nitrosodimethylamine		ud	No effluent data & B is ND												
97	N-Nitrosodi-n-Propylamine		ud	No effluent data & B is ND												
98	N-Nitrosodiphenylamine		Ud	No effluent data & no B												
99	Phenanthrene	No Criteria	Uc	No Criteria												
100	Pyrene		No	MEC<C & B is ND	11000	2.01	##########						1.55		3.11	
101	1,2,4-Trichlorobenzene	No Criteria	Uc	No Criteria												
102	Aldrin		Yes	MEC>=C	0.00014	2.01	0.00028	0.32	0.42	0.53		0.42	1.55	0.65	3.11	1.3
103	alpha-BHC		No	MEC<C & B is ND												
104	beta-BHC		No	MEC<C & B is ND												
105	gamma-BHC		No	MEC<C & B is ND												
106	delta-BHC	No Criteria	Uc	No Criteria												
107	Chlordane	TMDL WLA	Ud	No effluent data & no B	0.00059	2.01	0.00119						1.55		3.11	
108	4,4'-DDT	TMDL WLA	No	UD; effluent ND, MDL>C, and	0.00059	2.01	0.00119						1.55		3.11	
109	4,4'-DDE (linked to DDT)		No	UD; effluent ND, MDL>C, and												
110	4,4'-DDD		No	UD;Effluent ND,MDL>C & No												
111	Dieldrin	TMDL WLA	No	UD; effluent ND, MDL>C, and	0.00014	2.01	0.00028						1.55		3.11	
112	alpha-Endosulfan		No	MEC<C & B is ND												
113	beta-Endolsulfan		No	MEC<C & B is ND												
114	Endosulfan Sulfate		No	MEC<C & B is ND												
115	Endrin		No	MEC<C & B is ND												
116	Endrin Aldehyde		No	MEC<C & B is ND												
117	Heptachlor		No	UD; effluent ND, MDL>C, and												
118	Heptachlor Epoxide		No	UD; effluent ND, MDL>C, and												
119-125	PCBs sum (2)	TMDL WLA	No	UD; effluent ND, MDL>C, and	0.00017	2.01	0.00034						1.55		3.11	
126	Toxaphene		No	UD; effluent ND, MDL>C, and												

Notes:
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CTR#	Parameters	LIMITS		Recommendation	Comment
		Lowest AMEL	Lowest MDEL		
1	Antimony			No Limit	
2	Arsenic			No Limit	
3	Beryllium			No Limit	
4	Cadmium	7.7	15.4	Performance Goal	TMDL Sediment Allocation
5a	Chromium (III)			No Limit	
5b	Chromium (VI)			No Limit	ELG based limit
6	Copper	3.1	6.1	TMDL Limits Applied	
7	Lead	7.0	14.0	TMDL Limits Applied	
8	Mercury			No Limit	
9	Nickel	6.8	13.6	Effluent Limit	
10	Selenium	58.3	117	Effluent Limit	
11	Silver			No Limit	
12	Thallium			No Limit	
13	Zinc	70	141	TMDL Limits Applied	
14	Cyanide	0.5	1.0	Effluent Limit	
15	Asbestos			No Limit	
16	2,3,7,8 TCDD			No Limit	
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	Existing limit used based on CTR and BPJ
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	
6.5	Pentachlorophenol			No Limit	Existing limit used based on CTR and BPJ
54	Phenol			No Limit	ELG based 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	0.04900	0.09830	TMDL Limits Applied	
61	Benzo(a)Pyrene	0.04900	0.09830	TMDL Limits Applied	
62	Benzo(b)Fluoranthene			No Limit	

CTR#	Parameters	LIMITS Lowest AMEL	LIMITS Lowest MDEL	Recommendation	Comment
63	Benzo(ghi)Perylene			No Limit	
64	Benzo(k)Fluoranthene			No Limit	
65	Bis(2-Chloroethoxy)Methan			No Limit	
66	Bis(2-Chloroethyl)Ether			No Limit	
67	Bis(2-Chloroisopropyl)Ethe			No Limit	
68	Bis(2-Ethylhexyl)Phthalate			No Limit	
69	4-Bromophenyl Phenyl Eth			No Limit	
70	Butylbenzyl Phthalate			No Limit	
71	2-Chloronaphthalene			No Limit	
72	4-Chlorophenyl Phenyl Eth			No Limit	
73	Chrysene	0.04900	0.09830	TMDL Limits Applied	
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	Existing limit used based on CTR and BPJ
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	11000	22068	TMDL Limits Applied	
101	1,2,4-Trichlorobenzene			No Limit	
102	Aldrin	0.00014	0.00028	Effluent Limit	New limit
103	alpha-BHC			No Limit	Existing limit used based on CTR and BPJ
104	beta-BHC			No Limit	Existing limit used based on CTR and BPJ
105	gamma-BHC			No Limit	Existing limit used based on CTR and BPJ
106	delta-BHC			No Limit	
107	Chlordane	0.00059	0.00118	TMDL Limits Applied	
108	4,4'-DDT	0.00059	0.00118	TMDL Limits Applied	
109	4,4'-DDE (linked to DDT)			No Limit	
110	4,4'-DDD			No Limit	
111	Dieldrin	0.00014	0.00028	TMDL Limits Applied	
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)**	0.00017	0.00034	TMDL Limits Applied	
126	Toxaphene			No Limit	

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