CALIFORNIA
Water Boards

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SECRETARY FOR
ENVIRONMENTAL PROTECTION

Los Angeles Regional Water Quality Control Board

June 17, 2016

Mr. Jose Perez
Site Leader
AES Redondo Beach, LLC
Redondo Beach Generating Station
1100 N. Harbor Dr.
Redondo Beach, CA 90277

Dear Mr. Perez:

TRANSMITTAL OF WASTE DISCHARGE REQUIREMENTS (WDRs) / NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT AND TIME SCHEDULE ORDER (TSO) -- AES REDONDO BEACH LLC, REDONDO BEACH GENERATING STATION, 1100 N. HARBOR DRIVE, REDONDO BEACH, CALIFORNIA (NPDES PERMIT NO. CA0001201, CI-0536)

On May 26, 2016, the California Regional Water Quality Control Board, Los Angeles Region (Regional Board) transmitted to you the revised tentative Waste Discharge Requirements (WDRs) / National Pollutant Discharge Elimination System (NPDES) permit and revised tentative Time Schedule Order (TSO) for AES Redondo Beach LLC (Discharger), Redondo Beach Generating Station (Facility). As a result of additional concerns raised by the Discharger a change sheet was issued on June 7, 2016. The changes included in the change sheet are: modification of Table E-11 to explicitly indicate the start date for each specified sampling frequency; provisions for monitoring locations EFF-001, EFF-002 and INT-001A that if the discharge is in compliance with the prescribed effluent limitations for a one year period the monitoring frequency may be decreased from monthly to quarterly after Executive Officer approval; provisions for intake credits for metals, PCBs, DDT and bacteria at Outfall 002; replacing the receiving water bacteria monitoring requirements for King Harbor with influent and effluent monitoring at Outfall 002; clarification of compliance with toxicity limitations; and modification of the text regarding PCB testing Methods for consistency with the Santa Monica Bay DDT and PCBs TMDL.

Pursuant to Division 7 of the California Water Code, the Regional Board at a public hearing held on June 9, 2016, reviewed the revised tentative requirements and change sheet, considered all factors in the case, and adopted Order No. R4-2016-0222. The Regional Board also reviewed the revised tentative TSO, considered all factors in the case, and adopted Order No. R4-2016-0223.

Order No. R4-2016-0222 serves as an NPDES permit, and it expires on September 30, 2021. Section 13376 of the California Water Code requires that an application/Report of Waste Discharge for a new permit must be filed at least 180 days before the expiration date.

You are required to implement the attached Monitoring and Reporting Program (MRP) on the effective date (October 1, 2016) of Order No. R4-2016-0222. Your first quarterly monitoring report for the period of October 1, 2016 through December 31, 2016 is due by February 1, 2017. You are also required to implement the attached TSO on the effective date (October 1, 2016) of Order No. R4-2016-0223. Your first semiannual progress report for the period of October 1, 2016 through December 31, 2016 is due by February 15, 2017. The second semiannual progress report for the period of January 1, 2017 through June 30, 2017 is due by August 15, 2017.

Please continue to electronically submit Self-Monitoring Reports (SMR's) using the State Water Resource Control Board's California Integrated Water Quality System (CIWQS) Program web site (http://www.waterboards.ca.gov/ciwqs/index.html). The CIWQS web site will provide additional information for SMR submittal in the event there is a planned service interruption for electronic submittal. Also, please do not combine other reports with your monitoring reports. Submit each type of report as a separate document.

If you have any further questions, please contact Thomas Siebels at (213) 576-6756.

Sincerely,

Cassandra Owens, Chief
Industrial Permitting Unit

Enclosures

MAILING LIST

Ms. Robyn Stuber, Environmental Protection Agency, Region 9, Permits Branch (WTR-5)
Ms. Becky Mitschele, Environmental Protection Agency, Region 9
Mr. Kenneth Wong, U.S. Army Corps of Engineers
Mr. Bryant Chesney, NOAA, National Marine Fisheries Service
Mr. Jeff Phillips, Department of Interior, U.S. Fish and Wildlife Service
Mr. William Paznokas, Department of Fish and Wildlife, Region 5
Ms. Sutida Bergquist, State Water Resource Control Board, Drinking Water Division
Ms. Teresa Henry, California Coastal Commission, South Coast Region
Mr. Theodore Johnson, Water Replenishment District of Southern California
Mr. Tommy Smith, Los Angeles County, Department of Public Works
Mr. Angelo Bellomo, Los Angeles County, Department of Public Health
Ms. Rita Kampalath, Heal the Bay
Mr. Bruce Reznik, Los Angeles WaterKeeper
Ms. Becky Hayat, Natural Resources Defense Council
Mr. Stephen O'Kane, AES Redondo Beach
Ms. Coury McKinlay, AES Redondo Beach
Ms. Mary Welch, PG Environmental, LLC
Mr. Matthew Reusswig, PG Environmental, LLC
Ms. Kristy Allen, TetraTech

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
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ORDER NO. R4-2016-0222
NPDES NO. CA0001201

WASTE DISCHARGE REQUIREMENTS FOR AES REDONDO BEACH LLC REDONDO BEACH GENERATING STATION

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

Table 1. Discharger Information

Discharger	**AES Redondo Beach LLC**
Name of Facility	**Redondo Beach Generating Station**
Facility Address	**1100 Harbor Drive**
	Redondo Beach, CA 90277
	Los Angeles

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Once-through cooling water from Generating Units 5 and 6, low volume wastewaters, and ground water seepage	33.8494444°	-118.4022222°	Pacific Ocean
002	Once-through cooling water from Units 7 and 8 and storm water	33.843°	-118.394°	King Harbor

Table 3. Administrative Information

This Order was adopted on:	**June 9, 2016**
This Order shall become effective on:	**October 1, 2016**
This Order shall expire on:	**September 30, 2021**
The Discharger shall file a Report of Waste Discharge as an application for reissuance of WDRs in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	**180 days prior to the Order expiration date**
The U.S. Environmental Protection Agency (USEPA) and the California Regional Water Quality Control Board, Los Angeles Region 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 the Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on June 9, 2016.

Samuel Unger

Samuel Unger, P.E., Executive Officer

CONTENTS

TABLES

ATTACHMENTS

I. FACILITY INFORMATION

Information describing Redondo Beach Generating Station (Facility) is summarized in Table 1 and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Facility's permit application.

II. FINDINGS

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

A. Legal Authorities. This Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the USEPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters.

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

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

D. Notification of Interested Parties. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet.

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

THEREFORE, IT IS HEREBY ORDERED that Order No. 00-085, is superseded by this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger 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.

III. DISCHARGE PROHIBITIONS

A. Wastes discharged shall be limited to 215 million gallons per day (MGD) of commingled wastewater (consisting of once-through cooling water from Generating Units 5 and 6, low volume wastewaters, and ground water seepage) from Discharge Point 001 and 674 MGD of commingled wastewater (consisting of once-through cooling water from Units 7 and 8, low volume wastewaters, and storm water) at Discharge Point 002. The discharge of wastes from accidental spills or other sources is prohibited.

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

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

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

E. The discharge shall not cause a violation of any applicable water quality standards for receiving waters adopted by the Regional Water Board or the State Water Resources Control Board (State Water Board) as required by the federal CWA and regulations adopted thereunder.

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

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

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

I. The discharge of trash to surface waters of the State or the deposition of trash where it may be discharged into surface waters of the State is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Points No. 001 and 002

1. Final Effluent Limitations – Discharge Points No. 001 and 002

The Discharger shall maintain compliance with the following effluent limitations at Discharge Points No. 001 and 002 with compliance measured at Monitoring Locations EFF-001 and EFF-002 as described in the attached Monitoring and Reporting Program (MRP) (Attachment E):

Table 4. Effluent Limitations for Discharge Point 001

Parameter	Units	Effluent Limitations[1]				
		6-Month Median	Daily Maximum	Instantaneous Maximum	30-day Average	Average Concentration
pH	s.u.	[2]				
Temperature	°F	[3]				
Beryllium, Total Recoverable	µg/L	--	--	--	0.41	--
	lbs/day[4]	--	--	--	0.74	--
Cadmium, Total Recoverable	µg/L	12.5	50	125	--	--
	lbs/day[4]	22	90	224	--	--
Chromium (VI)[5]	µg/L	25	100	250	--	--
	lbs/day[4]	45	179	448	--	--
Lead, Total Recoverable	µg/L	25	100	250	--	--
	lbs/day[4]	45	179	448	--	--

Parameter	Units	Effluent Limitations[1]				
		6-Month Median	Daily Maximum	Instantaneous Maximum	30-day Average	Average Concentration
Mercury, Total Recoverable	µg/L	0.49	2	5	--	--
	lbs/day[4]	0.9	3.6	9.0	--	--
Nickel, Total Recoverable	µg/L	62.5	250	625	--	--
	lbs/day[4]	112	448	1,121	--	--
Selenium, Total Recoverable	µg/L	188	750	1875	--	--
	lbs/day[4]	337	1,345	3,362	--	--
Silver, Total Recoverable	µg/L	6.9	33	86	--	--
	lbs/day[4]	12	59	154	--	--
Chronic Toxicity	Pass or Fail and % Effect	--	Pass or % Effect <50[7]	--	Pass[6,7]	--
DDT[8]	µg/L		--	--	0.00017	--
	lbs/day[4]	--	--	--	0.0003	--
PCBs[9]	µg/L	[10]				
Free Available Chlorine[11,12]	mg/L	--	--	0.5	--	0.2
Total Residual Chlorine[11,12]	mg/L	--	0.2	--	--	--
Radioactivity	[13]					

1 For combined discharge at Outfall 001.

2 The effluent pH shall at all times be within the range of 6.0 to 9.0 pH units.

3 The temperature of wastes discharged shall not exceed 106ºF during normal operation of the facility. During heat treatment, the temperature of wastes discharged shall not exceed 125ºF except during adjustment of the recirculation gate at which time the temperature of wastes discharged shall not exceed 135ºF. Temperature fluctuations during gate adjustment above 125ºF shall not last for more than thirty minutes.

4 The mass (lbs/day) limitations are based on the permitted discharge flow for each discharge point (215 MGD for Discharge Point 001) and are calculated as follows:

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

5 The Discharger may at their option meet this effluent limitation as a total chromium effluent limitation.

6 Report "Pass" or "Fail" for Median Monthly Effluent Limitation (MMEL). Report "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL). During a calendar month, exactly three independent toxicity tests are required for routine monitoring when one toxicity test results in "Fail".

7 This is a Median Monthly Effluent Limitation.

8 DDT shall mean the sum of 4,4'-DDT, 2,4'-DDT, 4,4'-DDE, 2,4'-DDE, 4,4'-DDD and 2,4'-DDD.

9 PCBs shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

10 The Discharge of PCBs that originate from the Facility is prohibited as per 40 Code of Regulations (C.F.R.) section 423.13(a).

11 If other oxidants are used, this shall be the total of all oxidants reported as residual chlorine.

12 Total residual and free available chlorine may not be discharged from any single generating unit for more than two hours per day unless the Discharger demonstrates to the permitting authority that discharge for more than two hours per day is required for macroinvertebrate control.

13 Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30253 of the California Code of Regulations. Reference to Section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect. In lieu of monitoring, compliance with this effluent limitation may be demonstrated through the submission of a statement certifying that radioactive pollutants were not used at the Facility or added to the discharge.

Table-5.Effluent Limitations for Low Volume Wastes Discharged via Discharge Point 001

Parameter	Units	Effluent Limitations[1]			
		30-day Average	Maximum Daily	Instantaneous	
				Minimum	Maximum
Effluent Limitations for Low Volume Wastes at Monitoring Location INT-001A					
Total Suspended Solids	mg/L	30	100	--	--
	lbs/day[2]	223	746	--	--
Oil and Grease	mg/L	15	20	--	--
	lbs/day[2]	111	149	--	--
pH	s.u.	--	--	6.0	9.0[3]

[1] Effluent limitations for in-plant waste streams prior to commingling with OTC water.

[2] The mass (lbs/day) limitations are based on the permitted discharge flow for each discharge point (0.864 MGD for Low Volume Wastes) and are calculated as follows:
Mass (lbs/day) = Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor)

[3] A Time Schedule Order (Order No. R4-2016-0223) has been issued that includes an interim limit of 9.6 for the pH instantaneous maximum limitation that is effective until July 1, 2017.

Table-6. Mass-based Effluent Limitations for Low Volume Wastes Discharged via Discharge Point 001

Parameter	Units	Effluent Limitations[1,2]		
		6-Month Median	Daily Maximum Concentration	30-day Average
Beryllium, Total Recoverable	lbs/day[3]	--	--	0.003
Cadmium, Total Recoverable	lbs/day[3]	0.09	0.36	--
Chromium (VI)[4]	lbs/day[3]	0.18	0.72	--
Lead, Total Recoverable	lbs/day[3]	0.18	0.72	--
Mercury, Total Recoverable	lbs/day[3]	0.0035	0.014	--
Nickel, Total Recoverable	lbs/day[3]	0.45	1.8	--
Selenium, Total Recoverable	lbs/day[3Q]	1.4	5.4	--
Silver, Total Recoverable	lbs/day[3]	0.05	0.24	--

[1] Mass-based effluent limitations for total in-plant waste streams including low volume wastes.
[2] Compliance shall be determined from the sum of mass discharges of each parameter in the individual in-plant low volume waste streams.
Total Mass Emission per day (lbs/day) = (mass emission at INT-001A)
Where:
Mass emission at INT-001A is calculated using flow measured at INT-001A (lbs/day)
[3] The mass-based limitations are based on a maximum combined flow of 0.864 for all in-plant waste streams and are calculated as follows:
Mass-based limitation (lbs/day) = C x Q_m x 0.00834 (conversion factor)
Where:
C = Concentration-based limitation (µg/L) calculated in the combined discharge (OTC water and in-plant wastes)
Q_m = 0.864 MGD, the maximum combined flow for all in-plant waste streams
[4] The Discharger may at their option meet this effluent limitation as a total chromium limitation.

Table 7.Effluent Limitations for Discharge Point 002

Parameter	Units	Effluent Limitations[1]			
		Average Monthly	Maximum Daily	Average Concentration	Instantaneous Maximum
pH	S.U.	--	--		6.5/8.5[12]
Temperature	°F	--	--	--	86
PCBs[2, 11]	µg/L	[3]			
Free Available Chlorine[4,5]	mg/L	--	--	0.2	0.50
Total Residual Chlorine[4,5]	mg/L	--	0.1	--	--
Copper, Total Recoverable[11]	µg/L	2.1	5.8	--	--
	lbs/day[6]	12	33	--	--
Mercury, Total Recoverable[11]	µg/L	0.051	0.10	--	--
	lbs/day[6]	0.29	0.56	--	--
Nickel, Total Recoverable[11]	µg/L	5.6	15	--	--
	lbs/day[6]	31	84	--	--
Silver, Total Recoverable[11]	µg/L	1.1	2.2	--	--
	lbs/day[6]	6.2	12	--	--
Thallium, Total Recoverable[11]	µg/L	6.3	13	--	--
	lbs/day[6]	35	73	--	--
Zinc, Total Recoverable[11]	µg/L	30	92	--	--
	lbs/day[6]	168	517	--	--
DDT[7, 11]	µg/L	0.00017	0.00034	--	--
	lbs/day[6]	0.00096	0.0019	--	--
Chronic Toxicity	Pass or Fail and % Effect for TST approach	Pass[8,9]	Pass or % Effect <50[9]	--	--
Radioactivity	--	[10]			

[1] Effluent limitations for combined discharge at Discharge Point 002.

[2] PCBs shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Arolclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

[3] The Discharge of PCBs that originate from the Facility is prohibited as per 40 C.F.R. section 423.13(a).

[4] If other oxidants are used, this shall be the total of all oxidants reported as residual chlorine.

[5] Total residual and free available chlorine may not be discharged from any single generating unit for more than two hours per day unless the Discharger demonstrates to the permitting authority that discharge for more than two hours per day is required for macroinvertebrate control. Multiple units cannot discharge simultaneously.

[6] The mass (lbs/day) limitations are based on the permitted discharge flow for each discharge point (215 MGD for Discharge Point 001 and 674 for Discharge Point 002 and are calculated as follows:

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

[7] DDT shall mean the sum of 4,4'-DDT, 2,4'-DDT, 4,4'-DDE, 2,4'-DDE, 4,4'-DDD and 2,4'-DDD.

[8] Report “Pass” or “Fail” for Median Monthly Effluent Limitation (MMEL). Report “Pass” or “Fail” and “% Effect” for Maximum Daily Effluent Limitation (MDEL). During a calendar month, exactly three independent toxicity tests are required for routine monitoring when one toxicity test results in “Fail”.

[9] This is a Median Monthly Effluent Limitation.

[10] Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life or that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life. In lieu of monitoring, compliance with this effluent limitation may be demonstrated through the submission of a statement certifying that radioactive pollutants were not used at the Facility or added to the discharge.

[11] If the influent water pollutant concentration (measured at intake for Units 7 and 8) does not exceed the average monthly limitation then the limitations are applied as noted in the Table. If the influent water pollutant concentration exceeds the average monthly limitation but does not exceed the maximum daily limitation then compliance with the average monthly limitation will be determined based on intake water credits and compliance with the maximum daily limitation is applied as noted in the Table. If the influent water pollutant concentration exceeds the maximum daily limitation then compliance with both the average monthly and the maximum daily will be determined based on intake water credits. When determining compliance based on intake water credit, the pollutant effluent limitation is equal to the maximum pollutant concentration in the influent water. The equation is as follows:

Maximum Pollutant Effluent Limitation with Intake Water Credit = Maximum Pollutant Influent Water Concentration

Monthly Pollutant Effluent Limitation with Intake Water Credit = Monthly Pollutant Influent Water Concentration

[12] A Time Schedule Order (Order No. R4-2016-0223) has been issued that includes an interim limit of 9.0 for the pH instantaneous maximum limitation that is effective until December 31, 2020.

2. Interim Effluent Limitations—Not Applicable

B. Land Discharge Specifications—Not Applicable

C. Recycling Specifications—Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations—Outfall 001: Ocean Plan

Unless specifically excepted by this Order, the discharge, by itself or jointly with any other discharge(s), shall not cause violation of the following water quality objectives. Compliance with these objectives shall be determined by samples collected at stations representative of the area within the waste field where initial dilution is completed (i.e., outside the zone of initial dilution (ZID)).

1. **State Water Board and CDPH Standards** Both the State Water Board and the California Department of Public Health (CDPH) have established standards to protect water contact recreation in coastal waters from bacterial contamination. Subsection a of this section identifies bacterial water quality objectives adopted by the State Water Board for ocean waters used for water contact recreation. Subsection b identifies the bacteriological standards adopted by CDPH for coastal waters adjacent to public beaches and public water contact sports areas in ocean waters.

   a. Within a zone bounded by the shoreline, and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and in areas outside this zone used for water contact sports as determined by the Regional Water Board (i.e, waters designated as REC-1), but including all kelp beds, the discharge shall not cause the following bacterial objectives throughout the water column to be exceeded:

   30-day Geometric Mean –the following standards are based on the geometric mean of the five most recent samples from each site:

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

   ii. Fecal coliform density shall not exceed 200 per 100 ml; and

   iii. *Enterococcus* density shall not exceed 35 per 100 ml.

   Single Sample Maximum:

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

   ii. Fecal coliform density shall not exceed 400 per 100 ml;

   iii. Enterococcus density shall not exceed 104 per 100 ml; and

   iv. Total coliform density shall not exceed 1,000 per 100 m l when the fecal coliform/total coliform ratio exceeds 0.1.

   The Initial Dilution Zone for any wastewater outfall shall be excluded from designation as kelp beds for purposes of bacterial standards. Adventitious assemblages of kelp plants on waste discharge structures (e.g., outfall pipes and diffusers) do not constitute kelp beds for purposes of bacterial standards.

   b. CDPH Standards. CDPH has established minimum protective bacteriological standards for coastal water adjacent to public beaches and for public water-contact sports areas in ocean waters. These standards are found in the California Code of Regulations, title 17, section 7958, and they are identical to the objectives contained in subsection a. above. When a public beach or public water-contact sports area fails to meet these standards, CDPH or the local public health officer may post with warning signs or otherwise restrict use of the public beach or public water-contact sports area until the standards are met. The CDPH regulations impose more frequent monitoring and more stringent posting and closure requirements on certain

high-use public beaches that are located adjacent to a storm drain that flows in the summer.

For beaches not covered under AB 411 regulations, CDPH imposes the same standards as contained in Title 17 and requires weekly sampling but allows the county health officer more discretion in making posting and closure decisions.

2. **Shellfish Harvesting Standards.** At all areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the median total coliform density shall not exceed 70 per 100 ml throughout the water column, and not more than 10 percent of the samples shall exceed 230 per 100 ml.

3. **Physical Characteristics**

   a. Floating particulates and grease and oil shall not be visible as a result of wastes discharged.

   b. The discharge of waste shall not alter the color of the receiving waters; create a visual contrast with the natural appearance of the water; nor cause aesthetically undesirable discoloration of the ocean surface.

   c. Natural light shall not be significantly reduced at any point outside the initial dilution zone as the result of the discharge of waste.

   d. The rate of deposition of inert solids and the characteristics of inert solids in ocean sediments shall not be changed such that benthic communities are degraded.

4. **Chemical Characteristics**

   a. The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste materials; excluding effects of naturally induced upwelling.

   b. The pH shall not be changed at any time more than 0.2 units from that which occurs naturally.

   c. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions.

   d. The concentration of substances set forth in Chapter II, Table 1 of the Ocean Plan, shall not be increased in marine sediments to levels that would degrade indigenous biota.

   e. The concentration of organic materials in marine sediments shall not be increased to levels that would degrade marine life.

   f. Nutrient materials shall not cause objectionable aquatic growths or degrade indigenous biota.

   g. Numerical water quality objectives established in Chapter II, Table 1 of the California Ocean Plan shall not be exceeded outside of the zone of initial dilution as a result of discharges from the Facility.

5. **Biological Characteristics**

   a. Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded.

   b. The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered.

c. The concentration of organic materials in fish, shellfish, or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.

6. Radioactivity

Discharge of radioactive waste shall not degrade marine life.

B. Receiving Water Limitations—Outfall 002: Basin Plan

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 King Harbor:

1. The normal ambient pH to fall below 6.5 nor exceed 8.5 units nor vary from normal ambient pH levels by more than 0.5 units.

2. Surface water temperature to rise greater than 5º F above the natural temperature of the receiving waters at any time or place. At no time shall the temperature be raised above 86º F as a result of waste discharged.

3. State/Regional Water Board Water Contact Standards: In 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:

a. Geometric Mean Limits

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

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

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

b. 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.

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. At a minimum, the mean annual dissolved oxygen concentration of all waters 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.

5. Exceedance of the total ammonia (as N) concentrations specified in the Los Angeles Regional Water Board Resolution 2004-022, adopted on March 4, 2004, *Amendment to*

the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters Not Characteristic of Freshwater (including Enclosed Bays, Estuaries, and Wetlands) with the Beneficial Use Designations for Protection of "Aquatic Life".

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

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

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

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

10. Accumulation of bottom deposits or aquatic growths.

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

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

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

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

15. Damage, discolor, 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. Create nuisance, or adversely affect beneficial uses of the receiving water.

19. Violation of any applicable water quality standards for receiving waters adopted by the Regional Water Board or State Water Board. 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.

C. Groundwater Limitations

The discharge shall not cause the underlying groundwater to be degraded, to exceed water quality objectives, unreasonably effect beneficial uses, or cause a condition of pollution or nuisance.

VI. PROVISIONS

A. Standard Provisions

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

2. **Regional Water Board Standard Provisions.** The Discharger shall comply with the following provisions.

   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 waste water to storm drain systems or other water courses under their jurisdiction; including applicable requirements in the municipal storm water management program developed to comply with NPDES permits issued by the Regional Water Board to local agencies.

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

   d. The Discharger shall comply with all applicable effluent limitations, national standards of performance, toxic effluent standards, and all federal regulations established pursuant to sections 301, 302, 303(d), 304, 306, 307, 316, 318, 405, and 423 of the federal CWA and amendments thereto.

   e. These requirements do not exempt the operator of the facility from compliance with any other laws, regulations, or ordinances which may be applicable; they do not legalize this 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 waste materials shall not be stored or deposited in areas where they may be picked up by rainfall and carried off of the property and/or discharged to surface waters. Any such spill of such materials shall be contained and removed immediately.

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

   h. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:

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

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

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

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

j. The Discharger shall notify the Regional Water Board not later than 120 days in advance of implementation of any plans to alter the operation and treatment capacity by more than ten percent. Such notification shall include estimates of proposed treatment capacity, and projected effects on effluent quality. Notification shall include submittal of a new report of waste discharge appropriate filing fee.

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

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

m. The Water Code provides that any person who violates a waste discharge requirement or a provision of the Water Code is subject to civil penalties of up to $5,000 per day, $10,000 per day, or $25,000 per day of violation, or when the violation involves the discharge of pollutants, is subject to civil penalties of up to $10 per gallon per day or $25 per gallon per day of violation; or some combination thereof, depending on the violation, or upon the combination of violations.

n. Violation of any of the provisions of the NPDES program or of any of the provisions of this Order may subject the violator to any of the penalties described herein, or any combination thereof, at the discretion of the prosecuting authority; except that only one kind of penalty may be applied for each kind of violation.

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

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

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

i. Name and general composition of the chemical,

ii. Frequency of use,

iii. Quantities to be used,

iv. Proposed discharge concentrations, and

v. USEPA registration number, if applicable.

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

s. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, Average Monthly Effluent Limitation (AMEL), Maximum Daily Effluent Limitation (MDEL), instantaneous maximum effluent limitation, or receiving water limitation of this Order, the Discharger shall notify the Regional Water Board by telephone (213) 576-6600 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

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

B. Monitoring and Reporting Program (MRP) Requirements

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

C. Special Provisions

1. Reopener Provisions

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

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 40 C.F.R. parts 122 and 124, to include requirements for the implementation of the watershed management approach or to include new Minimum Levels (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 Santa Monica Bay or King Harbor.

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

f. This Order may be reopened and modified to revise limitations or provisions as a result of future updates or amendments to the OTC Policy.

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

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan. The Discharger shall submit to the Regional Water Board an Initial Investigation Toxicity Reduction Evaluation (TRE) workplan (1-2 pages) **within 90 days** of the effective date of this permit. If the Executive Director does not disapprove of the workplan within 60 days, the workplan shall become effective. The Discharger shall use USEPA manual EPA/600/2-88/070 (industrial) as guidance. This plan shall describe the steps the permittee intends to follow in the event that a violation of the chronic toxicity limits occurs, 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. Mixing Zone Study Workplan. The dilution ratio of 11.5:1 (receiving water to effluent) established in Order No. 00-085 is retained in this Order for discharges to the Pacific Ocean via Discharge Point 001 through December 31, 2020, when the Facility will cease discharges as per the OTC Policy. If discharges will continue past that date, the Discharger must provide advanced notification to the Regional Water Board, as well as a work plan to timely complete a mixing zone study.. The study shall identify the boundary of the zone of initial dilution (ZID) based on modeling results, and include monitoring upstream of the discharge point, directly above the discharge location, at the boundary of the ZID and outside the ZID for the list of constituents included in Table 1 of the Ocean Plan, to confirm the assumptions made by the model.

3. Storm Water Pollution Prevention Plan (SWPPP), Best Management Practices Plan (BMPP), and Spill Contingency Plan (SCP)

The Discharger shall submit to the Regional Water Board, **within 90 days** of the effective date of this Order:

a. An updated SWPPP that describes site-specific management practices for minimizing contamination of storm water runoff and for preventing contaminated

storm water runoff from being discharged directly to waters of the state. The SWPPP shall be developed in accordance with the requirements in Attachment G.

b. A BMPP that will be implemented to reduce the discharge of pollutants and/or trash to the receiving water. The BMPP may be included within the SWPPP as a description of best management practices (BMPs). Attachment G provides information regarding the description of BMPs. The BMPP shall include site-specific plans and procedures implemented and/or to be implemented to prevent hazardous waste/material from being discharged to waters of the state. Further, the Discharger shall assure that the storm water discharges from the Facility would neither cause, nor contribute to the exceedance of water quality standards and objectives, nor create conditions of nuisance in the receiving water, and that any potential unauthorized discharges (i.e., spills) to the receiving water have been effectively prohibited. 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.

c. A Spill Contingency Plan SCP that includes a technical report on the preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events at the site.

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. The Discharger shall describe the activities in each area and the potential for contamination of storm water runoff and the discharge of hazardous waste/material and/or trash.

The Discharger shall implement the SWPPP, BMPP, and SCP within 10 days of the approval by the Executive Officer or no later than 90 days after submission to the Regional Water Board, whichever comes first. The SWPPP and the BMPP shall be reviewed annually and at the same time; and the SCP shall also be reviewed annually. Updated information shall be submitted to the Regional Water Board within 30 days of revision.

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.

b. The Discharger shall develop and maintain a record of all spills from the facility. A spill shall be defined as any release of waste not allowed under Section III.A of this Order that causes, or probably will cause, a discharge to any waters of the state. (Health and Safety Code section 5411.5). This record shall be made available to the Regional Water Board and USEPA upon request. The Discharger shall submit to the Regional Water Board and USEPA a report listing all spills, overflows or bypasses occurring during the previous quarter in the quarterly monitoring reports. The reports shall provide the date and time of each spill, the location of each spill, the estimated volume of each spill, including gross volume, amount recovered and amount not recovered; the cause of each spill, whether each spill, entered a receiving water and, if so, the name of the water body and whether it entered via storm drains or other man-made conveyances; mitigation measures implemented; corrective measures implemented or proposed to be implemented to prevent/minimize future occurrences; and beneficial uses impacted.

5. Special Provisions for Municipal Facilities—Not Applicable

6. Other Special Provisions

a. Once-Through Cooling Water Compliance Schedule

i. Compliance Date and Alternatives

The Discharger submitted an implementation plan for compliance with the State Water Board's *Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling* (OTC Policy) on April 1, 2011, which was later amended on Jun 17, 2011. According to its implementation plan, the Facility consists of four natural gas electric generating units (Units 5, 6, 7, and 8). Units 1 through 4 were permanently retired in the 1980's. Per its implementation plan, its amendment, and further correspondence, the Discharger has proposed to bring Units 5, 6, 7, and 8, into compliance using Track 1 with the construction of either a simple cycle or combined cycle gas turbine generation (CCGT) facility to replace the 4 units. The compliance mechanism is to be completed in two phases, assuming the redevelopment of the first new CCGT block at the Huntington Beach Generating Station proceeds on schedule, and that contracts, financing, permits, and licenses do not delay the process. The first phase would consist of shutting down Units 6 and 8 by December 2018 and replacing them with a CCGT power block of approximately 496 MW to be ready for commercial operation by the first quarter of 2021. The second phase would consist of shutting down Units 5 and 7 by the final OTC compliance date of December 31, 2020. This Order requires the Discharger to provide annual progress reports to the Regional Water Board to document the Facility's progress towards compliance with the OTC Policy:

Table 8. Progress Update Schedule for Compliance with OTC Policy

Task	Progress Report Due Date
1. Submit Workplan for OTC compliance under Track 1 and/or Track 2.	June 1, 2016
2. Submit first progress Report on compliance actions.	May 1, 2017
3. Submit second progress Report.	May 1, 2018
4. Submit third progress Report.	May 1, 2019
5. Submit fourth progress Report.	May 1, 2020
6. Achieve full compliance with Units 5, 6, 7 and 8.	December 31, 2020

Based on the need for continued operation to maintain the reliability of the electric system, the Regional Water Board or State Water Board may reopen this Order to suspend the compliance date under the circumstances set forth in OTC Policy section 2.B(2).

ii. Immediate and Interim Requirements. The Discharger shall implement the following immediate and interim actions:

(a) As of **October 1, 2011**, any unit that is not directly engaged in power-generating activities or critical system maintenance shall cease intake flows unless it has been demonstrated to the State Water Board that a reduced minimum flow is necessary for operations.

(b) Commencing on **October 1, 2015,** implement measures to mitigate interim impingement and entrainment impacts until full compliance is achieved by December 31, 2020. If proposing to mitigate by funding to the Coastal Conservancy, working with the California Ocean Protection Council, for mitigation projects directed toward increases in marine life associated with the State's Marine Protected Areas within your local area, the funding shall be based on the amount determined by the State Water Board Chief Deputy Director.

iii. OTC Policy Compliance Update

On February 12, 2016, the Discharger submitted to the State Water Board supplemental information for the OTC compliance implementation plan. This submission indicated that Units 5-8 are fully contracted through May 31, 2018, and will remain in operation at least through that date. The submission also indicated that due to Power Purchase Agreements awarded to the AES Alamitos and AES Huntington Beach generating stations, the shutdown of Units 5-8 will be required prior to the OTC Policy compliance date of December 31, 2020. Therefore, the Discharger is not considering alternatives for continued operation of the Facility (i.e. the conversion of Units 5-7 to CCGT power blocks) beyond that date.

7. At a meeting with the Regional Water Board on May 3, 2016, the Discharger indicated that the current plan is to permanently retire the Facility between May, 2018 and December, 2020. The Facility is no longer planning to construct new CCGT power blocks and the discharge of OTC water will cease when the Facility is permanently retired.

8. Compliance Schedules—Not Applicable

VII. COMPLIANCE DETERMINATION

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

A. Single Constituent Effluent Limitation

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

B. Effluent Limitations Expressed as a Sum of Several Constituents

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

C. Effluent Limitations Expressed as a Median

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

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

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

D. 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 concentration should be considered as zero for the calculation of the monthly average concentration.

E. Multiple Sample Data

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

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

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

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.

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 ML (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.

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

H. Average Concentration Effluent Limitation (for Free Available Chlorine)

If the average concentration of discharge during a chlorine release period exceeds the average concentration effluent limitation for free available chlorine, an alleged violation will be flagged and the Discharger will be considered out of compliance. Discharge of chlorine is limited to 2 hours/day/unit. The average concentration shall be calculated as the sum of all discharges of free available chlorine measured during a chlorine release period divided by the number of measurements taken for that parameter during that period. If no sample is taken over a chlorine release period, no compliance determination can be made for that chlorine release period with respect to an effluent violation determination, but compliance determination can be made for that chlorine release period with respect to the monitoring and reporting required.

I. Instantaneous Minimum Effluent Limitation

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

J. 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).

K. Chronic Toxicity

This discharge is subject to determination of “Pass” or “Fail” and “Percent (%) Effect” from a single-effluent concentration chronic toxicity test at the discharge in-stream waste concentration (IWC)—set at 8 percent effluent for discharge at Discharge Point 001 and 100 percent effluent for Discharge Point 002—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 (Ho) for the TST approach is: Mean discharge IWC response ≤0.75 × Mean control response. A test result that rejects this null hypothesis is

reported as “Pass”. A test result that does not reject this null hypothesis is reported as “Fail”. The relative “Percent (%) Effect” at the discharge IWC is defined and reported as: ((Mean control response – Mean discharge IWC response) ÷ Mean control response)) × 100.

Accelerated monitoring for chronic toxicity is triggered when a chronic toxicity test, analyzed using the TST approach, results in “Fail”.

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 storm water. 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.

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

Detected, but Not Quantified (DNQ)
DNQ are those sample results less than the RL, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

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

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

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

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

Estuaries
Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the appropriate areas of the Ventura River, Santa Clara River, Calleguas Creek, Ballona Creek, Dominguez Channel, Los Angeles River and San Gabriel River. Estuaries do not include inland surface waters or ocean waters.

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).

Low Volume Wastes
Per 40 C.F.R. 423.11(b): The term *low volume wastes sources* means, taken collectively as if from one source, wastewater from all sources except those for which specific limitations are otherwise established in this part. Low volume wastes sources include, but are not limited to: wastewaters from wet scrubber air pollution control systems, ion exchange water treatment system, water treatment evaporator blowdown, laboratory and sampling streams, boiler blowdown, floor drains, cooling tower basin cleaning wastes, and recirculating house service water systems. Sanitary and air conditioning wastes are not included.

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).

Metal Cleaning Wastes
Per 40 C.F.R. 423.11(d): The term *metal cleaning waste* means any wastewater resulting from cleaning [with or without chemical cleaning compounds] any metal process equipment including, but not limited to, boiler tube cleaning, boiler fireside cleaning, and air preheater cleaning.

Method Detection Limit (MDL)
MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in in 40 C.F.R. part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML)
ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Mixing Zone
Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND)
Sample results which are less than the laboratory's MDL.

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

Pollutant Minimization Program (PMP)
PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention
Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State Water Resources Control Board (State Water Board) or the Regional Water Board.

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

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

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.

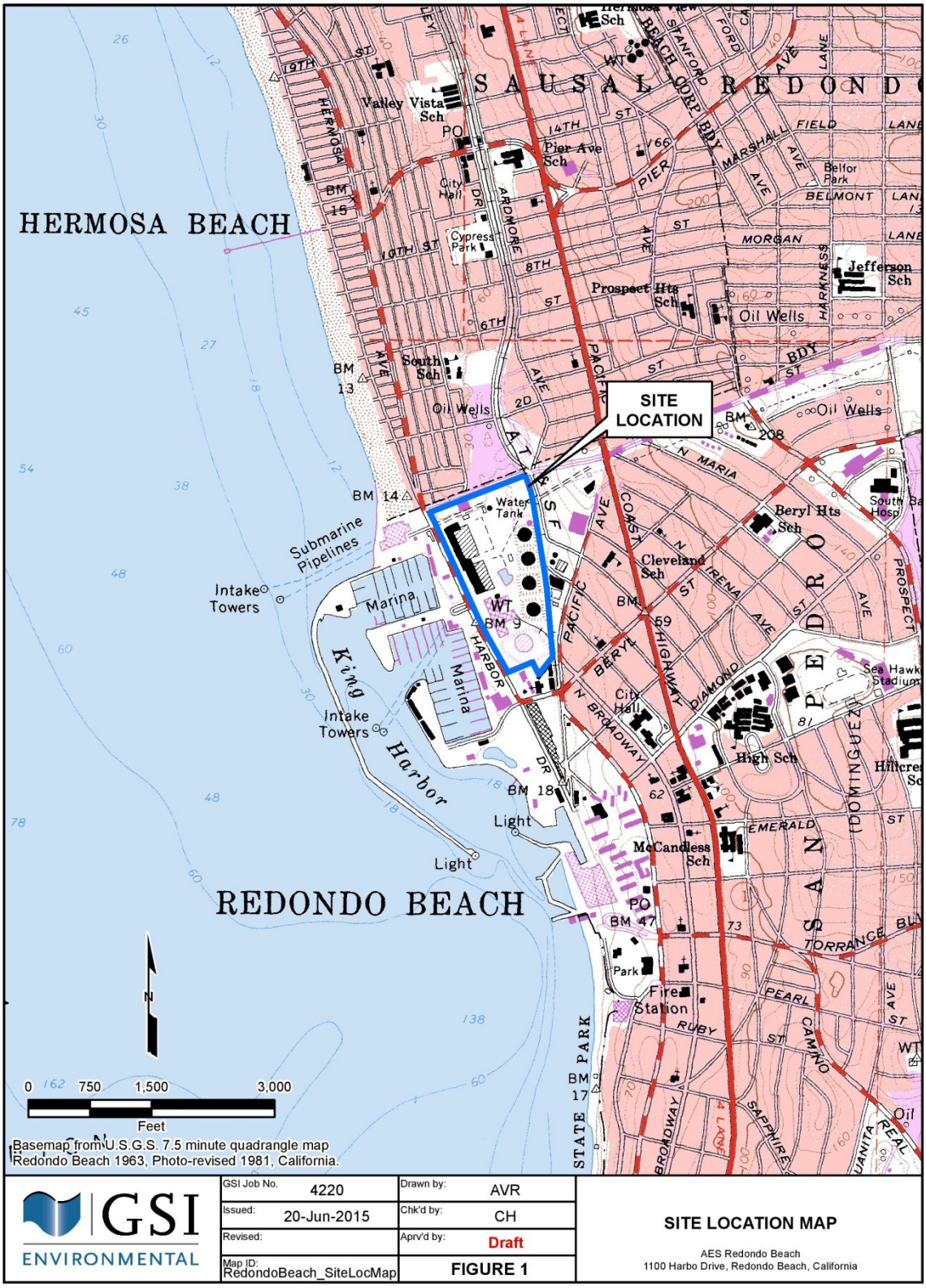
Toxicity Reduction Evaluation (TRE)
TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first 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.)

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
BMPP	Best Management Practices Plan
BPJ	Best Professional Judgment
BOD	Biochemical Oxygen Demand 5-day @ 20 ℃
BPT	Best Practicable Treatment Control Technology
C	Water Quality Objective
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
C.F.R.	Code of Federal Regulations
CTR	California Toxics Rule
CV	Coefficient of Variation
CWA	Clean Water Act
CWC	California Water Code
Discharger	AES Redondo Beach 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	Redondo Beach Generating Station
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
IWC	In-stream Waste Concentration
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
NTR	National Toxics Rule
OAL	Office of Administrative Law
PMEL	Proposed Maximum Daily Effluent Limitation

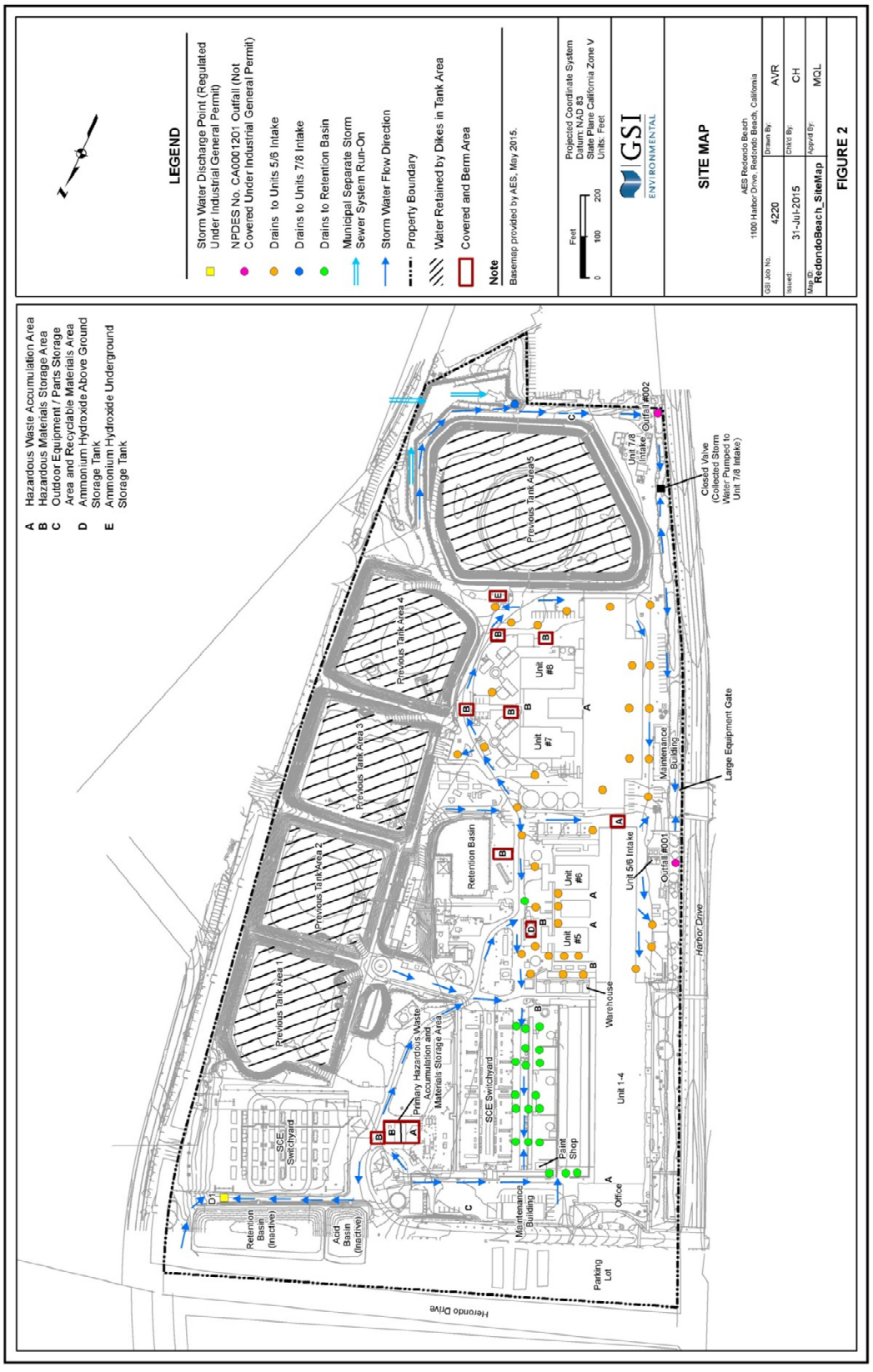
PMP	Pollutant Minimization Plan
POTW	Publicly Owned Treatment Works
QA	Quality Assurance
QA/QC	Quality Assurance/Quality Control
Ocean Plan	*Water Quality Control Plan for Ocean Waters of California*
Regional Water Board	California Regional Water Quality Control Board, Los Angeles Region
RPA	Reasonable Potential Analysis
SCP	Spill Contingency Plan
Sediment Quality Plan	*Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality*
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	Storm Water 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
TST	Test of Significant Toxicity
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

ATTACHMENT B – FACILITY LOCATION



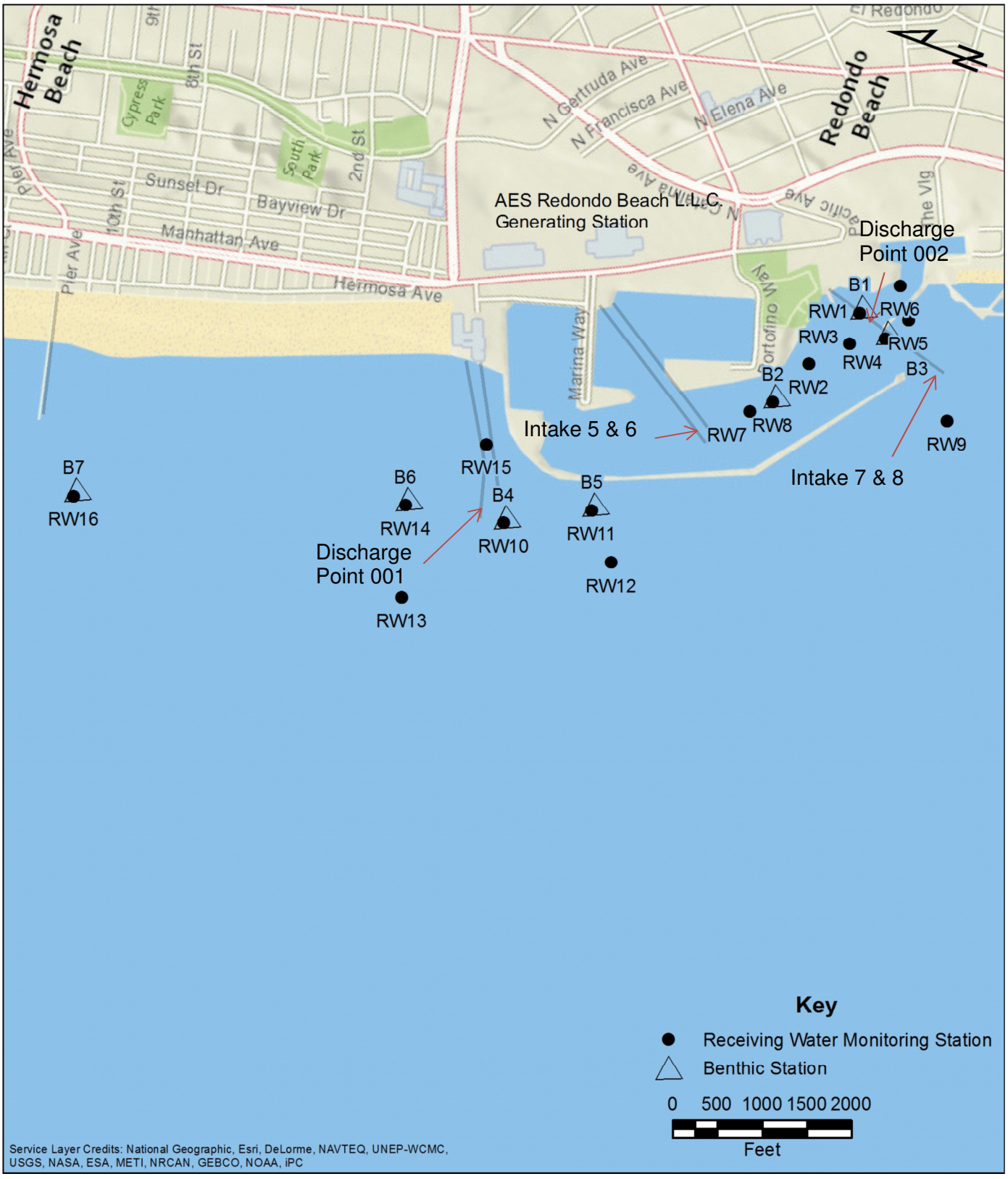
GSI ENVIRONMENTAL	GSI Job No. 4220	Drawn by: AVR	SITE LOCATION MAP
	Issued: 20-Jun-2015	Chk'd by: CH	AES Redondo Beach
	Revised:	Aprv'd by: Draft	1100 Harbo Drive, Redondo Beach, California
	Map ID: RedondoBeach_SiteLocMap	FIGURE 1	

ATTACHMENT B – SITE PLAN

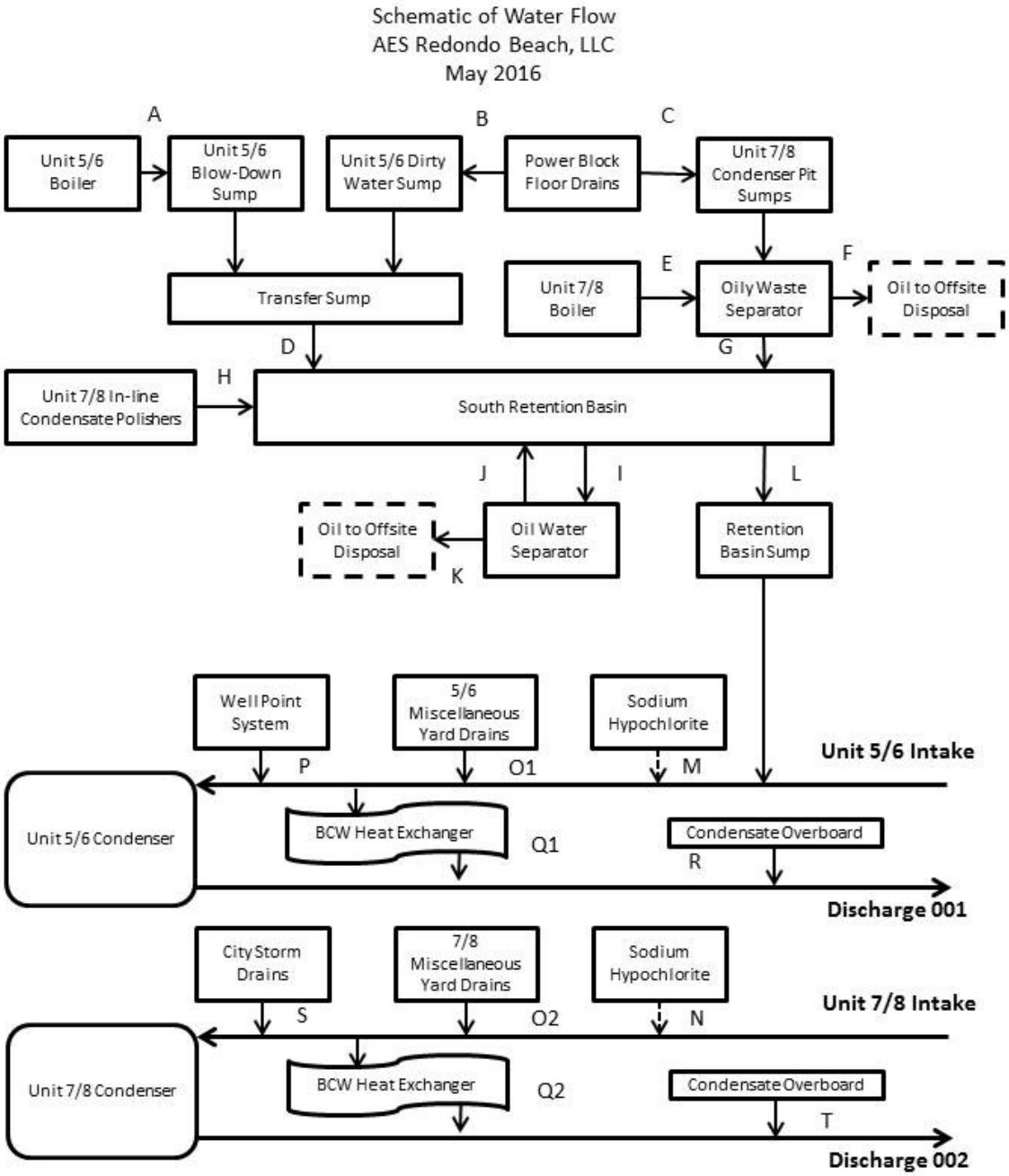


ATTACHMENT B – RECEIVING WATER MONITORING STATIONS IN KING HARBOR

ATTACHMENT B – RECEIVING WATER MONITORING STATIONS IN SANTA MONICA BAY



ATTACHMENT C – FLOW SCHEMATIC



Miller, J.

ATTACHMENT C – FLOW SCHEMATIC

Footnote	Description	Flow Characterization
5/6 Intake	5/6 Intake	Each of the four circulating water pumps is designed at 37,000 GPM
7/8 Intake	7/8 Intake	Each of the four circulating water pumps is designed at 117,000 GPM
Discharge 001	Discharge 001	The maximum discharge flow is 215 MGD
Discharge 002	Discharge 002	The maximum discharge flow is 674 MGD
A	5 and 6 Boiler Discharge	Discharges from the boiler include boiler drains and blowdown. Approximately 60,000 gallons of water is drained from each boiler after each shut down. Blowdown occurs during start-up and other operating times when the boiler water and/or steam parameters are exceeded. On average there may be 10,000 gallons of blowdown per operating run.
B	5/6 Power Block Floor Drains	Drains exist throughout the operating units; minimal flow during routine operation, however stormwater and OTC saltwater leaks can increase this volume.
C	7/8 Power Block Floor Drains	Drains exist throughout the operating units; minimal flow during routine operation, however stormwater and OTC saltwater leaks can increase this volume
D	Water from Transfer Sump	Water collected from within the operating units is collected here before being transferred to the retention basin
E	7 and 8 Boiler Dischage	The discharge from 7/8 boiler is limited to boiler piping drainage. Approximately 30,000 gallons of water is drained from each boiler after each shut down. AES does not control how many shutdowns there will be per year.
F	Oil from 7/8 Separator	Oil separated by gravity is removed with a vacuum truck as needed. Quantity of oil removed varies from year to year.
G	Water from 7/8 Separator	Water separated from oil
H	Polisher Regeneration Water	The 7/8 in-line polishers are regereated approximately 1.5 times per start-up. The regeneration flow is approximately 30,000 gallons per event.
I	Retention Basin Surface Oil/Water	The surface of the retention basin is skimmed to remove floating oil at a rate of approximately 1 GPM
J	Water from Ret Basin Separator	The water separated from the oil is returned to the retention basin
K	Oil from Ret Basin Separator	Approximately 3,000 gallons of oily water is removed from this temporary storage tank annually by vacuum truck.
L	Water from the Retention Basin	Water is discharged after allowing sufficient time for separation. The flow is pumped to the forebay of Units 5/6 at an average rate of approximately 200,000 gallons per day, though this is dependent upon influx of water from upstream sources. The flow rate for the overboard pumps is 600 GPM total, equivalent to a daily maximum of 864,000 gallons.
M	5/6 Chlorination	Maximum of 3 gallons of 12.5 wt% sodium hypochlorite per operating pump per day. Approximately 500 gallons per year, historically.
N	7/8 Chlorination	Maximum of 9 gallons of 12.5 wt% sodium hypochlorite per operating pump per day. Approximately 4,000 gallons per year, historically.
O1	5/6 Miscellaneous Yard Drains	Drains that collect stormwater outside of the power block
O2	7/8 Miscellaneous Yard Drains	Drains that collect stormwater outside of the power block
P	Dewatering Water	Dewatering pumps operate continuously to keep groundwater level beneath Site stable. The water is a mixture of saltwater, groutwater and injected water from the nearby West Coast Basin Barrier Project and is removed at an average of apporximately 1.5 million gallons per day.
Q1	5/6 Bearing Cooling Water Heat Exchanger	Once through cooling water flows through this system designed to cool plant water without contacting system water
Q2	7/8 Bearing Cooling Water Heat Exchanger	Once through cooling water flows through this system designed to cool plant water without contacting system water
R	5/6 Condensate Overboard	During start-ups at 5/6 the initial water that comes through the cycle (i.e. is condensed in the hotwell) is not pumped back into the sstem but is sent to the discharge. This is approximately 4,000 gallons per start-up. AES does not control how many start-ups there will be per year, though it is estimated to be less than 100,000 gallons per year.
S	City Storm Drains	Stormwater run-off from the city's streets enters the southeast side of the property and commingles with the 7/8 intake water.
T	7/8 Condensate Overboard	Used only in an event when the condensate needs to be discharged rather than circulated through the unit. This is approximately 20,000 gallons per event. It is estimated to be less than 100,000 gallons per year.

ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

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

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

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

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

E. Property Rights

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

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

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, USEPA, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (33 U.S.C. § 1318(a)(4)(b); 40 C.F.R. § 122.41(i); Wat. Code, §§ 13267, 13383):

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

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(b)(ii); 40 C.F.R. § 122.41(i)(2); Wat. Code, §§ 13267, 13383);

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C. § 1318(a)(4)(b)(ii); 40 C.F.R. § 122.41(i)(3); Wat. Code, §§ 13267, 13383); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C. § 1318(a)(4)(b); 40 C.F.R. § 122.41(i)(4); Wat. Code, §§ 13267, 13383.)

G. Bypass

1. Definitions

a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)

b. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)

2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)

3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):

a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and

c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)

4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)

5. Notice

a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. As of December 21, 2020 all notices must be submitted electronically by the Discharger to the initial recipient, as defined in 40 C.F.R. section 127.2(b), in compliance with this section and 40 C.F.R. part 3 (including, in all cases, subpart D of part 3), section 122.22, and 40 C.F.R. part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, the Discharger may be required to report electronically if specified by a particular permit or if required to do so by state law. (40 C.F.R. § 122.41(m)(3)(i).)

b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). As of December 21, 2020 all notices must be submitted electronically by the Discharger to the initial recipient, as defined in 40 C.F.R. section 127.2(b), in compliance with this section and 40 C.F.R. part 3 (including, in all cases, subpart D of part 3), section 122.22, and 40 C.F.R. part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, the Discharger may be required to report electronically if specified by a particular permit or if required to do so by state law. (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

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

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

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

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

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

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

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

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

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. §§ 122.41(l)(3), 122.61.)

III. STANDARD PROVISIONS – MONITORING

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

B. Monitoring must be conducted according to test procedures approved under 40 C.F.R. part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. subchapters N or O. Monitoring must be conducted according to sufficiently sensitive test methods approved under 40 C.F.R. part 136 for the analysis of pollutants or pollutant parameters or as required under 40 C.F.R. chapter 1, subchapter N or O. For the purposes of this paragraph, a method is sufficiently sensitive when:

1. The method minimum level (ML) is at or below the level of the most stringent effluent limitation established in the permit for the measured pollutant or pollutant parameter, and either the method ML is at or below the level of the most stringent applicable water quality criterion for the measured pollutant or pollutant parameter or the method ML is above the applicable water quality criterion but the amount of the pollutant or pollutant parameter in the facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or

2. The method has the lowest ML of the analytical methods approved under 40 C.F.R. part 136 or required under 40 C.F.R. chapter 1, subchapter N or O for the measured pollutant or pollutant parameter.

In the case of pollutants or pollutant parameters for which there are no approved methods under 40 C.F.R. part 136 or otherwise required under 40 C.F.R. chapter 1, subchapters N or O, monitoring must be conducted according to a test procedure specified in this Order for such pollutants or pollutant parameters. (40 C.F.R. §§ 122.21(e)(3), 122.41(j)(4), 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

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

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));

2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));

3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));

4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));

5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and

6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

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

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and

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

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, §§ 13267, 13383.)

B. Signatory and Certification Requirements

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

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

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

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

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

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

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

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

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

6. If documents described in Standard Provisions – V.B.1, V.B.2, or V.B.3 are submitted electronically by or on behalf of the NPDES-regulated facility, any person providing the

electronic signature for such documents shall meet all relevant requirements of Standard Provisions – Reporting V.B, and shall ensure that all of the relevant requirements of 40 C.F.R. part 3 (including, in all cases, subpart D of part 3) (Cross-Media Electronic Reporting) and 40 C.F.R. part 127 (NPDES Electronic Reporting Requirements) are met for that submission. (40 C.F.R § 122.22(e).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.41(l)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting the results of monitoring, sludge use, or disposal practices. As of December 21, 2016 all reports and forms must be submitted electronically by the Discharger to the initial recipient, as defined in Standard Provisions – Reporting V.J, in compliance with this section and 40 C.F.R. part 3 (including, in all cases, subpart D of part 3), section 122.22, and 40 C.F.R. part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, the Discharger may be required to report electronically if specified by the permit or if required to do so by state law. (40 C.F.R. § 122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance which 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 report shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The report 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.

For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (combined sewer overflows, sanitary sewer overflows, or bypass events), type of sewer overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volumes untreated by the treatment works treating domestic sewage, types of human health and environmental

impacts of the sewer overflow event, and whether the noncompliance was related to wet weather.

As of December 21, 2020 all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events must be submitted electronically by the Discharger to the initial recipient, as defined in Standard Provisions – Reporting V.J, in compliance with this section and 40 C.F.R. part 3 (including in all cases, subpart D of part 3), section 122.22, and 40 C.F.R. part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, the Discharger may be required to electronically submit reports related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section by a particular permit or if required to do so by state law. The Regional Water Boardmay also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. § 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours:

a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)

b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

3. The Regional Water Board may waive the above required written report on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

F. Planned Changes

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

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under section 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1). (40 C.F.R. § 122.41(l)(1)(ii).)

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the prior permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R.§ 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

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

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in Standard Provision – Reporting V.E and the applicable required data in appendix A to 40 C.F.R. part 127. The Regional Water Boardmay also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

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

J. Initial Recipient for Electronic Reporting Data

The owner, operator, or the duly authorized representative is required to electronically submit NPDES information specified in appendix A to 40 C.F.R. part 127 to the appropriate initial recipient defined in 40 C.F.R. section 127.2(b). U.S. EPA will identify and publish the list of initial recipients on its website and in the Federal Register, by state and by NPDES data group [see 40 C.F.R. section 127.2(c)]. U.S. EPA will update and maintain this listing. (40 C.F.R. § 122.41(l)(9).)

VI. STANDARD PROVISIONS – ENFORCEMENT

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

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

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

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

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

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

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

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

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

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

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

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

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

B. Publicly-Owned Treatment Works (POTWs)

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

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 C.F.R. § 122.42(b)(1)); and

2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 C.F.R. § 122.42(b)(2).)

3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 C.F.R. § 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM – CI NO. 0536

CONTENTS

TABLES

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP No. 0536)

The Code of Federal Regulations (40 C.F.R. § 122.48) requires that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the California Regional Water Quality Control Board, Los Angeles Region (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. Effluent sampling stations shall be established for Discharge Point No. 001 (Latitude 33.8494444º North, Longitude -118.4022222º West) and Discharge Point No. 002 (Latitude 33.843º North, Longitude -118.394º West. These sampling stations shall be located where representative samples of that effluent can be obtained.

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

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

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

E. Laboratories analyzing effluent samples and receiving water samples shall be certified by the State Water Board 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.

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

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

1. An actual numerical value for sample results greater than or equal to the ML; or

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

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

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

Current ML's (Attachment H) are those listed in Appendix II of the California Ocean Plan (Ocean Plan). In addition, samples for metals analyses, waste seawater discharge, storm

water effluent samples, reference station samples, and receiving water samples must be analyzed by the approved analytical method with the lowest MDL (currently Inductively Coupled Plasma/Mass Spectrometry) described in the Ocean Plan.

H. The MLs employed for effluent analyses to determine compliance with effluent limitations shall be lower than the effluent limitations established in this Order for a given parameter. If the ML value is not below the effluent limitation, then the lowest ML value and its associated analytical method shall be selected for compliance purposes. At least once a year, the Discharger shall submit a list of the analytical methods employed for each test and associated laboratory QA/QC procedures.

I. The MLs employed for effluent analyses not associated with determining compliance with effluent limitations in this order shall be lower than the lowest applicable water quality objective, for a given parameter. Water quality objectives for parameters may be found in Table 1 of the Ocean Plan. 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 40 C.F.R. part 136 (revised May 18, 2012);

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

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

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

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

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

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

M. Field analyses for parameters that require short sample holding times such as pH, total residual chlorine and temperature may be performed on-site by properly-trained personnel acting on behalf of the Discharger. These analyses shall be performed using properly-calibrated and maintained portable instruments in accordance with the methods found at 40 C.F.R. part 136. Records of these analyses shall be maintained at the discharge facility so as to be available at all times to operating personnel and Regional Water Board staff. These records shall include the standard operating and quality-control procedures for all field analyses, records of personnel proficiency training and records of instrument calibration and maintenance. Results of these analyses shall be submitted to the Regional Water Board as part of the corresponding periodic monitoring report. Documentation of the results shall include measurement values, data and time of sample collection, name of analyst and instrument calculation information.

N. 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 to finish. A similar frequency shall be maintained for analyzing spiked samples.

O. 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%.

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

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

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

S. Laboratories analyzing monitoring samples shall be certified by the State Water Board, in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports.

II. MONITORING LOCATIONS

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

Table E-1. Effluent Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
001	EFF-001	At a location where a representative sample of the commingled wastewater can be obtained after treatment but prior to discharge to the Pacific Ocean via Discharge Point 001.
002	EFF-002	At a location where a representative sample of the commingled wastewater can be obtained after treatment but prior to discharge to King Harbor via Discharge Point 002.
001A	INT-001A	At a location from the retention basin where a representative sample of all low volume wastes can be obtained after treatment but prior to commingling with other internal process waste streams or once-through cooling water that is to be discharged via Discharge Point 001.
Intake Forebay	FIP-001	At a location where Fish Impingement Program sampling for Units 5 and 6 can be conducted.
Intake Forebay	FIP-002	At a location where Fish Impingement Program sampling for Units 7 and 8 can be conducted.

Table E-2. Receiving Water Monitoring Station Locations

Type	Monitoring Location Name	Monitoring Location Description
Receiving water station	RSW-001 (previously RW1)	At the outfall terminus for Units 7 and 8 (within King Harbor).
Receiving water station	RSW-002 (previously RW2)	Located on an arc 500 feet from the point of discharge for Units 7 and 8, in a direction of 292 degree T.
Receiving water station	RSW-003 (previously RW3)	On an arc 500 feet from the point of discharge for Units 7 and 8, half the distance between RSW-002 and RSW-004
Receiving water station	RSW-004 (previously RW4)	500 feet from station RSW-001, on the intake conduit centerline
Receiving water station	RSW-005 (previously RW5)	On an arc 500 feet from the point of discharge for Units 7 and 8, half the distance between RSW-004 and RSW-006.
Receiving water station	RSW-006 (previously RW6)	On an arc 500 feet from the point of discharge for Units 7 and 8, in a direction of 150 degree T.
Receiving water station	RSW-007 (previously RW7)	On an arc 1,325 feet from the point of discharge for Units 7 and 8, in a direction of 292 degree T.
Receiving water station	RSW-008 (previously RW8)	On an arc 725 feet from the point of discharge for Units 7 and 8, in a direction of 292 degree T.
Receiving water station	RSW-009 (previously RW9)	At the navigation bell buoy outside of King Harbor.
Receiving water station	RSW-010 (previously RW10)	Directly between the discharge points for Units 5 and 6 (offshore of Redondo Beach).
Receiving water station	RSW-011 (previously RW11)	1,000 feet down coast of station RSW-010, at the same depth as RSW-010.
Receiving water station	RSW-012 (previously RW12)	Directly offshore of Station RSW-011, at a depth of 40 feet.
Receiving water station	RSW-013 (previously RW13)	Directly offshore of station RSW-014, at a depth of 40 feet.
Receiving water station	RSW-014 (previously RW14)	1,000 feet up coast of station RSW-010, at the same depth as RSW-010.
Receiving water station	RSW-015 (previously RW15)	1,000 feet inshore of station RSW-010, along the centerline of the discharge conduits.
Receiving water station	RSW-016 (previously RW16)	4,400 feet up coast of station RSW-010, at the same depth as RSW-010.
Benthic station	BEN-001 – BEN-007 (previously B1 – B7)	Located directly beneath Monitoring Locations RSW-001 through RSW-007, respectively.
Transect station	TRN-001 (previously C1)	Parallel to and 100 feet east of the discharge conduit for Units 7 and 8, initiated at the water edge.
Transect station	TRN-002 (previously C2)	Perpendicular to TRN-001 and extending 100 feet on either side of the discharge structure.
Transect station	TRN-003 (previously C3)	Parallel to the breakwater adjacent to the intakes for Units 5 and 6.
Mussel station	MUS-001	As close as possible to the outfall of Discharge Point 001.
Mussel station	MUS-002	As close as possible to the outfall of Discharge Point 002.
Mussel station	MUS-003	Manhattan Beach Pier.
Zone of Initial Dilution (ZID)	ZID-001	Outside of ZID within the waste field where initial dilution is completed.

III. INFLUENT MONITORING REQUIREMENTS

Fish Impingement Program

Impingement sampling for fish and commercially important macroinvertebrates shall be conducted semiannually at Monitoring Locations FIP-001 and FIP-002.

Fish and macroinvertebrates shall be identified to the lowest possible taxon. For each intake point, data reported shall include numerical abundance of each fish and macroinvertebrate species, wet weight of each species (when combined weight of individuals in each species exceeds 0.2 kg), number of individuals in each 1-centimeter size class (based on standard length) for each species and total number of species collected. When large numbers of given species are collected, length/weight data need only be recorded for 50 individuals and total number and total weight may be estimated based on aliquot samples. Total fish impingement per sampling event shall be reported and data shall be expressed per unit volume water entrained.

Table E-3. Influent Monitoring at FIP-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Influent Monitoring at Location FIP-002				
Total Coliform	MPN/ 100 mL	Grab	2/year	--
Fecal Coliform	MPN/ 100 mL	Grab	2/year	--
Enterococcus	MPN/ 100 mL	Grab	2/year	--
Copper, Total Recoverable	µg/L and mass[2]	Grab	1/month[1]	--
Mercury, Total Recoverable	µg/L and mass[2]	Grab	1/month[1]	--
Nickel, Total Recoverable	µg/L and mass[2]	Grab	1/month[1]	--
Silver, Total Recoverable	µg/L and mass[2]	Grab	1/month[1]	--
Thallium, Total Recoverable	µg/L and mass[2]	Grab	1/month[1]	--
Zinc, Total Recoverable	µg/L and mass[2]	Grab	1/month[1]	--
DDT	µg/L and mass[2]	Grab	1/month[1]	--
PCBs	µg/L and mass[2]	Grab	1/month[1]	--

[1] Monthly monitoring is required from October 2016 through September 2017(one year period). If the discharge is in compliance with the prescribed effluent limitations during this one year period, after requesting and securing approval by the Executive Officer, the monitoring frequency may be decreased to quarterly.

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

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

The Discharger shall monitor Discharge Point No. 001 at Monitoring Location EFF-001 as follows:

Table E-4. Effluent Monitoring at Monitoring Location EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Effluent Monitoring at Location EFF-001				
Flow	MGD	Flow Meter	Continuous[1]	--
Temperature	°F	Meter	Continuous[3]	--
pH	standard units	Grab	1/week	--
Ammonia, Total (as N)	mg/L and mass[4]	Grab	1/year	[2]
Nitrate (as N)	mg/L and mass[4]	Grab	1/year	[2]
Chronic Toxicity[5]	Pass or Fail and % effect for TST approach	24-hour composite or grab	1/quarter	[2]
Total Residual Chlorine	mg/L	Grab	1/day[6]	[2]
Free Available Chlorine	mg/L	Grab	1/day[6]	[2]
Beryllium, Total Recoverable	µg/L and mass[4]	Grab	1/month[15]	[2]
Cadmium, Total Recoverable	µg/L and mass[4]	Grab	1/month[15]	[2]
Chromium (VI)[7]	µg/L and mass[4]	Grab	1/month[15]	[2]
Lead, Total Recoverable	µg/L and mass[4]	Grab	1/month[15]	[2]
Mercury, Total Recoverable	µg/L and mass[4]	Grab	1/month[15]	[2]
Nickel, Total Recoverable	µg/L and mass[4]	Grab	1/month[15]	[2]
Selenium, Total Recoverable	µg/L and mass[4]	Grab	1/month[15]	[2]
Silver, Total Recoverable	µg/L and mass[4]	Grab	1/month[15]	[2]
DDT[8]	µg/L and mass[4]	Grab	1/month[15]	[2]
PCBs[9]	µg/L and mass[4]	Grab	1/month[15]	[2]
TCDD Equivalents[14]	µg/L and mass[4]	Grab	2/year[11]	[2]
Remaining Ocean Plan Pollutants[10]	µg/L	Grab	2/year[11]	[2]
Radioactivity (including gross alpha, gross beta, combined radium-226 and radium-228, tritium, strontium-90 and uranium)	pCi/L	Grab	1/year	[12]
Total Coliform[13]	MPN/ 100 mL	Grab	2/year	[2]
Fecal Coliform[13]	MPN/ 100 mL	Grab	2/year	[2]
Enterococcus[13]	MPN/ 100 mL	Grab	2/year	[2]
Low-Volume Wastes Monitoring at Location INT-001A				
Flow	MGD	Totatlizing Meter	1/day	--
pH	standard units	Grab	1/month	--
Total Suspended Solids	mg/L	Grab	1/month	[2]
Oil and Grease	mg/L	Grab	1/month	[2]
Beryllium, Total Recoverable	µg/L	Grab	1/month[15]	[2]
Cadmium, Total Recoverable	µg/L	Grab	1/month[15]	[2]
Chromium (VI)[4]	µg/L	Grab	1/month[15]	[2]
Lead, Total Recoverable	µg/L	Grab	1/month[15]	[2]
Mercury, Total Recoverable	µg/L	Grab	1/month[15]	[2]
Nickel, Total Recoverable	µg/L	Grab	1/month[15]	[2]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Selenium, Total Recoverable	µg/L	Grab	1/month[15]	[2]
Silver, Total Recoverable	µg/L	Grab	1/month[15]	[2]
Ocean Plan Pollutants[10]	µg/L	Grab	2/year[11]	[2]

[1] When continuous monitoring is required, the total daily flow shall be reported. Periods of no flow shall also be reported.

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

[3] Only maximum temperatures for each calendar day shall be reported, except when temperature exceeds 106ºF, in which case the reason(s), duration, and time of day of the events of elevated temperature shall be reported.

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

Mass (lbs/day) = Actual Flow (MGD) x Reported Concentration (mg/L) x 8.34 (conversion factor)

[5] Refer to section V, Whole Effluent Toxicity Testing Requirements.

[6] Monitoring is only applicable during periods of chlorine addition. A statement certifying that chlorination did not occur during the day may be submitted in lieu of an analysis.

[7] The Discharger may at their option meet this requirement as total chromium.

[8] DDT shall mean the sum of 4,4'-DDT, 2,4'-DDT, 4,4'-DDE, 2,4'-DDE, 4,4'-DDD and 2,4'-DDD.

[9] PCBs shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

[10] Pollutants with water quality objectives designated in Table 1 of the Ocean Plan.

[11] Monitoring once per semiannual period (January – June, July – December).

[12] Analyze these radiochemicals by the following USEPA methods: method 900.0 for gross alpha and gross beta, method 903.0 or 903.1 for radium-226, method 904.0 for radium-228, method 906.0 for tritium, method 905.0 for strontium-90, and method 908.0 for uranium. Analysis for combined radium-226 & 228 shall be conducted only if gross alpha results for the same sample exceed 15 pCi/L or beta greater than 50 pCi/L. If radium-226 & 228 exceeds the stipulated criteria, analyze for tritium, strontium-90 and uranium.

A statement certifying that radioactive pollutants were not added to the discharge may be submitted in lieu of monitoring.

[13] For each annual monitoring event, at least five weekly samplings and analyses shall be conducted until a geometric mean can be obtained for each parameter (using the five most recent sample results).

[14] TCDD Equivalents shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below. USEPA method 1613 may be used to analyze dioxin and furan congeners.

Dioxin-TEQ (TCDD Equivalents) = Σ (C_x x TEF_x)

Where:

C_x = concentration of dioxin or furan congener x

TEF_x = TEF for congener x

Toxicity Equivalency Factors

Isomer Group	Toxicity Equivalency Factor (TEF)
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
Octa CDD	0.001
2,3,7,8 tetra CDF	0.1
1,2,3,7,8 penta CDF	0.05
2,3,4,7,8 penta CDF	0.5
2,3,7,8 hexa CDFs	0.1
2,3,7,8 hepta CDFs	0.01
Octa CDF	0.001

[15] Monthly monitoring is required from October 2016 through September 2017 (one year period). If the discharge is in compliance with the prescribed effluent limitations during this one year period, after requesting and securing approval by the Executive Officer, the monitoring frequency may be decreased to quarterly.

B. Monitoring for Low Volume Wastes at Monitoring Location EFF-001

The Discharger shall report the mass emission of all in-plant low volume wastes taken together prior to commingling with once-through cooling water using the calculated sum of mass emissions measured at Monitoring Location INT-001A as follows:

Table E-5.Total Low Volume Wastes Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	--	1/day[5]	[2]
Beryllium, Total Recoverable	lb/day[3]	Calculated[3]	1/month[1,6]	[2]
Cadmium, Total Recoverable	lb/day[3]	Calculated[3]	1/month[1,6]	[2]
Chromium (VI)[7]	lb/day[3]	Calculated[3]	1/month[1,6]	[2]
Lead, Total Recoverable	lb/day[3]	Calculated[3]	1/month[1,6]	[2]
Mercury, Total Recoverable	lb/day[3]	Calculated[3]	1/month[1,6]	[2]
Nickel, Total Recoverable	lb/day[3]	Calculated[3]	1/month[1,6]	[2]
Selenium, Total Recoverable	lb/day[3]	Calculated[3]	1/month[1,6]	[2]
Silver, Total Recoverable	lb/day[3]	Calculated[3]	1/month[1,6]	[2]

1. If no discharges of low volume wastes occurred during the month, the report shall so state.
2. Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136. For priority pollutants, the methods must meet the lowest minimum levels (MLs) specified in Appendix II of the Ocean Plan (2012) that is required to demonstrate compliance. Where no methods are specified for a given pollutant, the methods must be approved by the Regional Water Board or the State Water Board.
3. The mass emission (lbs/day) from each individual in-plant waste streams shall be calculated and reported using the actual concentration and the actual flow rate measured at the time of discharge from the individual in-plant low volume waste streams (as measured in INT-001A) using the formula:

   M (lbs/day) = C x Q x 0.00834
   Where:
   M = mass emission for a pollutant, lbs/day
   C = actual concentration for a pollutant, µg/L
   Q = actual discharge flow rate, MGD

   The combined mass emission of all in-plant waste streams taken together shall be determined as the sum of mass discharges of each parameter in the individual in-plant waste streams.

   Total Mass Emission per day (lbs/day) = (mass emission at INT-001A)
   Where:
   Mass emission at INT-001A is calculated using flow measured at INT-001A (lbs/day)

   The Total Mass Emission per day (lb/day) calculated for each day will be compared with the maximum daily effluent limitations as set forth in Table 8 of this Order for compliance determination; compliance with the 6-month median effluent limitations shall be determined by the median of Total Mass Emission per day values over any 180-day period.
4. The Discharger may at their option meet this limitation as a total chromium limitation.
5. Report flow of each individual low volume waste streams as measured at INT-001A.
6. Monthly monitoring is required from October 2016 through September 2017 (one year period). If the discharge is in compliance with the prescribed effluent limitations during this one year period, after requesting and securing approval by the Executive Officer, the monitoring frequency may be decreased to quarterly.

C. Monitoring Location EFF-002

The Discharger shall monitor Discharge Point No. 002 at Monitoring Location EFF-002 as follows:

Table E-6. Effluent Monitoring at Monitoring Location EFF-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Effluent Monitoring at Location EFF-002				
Flow	MGD	Flow Meter	Continuous[1]	[2]
Temperature	°F	Meter	Continuous[3]	[2]
pH	standard units	Grab	1/week	[2]
Ammonia, Total (as N)	mg/L and mass[4]	Grab	1/year	[2]
Nitrate (as N)	mg/L and mass[4]	Grab	1/year	[2]
Chronic Toxicity[5]	Pass or Fail and % effect for TST approach	24-hour composite or grab	1/quarter	[2]
Total Residual Chlorine	mg/L	Grab	1/day[6]	[2]
Free Available Chlorine	mg/L	Grab	1/day[6]	[2]
Copper, Total Recoverable	µg/L and mass[4]	Grab	1/Month[12]	[2]
Mercury, Total Recoverable	µg/L and mass[4]	Grab	1/Month[12]	[2]
Nickel, Total Recoverable	µg/L and mass[4]	Grab	1/Month[12]	[2]
Silver, Total Recoverable	µg/L and mass[4]	Grab	1/Month[12]	[2]
Thallium, Total Recoverable	µg/L and mass[4]	Grab	1/Month[12]	[2]
Zinc, Total Recoverable	µg/L and mass[4]	Grab	1/Month[12]	[2]
DDT[7]	µg/L and mass[4]	Grab	1/Month[12]	[2]
PCBs[8]	µg/L and mass[4]	Grab	1/Month[12]	[2]
TCDD Equivalents[13]	µg/L and mass[4]	Grab	1/year	[2]
Priority Pollutants[9]	µg/L	Grab	1/year	[2]
Radioactivity (including gross alpha, gross beta, combined radium-226 and radium-228, tritium, strontium-90 and uranium)	pCi/L	Grab	1/year	[10]
Total Coliform[11]	MPN/ 100 mL	Grab	2/year	[2]
Fecal Coliform[11]	MPN/ 100 mL	Grab	2/year	[2]
Enterococcus[11]	MPN/ 100 mL	Grab	2/year	[2]

[1] When continuous monitoring is required, the total daily flow shall be reported. Periods of no flow shall also be reported.

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

[3] Only maximum temperatures for each calendar day shall be reported, except when temperature exceeds 106ºF, in which case the reason(s), duration, and time of day of the events of elevated temperature shall be reported.

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

Mass (lbs/day) = Actual Flow (MGD) x Reported Concentration (mg/L) x 8.34 (conversion factor)

[5] Refer to section V, Whole Effluent Toxicity Testing Requirements.

[6] Monitoring is only applicable during periods of chlorine addition. A statement certifying that chlorination did not occur during the day may be submitted in lieu of an analysis. Multiple grab samples shall be collected at 25, 30, and 35 minutes following the start of chlorination and the highest value of the three measurements shall be reported.

[7] DDT shall mean the sum of 4,4'-DDT, 2,4'-DDT, 4,4'-DDE, 2,4'-DDE, 4,4'-DDD and 2,4'-DDD.

[8] PCBs shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

[9] Priority pollutants as defined by the CTR defined in Attachment I of this Order.

[10] Analyze these radiochemicals by the following USEPA methods: method 900.0 for gross alpha and gross beta, method 903.0 or 903.1 for radium-226, method 904.0 for radium-228, method 906.0 for tritium, method 905.0 for strontium-90, and method 908.0 for uranium. Analysis for combined radium-226 & 228 shall be conducted only if gross alpha results for the same sample exceed 15 pCi/L or beta greater than 50 pCi/L. If radium-226 & 228 exceeds the stipulated criteria, analyze for tritium, strontium-90 and uranium.

A statement certifying that radioactive pollutants were not added to the discharge may be submitted in lieu of monitoring.

[11] For each annual monitoring event, at least five weekly samplings and analyses shall be conducted until a geometric mean can be obtained for each parameter (using the five most recent sample results).

[12] Monthly monitoring is required from October 2016 through September 2017 (one year period). If the discharge is in compliance with the prescribed effluent limitations during this one year period, after requesting and securing approval by the Executive Officer, the monitoring frequency may be decreased to quarterly.

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

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

where: C_x = concentration of dioxin or furan congener x

TEF_x= TEF for congener x

Toxicity Equivalency Factors

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

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Definition of Chronic Toxicity

Chronic toxicity measures a sublethal effect (e.g., reduced growth, reproduction) to experimental test organisms exposed to an effluent or ambient waters compared to that of the control organisms. Chronic toxicity test results shall be measured using the two concentration (i.e., discharge in-stream waste concentration and laboratory water control) Test of Significant Toxicity (TST) statistical approach and reported in units of Pass or Fail and % Effect.

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

The chronic toxicity IWC is 8 percent [1/(11.5+1)] effluent for discharge at Discharge Point 001 and 100 percent effluent for Discharge Point 002.

C. 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 including the static renewal test and Toxicity Identification Evaluation (TIE) studies. 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.

D. Chronic Marine and Estuarine Species and Test Methods

If effluent samples are collected from outfalls discharging to receiving waters with salinity ≥1 ppt, the Discharger shall conduct the following chronic toxicity tests on effluent samples—at the in-stream waste concentration for the discharge—in accordance with species and test methods in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995). The dilution water used in the toxicity tests may be natural seawater, hypersaline brine (100%) prepared from natural seawater, or artificial seawater prepared from commercial sea salts.In no case shall these species be substituted with another test species unless written authorization from the Executive Officer is received.

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

2. A static non-renewal toxicity test with the purple sea urchin, *Strongylocentrotus purpuratus*, or 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) or a static non-renewal test with the pacific oyster, *Crassostrea gigas*, and a mussel species, *Mytilus edulis, M. californianus, M. galloprovincialis, or M. trossulus* (Embryo-Larval Development Test Method).

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

E. Species Sensitivity Screening

Species sensitivity screening shall be conducted monthly for a period of three months. Once each month, the Discharger shall collect a single effluent sample and concurrently conduct three toxicity tests using the fish, an invertebrate, and the alga species previously referenced. The species that exhibits the highest “Percent (%) Effect” at the discharge IWC during species sensitivity screening shall be used for routine quarterly monitoring.

Rescreening is required every 24 months. The Discharger shall rescreen with the three species listed above and continue to monitor with the most sensitive species. If the first suite

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

The most sensitive species determined during recent species sensitivity screening conducted prior to the adoption of this Order may be used for routine quarterly monitoring until 24 months after the date of that screening event, then rescreening is required.

F. 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.

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

2. 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".

3. If the effluent toxicity test does not meet all test acceptability criteria (TAC) specified in the referenced test method, then the Discharger must re-sample and re-test within 14 days.

4. The dilution water used in the toxicity tests may be natural seawater, hypersaline brine (100%) prepared from natural seawater, or artificial seawater prepared from commercial sea salts. 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.

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

6. 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).

G. Preparation of an Initial Investigation TRE Workplan

The Discharger shall prepare or update 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:

1. A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.
2. 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.
3. 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).

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

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

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

The Facility is a peak demand generating station that does not run continuously. Per the OTC Policy implementation plan circulating pumps are not permitted to operate solely for sampling purposes. Therefore accelerated monitoring should end after three months if discharges have not occurred such that five consecutive toxicity tests have been completed at approximately two week periods.

I. Toxicity Reduction Evaluation (TRE) Process

1. **Preparation and Implementation of Detailed TRE Work Plan.** The Discharger shall immediately initiate a TRE using—according to the type of treatment facility—EPA manual *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* (EPA/833/B-99/002, 1999) or EPA manual *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, 1989). Within 30 days, the Discharger shall submit to the Regional Water Board Executive Officer a Detailed TRE Work Plan, which shall follow the generic Initial Investigation TRE Work Plan revised as appropriate for this toxicity event. It shall include the following information, and comply with additional conditions set by the Executive Officer:
   a. Further actions by the Discharger to investigate, identify, and correct the causes of toxicity.
   b. Actions the Discharger will take to mitigate the effects of the discharge and prevent the recurrence of toxicity.
   c. A schedule for these actions, progress reports, and the final report.
2. **TIE Implementation.** The Discharger may initiate a TIE as part of a TRE to identify the causes of toxicity using the same species and test method and, as guidance, USEPA manuals: *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures* (EPA/600/6-91/003, 1991); *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080, 1993); *Methods for Aquatic*

Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity (EPA/600/R-92/081, 1993); and *Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document* (EPA/600/R-96-054, 1996). The TIE should be conducted on the species demonstrating the most sensitive toxicity response.

3. 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.

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

5. 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.

J. 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:

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

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

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

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

VI. LAND DISCHARGE MONITORING REQUIREMENTS—NOT APPLICABLE

VII. RECYCLING MONITORING REQUIREMENTS—NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Surface Water Monitoring at Monitoring Locations RSW-001 through RSW-016

The Discharger shall monitor the receiving waters at Monitoring Locations RSW-001 through RSW-003 and RSW-005 through RSW-016 as follows:

Table E-7. Receiving Water Monitoring Requirements for RSW-001 through RSW-016

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	Standard units	Profile	2/year[1,2]	[3]
Temperature	°F	Profile	2/year[1,4]	[3]
Salinity	ppt	Profile	2/year[1]	[3]
Dissolved Oxygen	mg/L	Profile	2/year[1]	[3]
Ammonia Nitrogen, Total (as N)[5]	mg/L	Grab	1/year[1,6]	[3]
Chronic Toxicity[5]	Pass or Fail and % effect for TST approach	24-hour composite or grab	1/year	[7]
Priority pollutants[5,8]	µg/L	Grab	1/year[1]	[3]

[1] Dissolved oxygen levels, temperature, salinity, and pH shall be measured semi-annually at the surface, mid-depth and bottom at each monitoring location, at a minimum.
[2] Semi-annual monitoring shall be conducted in summer and in winter. All monitoring locations shall be sampled on both the flood and ebb tides during each semi-annual survey, as near to the start of the flood and ebb tides as is practicable.
[3] Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136; for priority pollutants, the methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding MLs.
[4] Temperature profiles shall be measured semi-annually (summer and winter) each year at each monitoring location from surface to bottom at a minimum of one-meter intervals.
[5] Monitoring is required solely at Monitoring Location RSW-004 (King Harbor).
[6] pH, temperature and salinity must be collected at the same time as ammonia samples.
[7] Refer to section V, Whole Effluent Toxicity Testing Requirements.
[8] Priority pollutants as defined by the CTR defined in Attachment I of this Order.

B. Benthic Monitoring (Monitoring Locations BEN-001 through BEN-007)

1. Sediment Samples for Assessment of Benthic Infauna

a. The Discharger shall collect and analyze samples for benthic fauna once per year at Monitoring Locations BEN-001 through BEN-007.

b. One liter sediment core samples shall be collected by divers at each of the benthic stations for biological examination and determination of biomass and diversity. Four replicates shall be obtained at each station for benthic analyses, and each shall be analyzed separately. A fifth sample shall be taken at each station for sediment analyses and general description.

c. Each benthic replicate sample shall be sieved through a 1.0 mm standard mesh screen. All organisms recovered shall be enumerated and identified to the lowest taxon possible. Infaunal organisms shall be reported as concentrations per liter for each replicate and each station. Total abundance, number of species and Shannon-Weiner diversity indices shall be calculated (using natural logs) for each replicate and each station. Biomass shall be determined as the wet weight in grams or milligrams retained on a 0.5 millimeter screen per unit volume (e.g., 1 liter) of sediment. Biomass shall be reported for each major taxonomic group (e.g., polychaetes, crustaceans, mollusks) for each replicate and each station.

d. Procedures and test methods shall adhere to the following federal guidelines when applicable: Macroinvertebrate Field and Laboratory Methods for Evaluation the Biological Integrity of Surface Waters (1990) –EPA/600/4-90/030 (PB91-171363). This manual describes guidelines and standardized procedures for the use of macroinvertebrates in evaluating the biological integrity of surface waters.

6. Sediments Samples for Grain Size and Chemical Analyses

The Discharger shall collect and analyze sediment samples for parameters in the following table:

Table E-8. Receiving Water Monitoring for BEN-001 through BEN-007

Parameter	Units	Sample Type	Minimum Sampling Frequency
Sediment Grain Size[2]	--	Core	1/year
Arsenic	mg/kg	Core[3]	1/year
Beryllium	mg/kg	Core[3]	1/year
Cadmium	mg/kg	Core[3]	1/year
Copper	mg/kg	Core[3]	1/year
Chromium, Total	mg/kg	Core[3]	1/year
Chromium (III)	mg/kg	Core[3]	1/year
Lead	mg/kg	Core[3]	1/year
Mercury	mg/kg	Core[3]	1/year
Nickel	mg/kg	Core[3]	1/year
Selenium	mg/kg	Core[3]	1/year
Silver	mg/kg	Core[3]	1/year
Thallium	mg/kg	Core[3]	1/year
Zinc	mg/kg	Core[3]	1/year
Acid Soluble Sulfides	mg/kg	Core[3]	1/year
Pesticides[4]	mg/kg	Core[3]	1/year
PAHs[5]	mg/kg	Core[3]	1/year

[1] Dry weight basis.
[2] Sediment grain size analyses shall be performed on each sediment sample (sufficiently detailed to calculate weight in relation to phi size).
[3] A separate grab sample shall be collected at each station whenever a biological sample is collected. Sub-samples (upper two centimenters) shall be taken from the grab for sediment chemistry analyses.
[4] Pesticides shall mean aldrin, chlordane, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, dieldrin, alpha-endosulfan, beta-endosulfan, endosulfan sulfate, endrin, heptachlor, heptachlor epoxide, and toxaphene.
[5] PAHs shall mean acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene and pyrene.

C. Bioaccumulation Monitoring (Monitoring Location MUS-001, MUS-002 and MUS-003)

Naturally occurring mussels (*Mytilus* spp.) shall be collected during the summer from the discharge conduit, as close to the point of discharge as possible, for bioaccumulation monitoring. If mussels are unavailable near the discharge site, source mussels may be transplanted from clean locations and left in place for 30-60 days. Mussel tissue shall be analyzed for the parameters listed in the Table below.

Table E-9. Mussels Bioaccumulation (Monitoring Locations MUS-001, MUS-002 and MUS-003)

Parameter	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Arsenic	Tissue	1/(2 years)	[1]
Berylium	Tissue	1/(2 years)	[1]
Cadmium	Tissue	1/(2 years)	[1]
Chromium (III)	Tissue	1/(2 years)	[1]
Lead	Tissue	1/(2 years)	[1]
Mercury	Tissue	1/(2 years)	[1]
Nickel	Tissue	1/(2 years)	[1]
Selenium	Tissue	1/(2 years)	[1]
Silver	Tissue	1/(2 years)	[1]
Thallium	Tissue	1/(2 years)	[1]
Zinc	Tissue	1/(2 years)	[1]
Pesticides[2]	Tissue	1/(2 years)	[1]
PAHs[3]	Tissue	1/(2 years)	[1]

[1] Procedures used to determine compliance with bioaccumulation monitoring should use the *USEPA. Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories* (November 2000, EPA 823-B-00-007), NOAA Technical Memorandum NOS ORCA 130, *Sampling and Analytical Methods of the National Status and Trends Program Mussel Watch Project* (1998 update), and/or State Mussel Watch Program, 1987-1993 Data Report, State Water Resources Control Board 94-1WQ.

[2] Pesticides shall mean aldrin, chlordane, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, dieldrin, alpha-endosulfan, beta-endosulfan, endosulfan sulfate, endrin, heptachlor, heptachlor epoxide, and toxaphene.

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

D. Video/Cine Transects (Monitoring Locations TRN-001, TRN-002 and TRN-003)

Video or cine transect stations shall be occupied and sampled semi-annually during the summer and winter as follows:

1. Cine transects shall be filmed (or videotaped) by diver operated camera during a swim along the bottom following a 50 meter transect line marked at 1-meter intervals.

2. Fishes and macroinvertebrates shall be reported as counts per transect, by species. This number shall be standardized by dividing it by underwater visibility in meters.

3. Cine transects shall be conducted only when underwater visibility exceeds 3 meters.

E. Receiving Water Monitoring at the Zone of Initial Dilution (Monitoring Location ZID-001)

The Discharger shall monitor the receiving water outside the zone of initial dilution (ZID) within the waste field at Monitoring Location ZID-001 as shown in the table below. Alternatively, this requirement may be met by the annual receiving water monitoring at stations RSW-10 through RSW-16 if the Discharger is able to demonstrate that one of these stations is located outside of ZID where initial dilution is complete.

Table E-10. Compliance Monitoring at the Zone of Initial Dilution at Monitoring Location ZID-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
All Table 1 Parameters in the Ocean Plan (Including toxicity)	--	Grab	1/Permit Term[1]	[2]

1. The Discharger shall conduct compliance monitoring at Monitoring Location ZID-001 at least once during the term of this Order at a time of discharge from Discharge Point 001
2. Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136. For priority pollutants, the methods must meet the lowest minimum levels (MLs) specified in Appendix II of the Ocean Plan (2012) that is required to demonstrate compliance. Where no methods are specified for a given pollutant, the methods must be approved by this Regional Water Board or the State Water Board.

F. Regional Monitoring Program

1. Discharger participation in regional monitoring programs is required as a condition of this permit. While participation in regional programs is required under this permit, revisions to the Discharger's monitoring program at the direction of the Regional Water Board may be necessary to accomplish the goals of regional monitoring or to allow the performance of special studies to investigate regional or site-specific water issues of concern. These revisions may include a reduction or increase in the number of parameters to be monitored, the frequency of monitoring, or the number and size of samples to be collected. Such changes may be authorized by the Executive Officer upon written notification to the Discharger.

The regional programs which must be conducted under this permit include:

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

b. Central Region Kelp Monitoring Program – quarterly overflights to assess kelp beds.

2. Regular regional monitoring for the Southern California Bight has been established, occurring at four- to five-year intervals, and coordinated by the Southern California Coastal Water Research Project with discharger agencies and numerous other entities. The sixth regional monitoring program is expected to begin during 2018. The Discharger shall complete collection and analysis of samples in accordance with the schedule established by the Steering Committee directing the Bight-wide regional monitoring surveys. The level of participation shall be similar to that provided by the Discharger in previous regional surveys conducted in 1994, 1998, 2003, 2008 and 2013.

3. The Regional Water Board has helped to establish the Central Region Kelp Survey Consortium to conduct regional kelp bed monitoring. This program is designed to require ocean dischargers in the Los Angeles Water Board's jurisdiction to undertake a collaborative program (which may include participation by Orange County ocean dischargers) to monitor kelp beds in the Southern California Bight, patterned after the successful program implemented by the San Diego Regional Water Board since 1985.

Data collected in this regional survey will be used to assess status and trends in kelp bed health and spatial extent. The regional nature of the survey will allow the status of beds local to specific dischargers to be compared to regional trends. The regional kelp monitoring survey was initiated during 2003.

The regional survey will consist primarily of quarterly aerial overflights to assess the size and health of existing kelp beds. The Discharger shall participate in the management and technical committees responsible for development of the final survey design. The Discharger also shall provide appropriate financial support to help fund the survey; the shared funding costs will be based on the number of participants in the study, but shall not exceed a maximum of $10,000 per year per share.

IX. OTHER MONITORING REQUIREMENTS

A. Visual Monitoring of Receiving Water Sampling Point

1. A visual observation station shall be established in the vicinity of the discharge point to the receiving water.

2. General observations of the receiving water shall occur semiannually when receiving water monitoring occurs, and this shall occur at a time when the Facility is discharging. 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 noted. The following observations shall be made:

a. Tidal stage, time and date of monitoring.

b. General water and 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. Description of odor, if any, of the receiving water.

g. Depth at each station for each sample point.

h. Presence or absence of red tide.

i. Presence of marine life.

j. Presence and activity of the California least term and the California brown pelican.

k. Presence or absence of trash.

B. Outfall and Diffuser Inspection

The ocean outfall shall be externally inspected a minimum of once per permit term. Inspections shall include observations and photographic/videographic records of the outfall pipes and adjacent ocean bottom. The pipes shall be visually inspected by a diver, manned submarine, or remotely operated vehicle. A summary report of the inspection findings of the previous year shall be included in the annual monitoring report (due by February 1 of each year). This written report, augmented with videographic and/or photographic images, will provide a description of the observed condition of the discharge pipe from shallow water to the terminus.

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

B. Self-Monitoring Reports (SMRs)

1. The Discharger shall electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). The CIWQS Web site will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal.
2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through X. The Discharger shall submit quarterly and annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.
3. Monitoring periods and reporting for all required monitoring shall be completed according to the schedule in the table below. The schedule will commence on the closest monitoring period start date following or on the permit effective date.

Table E-11. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period	Start Date	Duration	SMR Due Date
Continuous	All	Permit effective date	Ongoing	Submit with quarterly SMR
1/month	Monthly	First day of each calendar month	First day of calendar month through last day of calendar month	Submit with quarterly SMR
1/quarter	1st Quarter	January 1, 2017	January 1 through March 31	May 1
	2nd Quarter	April 1, 2017	April 1 through June 30	August 1
	3rd Quarter	July 1, 2017	July 1 through September 30	November 1
	4th Quarter	October 1, 2017	October 1 through December 31	February 1
2/year	1st Semiannual	January 1, 2017	January 1 through June 30	August 1
	2nd Semiannual	July 1, 2017	July 1 through December 31	February 1
1/year	Annual	January 1, 2017	January 1 through December 31	February 1

4. **Reporting Protocols.** The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 C.F.R. part 136.

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

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

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

   For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ. The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (± a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

   c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

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

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

6. **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.

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

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

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

C. Discharge Monitoring Reports (DMRs)

1. On August 1, 2014, notification was given specifically for the electronic submittal of DMRs. Therefore, the Discharger shall submit DMRs electronically via CIWQS.

D. Other Reports

1. The Discharger shall report the results of the TRE/TIE, SWPP, BMP Plan, and SCP required by Special Provisions – IX.C of this Order. The Discharger shall submit reports with the first quarterly 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

c. Updated BMPP

d. Updated SCP

3. The receiving water monitoring report containing the results of bimonthly, semiannual and annual monitoring shall be received at the Regional Water Board by **March 1** of each year following the calendar year of data collection.

4. The initial dilution ratio of 11.5:1 (receiving water to effluent) established in Order No. 00-085 is retained in this Order contingent on the Facility ceasing discharges from Discharge Point 001 by December 31, 2020. If discharges will continue past that date, the Discharger must provide advanced notification to the Regional Water Board, as well as a work plan to timely complete a mixing zone study. The study shall identify the boundary of the zone of initial dilution (ZID) based on modeling results, and include monitoring upstream of the discharge point, directly above the discharge location, at the boundary of the ZID and outside the ZID for the list of constituents included in Table 1 of the Ocean Plan, to confirm the assumptions made by the model.

ATTACHMENT F – FACT SHEET

CONTENTS

TABLES

ATTACHMENT F – FACT SHEET

As described in section II.B of this Order, the California Regional Water Quality Control Board, Los Angeles Region (Regional Water Board) incorporates this Fact Sheet as findings of the Regional Water Board supporting the issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	4B192111003
Discharger	AES Redondo Beach LLC
Name of Facility	Redondo Beach Generating Station
Facility Address	1100 North Harbor Drive
	Redondo Beach, CA 90277
	Los Angeles County
Facility Contact, Title and Phone	Jose Perez, Site Leader, (310) 318-7575
Authorized Person to Sign and Submit Reports	Jose Perez, Site Leader, (310) 318-7575
Mailing Address	1100 North Harbor Drive, Redondo Beach, CA 90277
Billing Address	SAME
Type of Facility	Industrial (Electric Services Steam Generation; SIC 4911)
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	N/A
Recycling Requirements	N/A
Facility Permitted Flow	Discharge Point 001 - 215 MGD Discharge Point 002 - 674 MGD
Facility Design Flow	Discharge Point 001 - 215 MGD Discharge Point 002 - 674 MGD
Watershed	Santa Monica Bay Watershed Management Area
Receiving Water	Pacific Ocean (Discharge Point 001), King Harbor (Discharge Point 002)
Receiving Water Type	Ocean waters (Discharge Point 001), enclosed bay (Discharge Point 002)

A. AES Redondo Beach, LLC is the owner and operator of the Redondo Beach Generating Station, a steam-electric generating facility located at 1100 North Harbor Drive in Redondo Beach, California. AES Redondo Beach LLC is hereinafter referred to as Discharger. Redondo Beach Generating Station is hereinafter referred to as Facility. Attachment B of this Order includes a map of the Facility location.

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 Pacific Ocean, a water of the United States. The Facility also discharges wastewater to King Harbor, a water of the United States within the Santa Monica Bay Watershed Management Area. The Discharger was previously regulated by Order No. 00-085 which was adopted on May 9, 2000, modified on June 29, 2000, and expired on May 10, 2005.

C. The Discharger filed a Report of Waste Discharge (ROWD) and submitted an application for reissuance of its WDRs and NPDES Permit on November 12, 2004.The renewal of the permits for coastal power plants was delayed as a result of efforts to develop and implement the Statewide Water Quality Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling (OTC Policy). The OTC Policy was adopted on October 1, 2010, and amended on June 18, 2013. The amendment specified that the Regional Water Board would review, update and renew these permits. On August 7, 2014, the Regional Water Board requested an updated ROWD to reflect the current conditions/operations at the Facility. The Discharger filed an updated ROWD on September 29, 2014. Supplemental information was requested on October 15, 2014 and received on November 7, 2014. The application was deemed complete on November 12, 2014.

D. Pursuant to the provisions of the Code of Federal Regulations (C.F.R.) [40 C.F.R. section 122.6] and the California Code of Regulations [Title 23, Section 2235.4], Order No. 00-085 was administratively extended until the adoption of a new order.

E. A site visit was conducted on June 23, 2014, to observe operations and collect additional data to develop permit limitations and requirements for waste discharge.

II. FACILITY DESCRIPTION

The Facility is a generating station with a capacity of 1,356 megawatts that operates during peak demand. There are four active fossil-fueled, steam-powered electric generating units on site (Units 5-8). Units 1-4 are no longer in service. The generating units operate using once-through-cooling (OTC) water drawn from two submerged intakes in King Harbor and one submerged intake in Santa Monica Bay using circulation pumps.

The Facility discharges OTC water, low volume wastewater, and storm water to the Pacific Ocean through Discharge Point 001, located off the northwest corner of the King Harbor breakwater. The Facility also discharges OTC water and storm water to King Harbor through Discharge Point 002, located in the southeast corner of the harbor. OTC water accounts for greater than 99 percent of the total discharge from the Facility. Process wastewaters are combined with OTC water prior to discharge. The ROWD submitted by the Discharger indicated a maximum discharge of 215 million gallons per day (MGD) from Discharge Point 001 and 674 MGD from Discharge Point 002. The flows represent the maximum capacities of the cooling water systems combined with the maximum flows of all contributing in-plant waste streams.

A. Description of Wastewater and Biosolids Treatment and Controls

Wastewater treatment units at the plant consist of several oil/water separators and three retention basins (the North, Acid, and South Basins). The North and Acid Basins have been out of service since 2011. In-plant waste streams generated at Units 5-8 are treated in the South Basin prior to discharge through Discharge Point 001.

1. Once-Through Cooling Water

Cooling water for the Facility is withdrawn from three submerged offshore intakes—two located in King Harbor and one located just outside the King Harbor breakwater. Units 5 and 6 withdraw cooling water from the two 10-foot diameter intakes in King Harbor and Units 7 and 8 withdraw cooling water from a 14-foot diameter intake located just outside the breakwater.

The intakes for Units 5 and 6 terminate in a shared 50-foot-wide forebay which splits into four 10.2 foot-wide bays each equipped with trash racks and traveling water screens which prevent debris from entering the cooling water system. Downstream of the four traveling screens are four circulating water pumps, each with a design pumping capacity of 37,000 gallons per minute (gpm).

The intake for Units 7 and 8 terminates in a single 55-foot-wide forebay which splits into four 11.2-foot-wide bays each equipped with trash racks and traveling water screens. Downstream of the four traveling screens are four circulating water pumps, each with a design pumping capacity of 117,000 gpm.

Marine biofouling—the formation of an insulating layer of slime-producing organisms on the cooling water conduits and forebays—is controlled by heat treatments and chlorine injection. During heat treatments, a portion of the heated discharge water is diverted into the respective forebays and intake conduits to raise water temperature. The water is raised to a temperature of 115ºF for a duration of 1 hour and 40 minutes. This effectively increases the temperature of the circulating water and extirpates many encrusting organisms that adhere to cooling structures. As a result of the heat treatments, calcareous shell debris accumulates in the intake structure and may appear in the discharge.

In addition to bio-fouling of the intake structure, the use of ocean water as a matrix for heat removal can result in bio-fouling of conduits and heat-transfer structures within the Facility. Biological growths which accumulate within the structures of the once-through cooling water system reduce the heat transfer efficiency of the condensers. Periodic chlorination of intake water is performed to control biological growths.

7. Internal Process Wastewater

The Facility is permitted to discharge a number of process wastewaters which are commingled with once-through cooling water prior to discharge. These permitted waste streams include: low volume wastes, storm water runoff and groundwater dewatering.

a. Low Volume Wastes. Low-volume wastes include wastes from boiler blowdown, boiler condensate overboard, reverse osmosis reject water and in-plant drains. Low volume wastes are collected in the South Basin which has a capacity of 1,000,000 gallons. The maximum discharge of low volume wastes from the retention basin is 864,000 gpd which includes various combinations of the following:

i. Boiler Blowdown. Water is occasionally removed from the boilers using steam pressure. This process is known as boiler blowdown and is used to control the buildup of total dissolved solids in the boiler. The sources of impurities in the boiler are the intake water; internal corrosion of the boiler; and chemicals added to the boiler system to control scale formation, corrosion, pH and solids deposition. Blowdown is necessary during startup, shutdown, and occasionally necessary during normal operation. The flow rate from the blowdown process is up to 10,000 gallons per event. There is the potential for several blowdown events per day so the maximum volume can be up to 60,000 gpd. Boiler

blowdown water from Units 5 and 6 is discharged to the South Basin (Units 7 and 8 do not generate boiler blowdown waste).

ii. **Boiler Drains.** Water is drained from the boilers at each shut-down. During Units 5 and 6 shut-downs, approximately 50,000 gallons of water is drained and directed to the South Basin. During Units 7 and 8 shut-downs, approximately 30,000 gallons of water is drained and directed to the South Basin.

iii. **Boiler Condensate Overboard.** Under normal operating conditions there is no condensate overboard discharge. Condensate overboard discharges, which generally occur only during unit start-up, are primarily composed of condensed steam. Condensate overboard is directly discharged to the receiving water and does not undergo treatment. Boiler condensate overboard produced in Units 5 and 6 (approximately 25,000 gallons per start-up) and in Units 7 and 8 (approximately 25,000 gallons per start-up) are directed to Discharge Point 001.

iv. **Polisher Regeneration.** Units 7 and 8 have in-line polishers that use ion exchange resin to remove ionized contaminants and filter corrosion products (crud) from the boiler feed water condensate so that it can be recycled to the boiler. When the resin's ion removal capacity has been exhausted, the resin must be regenerated with acid and caustic to regain its ability to remove contaminants. Units 7 and 8 polishers are regenerated approximately 1.5 times per start-up. The volume of waste water produced in the polisher regeneration process is approximately 90,000 gallons and is directed to the South Basin.

v. **Reverse Osmosis Reject Water.** This discharge consists of reverse osmosis reject water. Reverse osmosis is used to purify water used in the Facility processes. The maximum volume of reverse osmosis reject water is 40,000 gpd, which is directed to the South Basin.

vi. **Power Block Floor Drains.** Power block floor drains collect equipment wash water, residual oil, detergent, power block area storm water runoff and OTC saltwater leaks. Wastes collected in floor drains within each power block (up to 864,000 gpd) are treated in the South Basin and discharged at Discharge Point 001.

b. **Metal Cleaning Wastes.** Metal cleaning wastes, both chemical and non-chemical, are periodically generated when the metallic surfaces of Facility systems are cleaned. Air preheater and boiler fireside washes are conducted manually without the use of chemical cleaning agents. Other Facility equipment (i.e. boilers) require chemical-based cleanings to remove scale, rust, and corrosion accumulated during normal operation. The Facility previously retained the capacity to discharge these wastes to the receiving water. The discharge of metal cleaning wastes has ceased and these wastes are currently contained and transported offsite to an authorized waste facility. A review of monitoring data submitted by the Discharger found that no discharge of metal cleaning wastes occurred between November, 2010 and November, 2015. Therefore, effluent limitations and monitoring requirements for metal cleaning wastes from the prior order have not been retained in this Order.

c. **Storm Water Runoff from Yard Drains.** Storm water runoff from the paved exteriors of the Facility and runoff from city streets is collected by yard drains and directed through four drainage systems. One system drains runoff from the southwestern area of the Facility to the South Basin where it is commingled with

other low volume wastes. Another system drains runoff from the central area of the Facility to the intake for Units 5 and 6 where it is commingled with OTC water. Another system drains runoff from the southern area of the Facility to the intake for Units 7 and 8 where it is commingled with OTC water. The final system drains runoff from the northern area of the Facility without further treatment to storm water outfall D1. Discharges from the Facility through outfall D1 are covered under the statewide General Industrial Storm Water permit (NPDES No. CAS000001).

d. Groundwater Dewatering. An accumulation of groundwater seepage occurs at the Facility. The water is a mixture of seawater, fresh groundwater and barrier injection water from the West Coast Basin Barrier Project—a seawater intrusion barrier system owned and operated by the Los Angeles County Flood Control District. A well point system extracts groundwater at an average rate of 1.5 MGD. The untreated groundwater is conveyed directly to Discharge Point 001 where it is commingled with OTC water and low volume wastes prior to effluent monitoring. This Order does not require monitoring of the dewatered groundwater.

B. Discharge Points and Receiving Waters

1. Discharge Point 001

The Facility discharges once through cooling (OTC) water from Units 5 and 6, and various in-plant wastes through Discharge Point 001. Discharge Point 001 is located at the end of an outfall structure that extends 1,600 feet offshore to the Santa Monica Bay (latitude 33.8494444°, longitude -118.4022222°, terminus depth 25 feet below Mean Lower Low Water (MLLW)). The discharge through Discharge Point 001 is an ocean discharge.

Order No. 00-085 established an initial dilution ratio for discharges from Discharge Point 001 of 11.5:1 (receiving water to effluent). Dilution for the discharge was established on the basis of technical memorandums submitted by Southern California Edison (SCE), the previous owner of the Facility, and the State Water Board.

Memorandums from SCE dated January, 1979, and April 13, 1979, developed the technical basis for the dilution ratio estimate. The estimate was developed on the basis of field estimates using eight sets of effluent and ambient temperature data in the immediate vicinity of the outfall. The estimate was further extrapolated on the basis of typical plume behavior for shallow water discharges of this type. A memorandum from the State Water Board dated May 4, 1984, incorporated the SCE approach with several modifications.

The initial dilution ratio of 11.5:1 (receiving water to effluent) established in Order No. 00-085 is retained in this Order for Discharge Point 001 which discharges to the ocean. As per the OTC Policy the Facility will cease discharges from Discharge Point 001 by December 31, 2020. If discharges will continue past that date, the Discharger must provide advanced notification to the Regional Water Board, as well as a work plan to timely complete a mixing zone study. The study shall identify the boundary of the zone of initial dilution (ZID) based on modeling results, and include monitoring upstream of the discharge point, directly above the discharge location, at the boundary of the ZID and outside the ZID for the list of constituents included in Table 1 of the Ocean Plan, to confirm the assumptions made by the model.

2. Discharge Point 002

The Facility discharges OTC water from Units 7 and 8 through Discharge Point 002. Discharge Point 002 is located at the end of an outfall structure that extends 300 feet

offshore to King Harbor (latitude 33.843º, longitude -118.394º, terminus depth 20 feet below MLLW).

Order No. 00-085 considered the receiving waters (King Harbor) as ocean waters and therefore established permit limitations and conditions to protect beneficial uses and water quality objectives for ocean waters as described by the California Ocean Plan (1997). The Basin Plan (Figure 2-10 and Table 2-3), however, classifies King Harbor as an enclosed bay. The State Water Board, in a memo dated July 18, 2001, identifies the receiving waters for the Facility as subject to requirements of the State Implementation Policy (SIP), which is applicable to the inland surface waters, enclosed bays, and estuaries of the State. In a letter dated January 21, 2003, the Regional Water Board notified the Discharger of the reclassification of the outfall from an ocean discharge to an enclosed bay discharge. This Order reflects the reclassification of the discharge location and therefore implements the SIP.

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

Order No. 00-085 included effluent limitations for all discharges from Discharge Points 001 and 002 as well as specific effluent limitations for discharges of metal cleaning wastes and low volume wastes. For the purpose of the renewal of an existing permit, Regional Water Board staff considers SMR data submitted during the term of the prior permit, typically a five-year period. Due to the delay in the renewal of the permits for coastal power plants discussed in Section I.C above Order No. 00-085 has been in effect for a period of more than fourteen years. For the purpose of development of this Order, SMR data from only the last five years was analyzed as would typically be the case for permit renewal. SMR data collected between November, 2009 and September, 2015 were analyzed. As explained in section II.B above, the effluent limitations from the prior order were based on the California Ocean Plan (1997). The effluent limitations from the prior order for discharges from Discharge Points 001 and 002 and representative monitoring data are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitations			Monitoring Data	
		Average Monthly	Maximum Daily	Instantaneous Minimum/ Maximum	Average Monthly	Maximum Daily
Effluent Limitations and Monitoring Data for Discharge Point 001[1]						
pH	S.U.	--	--	6.0/9.0	--	7.22-8.6
Temperature	ºF	--	--	[2]	--	120
Total Residual Chlorine[3,4]	mg/L	--	0.2	--	--	0.08
Free Available Chlorine	mg/L	--	0.2	--	--	0.05
Arsenic, Total Recoverable	µg/L	65.5	366	--	29.4	29.4
Cadmium, Total Recoverable	µg/L	12.5	50	--	DNQ, RL = 1	DNQ, RL = 1
Chromium (VI)[5]	µg/L	25	100	--	ND	ND
Copper, Total Recoverable	µg/L	14.5	77	--	11.2	11.2
Lead, Total Recoverable	µg/L	25	100	--	DNQ, RL = 1	DNQ, RL = 1
Mercury, Total Recoverable	µg/L	0.494	2.0	--	DNQ, RL = 0.2	DNQ, RL = 0.2
Nickel, Total Recoverable	µg/L	62.5	250	--	1.47	1.47
Selenium, Total Recoverable	µg/L	188	752	--	0.359	0.414

Parameter	Units	Effluent Limitations			Monitoring Data	
		Average Monthly	Maximum Daily	Instantaneous Minimum/ Maximum	Average Monthly	Maximum Daily
Silver, Total Recoverable	µg/L	7.0	33	--	4.46	4.46
Zinc, Total Recoverable	µg/L	158	908	--	34.8	47.7
Chronic Toxicity	TU_c	--	12.5	--	--	2
Radioactivity	pCi/L	[6]			--	NR
Effluent Limitations and Monitoring Data for Discharge Point 002[1]						
pH	S.U.	--	--	6.0/9.0	--	6.61-8.55
Temperature	°F	--	--	[2]	--	101.1/ 111.6
Total Residual Chlorine[3,4]	mg/L	--	0.2	--	--	ND
Free Available Chlorine	mg/L	--	0.2	--	--	ND
Arsenic, Total Recoverable	µg/L	43	235	--	27.6	27.6
Cadmium, Total Recoverable	µg/L	8	32	--	DNQ, RL = 1	DNQ, RL = 1
Chromium (VI)[5]	µg/L	16	64	--	ND	DNQ, RL = 0.4
Copper, Total Recoverable	µg/L	10	50	--	18.6	42.2
Lead, Total Recoverable	µg/L	16	64	--	0.676	1.12
Mercury, Total Recoverable	µg/L	0.317	1.27	--	0.068	0.068
Nickel, Total Recoverable	µg/L	40	160	--	26.9	27.1
Selenium, Total Recoverable	µg/L	120	480	--	ND	ND
Silver, Total Recoverable	µg/L	4.48	21	--	3.7	3.7
Zinc, Total Recoverable	µg/L	104	548	--	21.7	133
Chronic Toxicity	TU_c	--	8.0	--	--	1
Radioactivity	pCi/L	[6]			--	NR
Effluent Limitations and Monitoring Data for Metal Cleaning Wastes						
Total Suspended Solids	mg/L	30	100	--	[7]	
Oil and Grease	mg/L	15	20	--		
Copper, Total Recoverable	mg/L	1.0	1.0	--		
Iron, Total Recoverable	mg/L	1.0	1.0	--		
Effluent Limitations and Monitoring Data for Low Volume Wastes						
Total Suspended Solids	mg/L	30	100	--	33	111
Oil and Grease	mg/L	15	20	--	12	22
Effluent Limitations and Monitoring Data for Yard Drains						
Total Suspended Solids	mg/L	30	100	--	28	28
Oil and Grease	mg/L	15	20	--	2.3	2.3

ND: Not Detected, DNQ: Detected but Not Quantified, NR: Not Reported, RL: Reporting Limit

[1] Concentration limits are based on Ocean Plan objectives using a dilution ratio of 11.5 parts of seawater to 1 part effluent. Metal limits are for total recoverable form.

[2] The temperature of wastes discharged shall not exceed 106°F during normal operation of the facility. During heat treatment, the temperature of wastes discharged shall not exceed 125°F except during adjustment of the recirculation gate at which time the temperature of wastes discharged shall not exceed: 135°F. Temperature fluctuations during gate adjustment above 125°F shall not 'last for more than thirty (30) minutes.

[3] Chlorine shall not be discharged from any single generating unit for more than two hours per day (i.e., 24-hour period). If other oxidants are used, it shall be total oxidants and reported as residual chlorine.

[4] For chlorine discharge from any single generating unit up to 10 minutes per condenser half per shift, the daily limit of total residual chlorine is 0.2 mg/L. For chlorine discharges exceeding 10 minutes, the applicable total residual chlorine limitations shall be that calculated using procedures outlined in Table 1 of the California Ocean Plan adopted and effective on July 23, 1997.

[5] The discharger has the option to meet the hexavalent chromium limitations with a total chromium analysis. However, if the total chromium level exceeds the hexavalent chromium limitation, it will be considered a violation unless an analysis has been made for hexavalent chromium in a replicate sample and the result is in compliance with the hexavalent chromium limits.

[6] Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30269 of the California Code of Regulations or subsequent revisions.

[7] No discharge of metal cleaning wastes occurred between November, 2010 and November, 2015.

D. Compliance Summary

Data submitted to the Regional Water Board during the last five years of the term of Order 00-085 indicate that the Discharger has experienced violations of numeric permit limits as outlined in the table below:

Table F-3. Effluent Limitation Violations

Date	Type of Limitation	Pollutant	Units	Effluent Limitation	Result
10/19/2011	MDEL[1]	Oil and Grease	mg/L	20	22
11/30/2011	AMEL[2]	Copper	µg/L	10	19

[1] Effluent limitation for low volume wastes.
[2] Effluent limitation for Discharge Point 002.

The Regional Water Board has also identified multiple instances where the Discharger failed to sample for pH as required. These instances of non-compliance were addressed through oral communication with the Discharger to clarify the requirements.

The 2011 violation for oil and grease was classified as a Class 3 (minor) violation. Sampling for oil and grease in low volume wastes has been conducted monthly since this violation and all results have been within the effluent limitations. Therefore, no enforcement action was necessary.

The 2011 violation for copper was classified as a Class 2 (moderate) violation. Sampling for copper at Discharge Point 002 has been conducted monthly since this violation and all results have been within the effluent limitations. Therefore, no enforcement action was necessary.

E. Planned Changes

The Discharger indicates that changes are planned to comply with the requirements of Clean Water Act Section 316(b). These changes are discussed in Section III.C.7 below.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the USEPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters

B. California Environmental Quality Act (CEQA)

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

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

1. **Water Quality Control Plan.** The Regional Water Board adopted a *Water Quality Control Plan Los Angeles Region Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (hereinafter Basin Plan) on June 13, 1994, that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan. In addition, the Basin Plan implements State Water Board Resolution 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to the Pacific Ocean and King Harbor are as follows:

Table F-4. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	Nearshore Zone: Industrial service supply (IND); navigation (NAV); water contact recreation (REC-1); non-contact water recreation (REC-2); commercial and sport fishing (COMM); marine habitat (MAR); wildlife habitat (WILD); preservation of biological habitats (BIOL)[1]; rare, threatened, or endangered species (RARE)[2]; migration of aquatic organisms (MIGR)[3]; spawning, reproduction, and/or early development (SPWN)[3]; and shellfish harvesting (SHELL)[4] Offshore Zone: Industrial service supply (IND); navigation (NAV); water contact recreation (REC-1); non-contact water recreation (REC-2); commercial and sport fishing (COMM); marine habitat (MAR); wildlife habitat (WILD); rare, threatened, or endangered species (RARE)[2]; migration of aquatic organisms (MIGR)[3]; spawning, reproduction, and/or early development (SPWN)[3]; and shellfish harvesting (SHELL) Redondo Beach: Industrial service supply (IND); navigation (NAV); water contact recreation (REC-1); non-contact water recreation (REC-2); commercial and sport fishing (COMM); marine habitat (MAR); wildlife habitat (WILD); rare, threatened, or endangered species (RARE); migration of aquatic organisms (MIGR); spawning, reproduction, and/or early development (SPWN)[3]; and shellfish harvesting (SHELL)
002	King Harbor	Existing: Industrial service supply (IND); navigation (NAV); water contact recreation (REC-1); non-contact water recreation (REC-2); commercial and sport fishing (COMM); marine habitat (MAR); wildlife habitat (WILD); and rare, threatened, or endangered species (RARE)

[1] Areas of Special Biological Significance (along coast from Latigo Point to Laguna Point) and Big Sycamore Canyon and Abalone Cove Ecological Reserves and Point Fermin Marine Life Refuge.
[2] One or more rare species utilizes all ocean, bays, estuaries, and coastal wetlands for foraging and/or nesting.
[3] Aquatic organisms utilize all bays, estuaries, lagoons, and coastal wetlands, to a certain extent, for spawning and early development. This may include migration into areas which are heavily influenced by freshwater inputs.
[4] Areas exhibiting large shellfish populations include Malibu, Point Dume, Point Fermin, White Point and Zuma Beach.

2. **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 Resources Control Board (State Water Board) as Resolution No. 95-84 on November 16, 1995, states that:

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

manner that it would enhance the quality of receiving waters above that which would occur in the absence of the discharge.

While the Facility discharges to King Harbor, the wastewater is comprised primarily of once-through cooling water (approximately 99 percent). The requirements to phase out discharges to enclosed bays and estuaries excludes once-through cooling water. In addition, this Order contains provisions necessary to protect all beneficial uses of the receiving water.

3. **Thermal Plan.** The State Water Board adopted the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan) on January 7, 1971, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. Definition 10 of the Thermal Plan states that any discharge which was taking place prior to the adoption of the plan is considered an existing discharge. The Facility was built and placed into service by Southern California Edison between 1954 and 1967, and is therefore considered an existing discharge. Water Quality Objective 3.A.1 of the Thermal Plan is applicable to existing thermal discharges to the coastal waters of California and therefore applicable to discharges from the Facility through Discharge Point 001:

   Elevated temperature wastes shall comply with limitations necessary to assure protection of the beneficial uses and areas of special biological significance.

   Water Quality Objective 4.A.1 of the Thermal Plan is applicable to existing thermal discharges to the enclosed bays of California and therefore applicable to discharges from the Facility through Discharge Point 002:

   Elevated temperature wastes shall comply with limitations necessary to assure protection of the beneficial uses.

   Requirements of this Order implement the Thermal Plan.

4. **California Ocean Plan.** The State Water Board adopted the Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, 2005, 2009, and 2012. The State Water Board adopted the latest amendment on October 16, 2012, and it became effective on August 19, 2013. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the state to be protected as summarized below:

Table F-5. Ocean Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
Outfall 001	Pacific Ocean	Industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture[1]; preservation and enhancement of designated Areas of Special Biological Significance (ASBS)[2]; rare and endangered species; marine habitat; fish migration; fish spawning and shellfish[3] harvesting

1. MARICULTURE is the culture of plants and animals in marine waters independent of any pollution source.
2. AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE (ASBS) are those areas designated by the State Water Board as requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable.
3. SHELLFISH are organisms identified by the California Department of Health Services as shellfish for public health purposes (i.e., mussels, clams and oysters).

In order to protect the beneficial uses, the Ocean Plan establishes water quality objectives and a program of implementation. Requirements of this Order implement the Ocean Plan.

5. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and 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 federal water quality criteria for priority pollutants. The CTR was used to develop effluent limits included in this Order.

6. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

7. **Clean Water Act Section 316(b) – Impingement and Entrainment.** CWA section 316(b) requires that the location, design, construction, and capacity of cooling water intake structures reflect the Best Technology Available (BTA) for minimizing adverse environmental impacts related to entrainment (drawing organisms into the cooling water system) and impingement (trapping organisms against the intake screens).

   On May 4, 2010 the State Water Board adopted a Statewide Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling (OTC Policy). The OTC Policy became effective on October 1, 2010.

   The OTC Policy establishes technology-based standards to implement federal CWA section 316(b) and reduce the harmful effects associated with cooling water intake structures on marine and estuarine life. The OTC Policy applies to existing power plants that currently have the ability to withdraw water from the State's coastal and estuarine

waters using a single-pass system, also known as once-through cooling. Closed-cycle wet cooling has been selected as BTA.

The Policy requires compliance under two alternatives:

a. Track 1, where an owner or operator of an existing power plant must reduce intake flow rate at each unit, at a minimum, to a level commensurate with that which can be attained by a closed-cycle wet cooling system. A minimum 93 percent reduction in intake flow rate for each unit is required for Track 1 compliance, compared to the unit's design intake flow rate. The through-screen intake velocity must not exceed 0.5 foot per second. The installation of closed cycle dry cooling systems meets the intent and minimum reduction requirements of this compliance alternative, or

b. Track 2, where an owner or operator of an existing power plant demonstrates to the State Water Board's satisfaction that compliance with Track 1 is not feasible, the owner or operator of an existing power plant must reduce impingement mortality and entrainment of marine life for the facility, on a unit-by-unit basis, to a comparable level to that which would be achieved under Track 1, using operational or structural controls, or both.

All owners or operators of existing power plants were required to submit an implementation plan identifying the OTC compliance alternative selected by April 1, 2011. The Discharger submitted an implementation plan on April 1, 2011. A revised implementation plan was later submitted on June 17, 2011. Additional implementation information was submitted on March 31, 2013 and November 8, 2013. Per the submitted information, the Discharger has indicated that the proposed mechanism to bring all of its units (5, 6, 7 and 8) into OTC compliance will be via Track 1.

The Track 1 compliance will be completed in two phases and will consist in the construction of dry-cooled natural gas-fired combined cycle gas turbine (CCGT) power blocks. Phase 1 consists of the conversion of Units 6 and 8 to CCGT power blocks. Phase 2 consists of the conversion of Units 5 and 7 to CCGT power blocks. The OTC Policy includes a final completion date of December 31, 2020 for the completion of both phases.

OTC Policy Compliance Update

On February 12, 2016, the Discharger submitted to the State Water Board supplemental information for the OTC compliance implementation plan. This submission indicated that Units 5-8 are fully contracted through May 31, 2018, and will remain in operation at least through that date. The submission also indicated that due to Power Purchase Agreements awarded to the AES Alamitos and AES Huntington Beach generating stations, the shutdown of Units 5-8 will be required prior to the OTC Policy compliance date of December 31, 2020. Therefore, the Discharger is not considering alternatives for continued operation of the Facility (i.e. the conversion of Units 5-7 to CCGT power blocks) beyond that date.

At a meeting with the Regional Water Board on May 3, 2016, the Discharger indicated that the current plan is to permanently retire the Facility between May, 2018 and December, 2020. The Facility is no longer planning to construct new CCGT power blocks and the discharge of OTC water will cease when the Facility is permanently retired.

8. Antidegradation Policy. Federal regulation 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16 ("Statement of Policy with Respect to Maintaining

High Quality of Waters in California"). Resolution 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of section 131.12 and State Water Board Resolution 68-16.

9. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

10. **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 and endangered species. The discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

11. **Trash Provisions Requirements.** The State Water Board adopted a narrative water quality objective and implementation requirements to control trash, through resolution 2015-0019 *"Amendment to the Ocean Plan and Part I Trash Provisions of the Water Quality control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California"* (Trash provisions). The Resolution was approved by OAL on December 2, 2015 and became effective upon USEPA approval on January 12, 2016. The Trash Provisions apply to all surface waters of the State, with the exception of those waters within the jurisdiction of the Regional Water Board where trash or debris Total Maximum Daily Loads (TMDLs) are in effect prior to the effective date of the Trash Amendments. There are currently no Trash TMDLs applicable to the discharge described in this Order; therefore the discharge is subject to Trash Provisions. This Order includes a prohibition of discharges of trash to surface water. In addition, through requirements to implement BMPs, this Order, satisfies conditions of the Trash Provisions.

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 CWA section 303(d)-listed water bodies and pollutants, the Regional Water Board develops and adopts TMDLs that specify WLAs for point sources and load allocations (LAs) for non-point sources, as appropriate.

The USEPA approved the State's 2012 CWA section 303(d) list of impaired water bodies on June 26, 2015. Certain receiving waters in the Los Angeles and Ventura County watersheds do not fully support beneficial uses and therefore have been classified as impaired on the 2012 CWA section 303(d) list and have been scheduled for TMDL development.

The Facility discharges once-through cooling water commingled with internal process wastewater into the Santa Monica Bay. The 2012 State Water Board's California CWA section 303(d) List classifies the Santa Monica Bay (Offshore and Nearshore, including Redondo Beach and King Harbor) as impaired. The pollutants of concern include: DDT (tissue & sediment), PCBs (tissue & sediment), sediment toxicity, debris, and fish

consumption advisory (due to DDT and PCBs). The inclusion of the Santa Monica Bay on the 2012 CWA section 303(d) list documents the waterbody's lack of assimilative capacity for the pollutants of concern. The 2012 list also classifies the Santa Monica Bay Beaches as impaired for indicator bacteria.

E. Santa Monica Bay Debris TMDL

The Regional Water Board adopted Resolution No. R10-101 on November 4, 2010, that amended the Basin Plan to incorporate the *Santa Monica Bay Nearshore and Offshore Debris TMDL* (Santa Monica Bay Debris TMDL). The TMDL was approved by the USEPA on March 20, 2012. Responsible parties identified in the TMDL include agencies and jurisdictions under the Municipal Separate Storm Sewer System (MS4) NPDES Program. The TMDL does not include requirements applicable to the Discharger. Therefore, this Order does not contain requirements based on the Santa Monica Bay Debris TMDL.

F. Santa Monica Bay DDTs and PCBs TMDL

The USEPA established the *Santa Monica Bay Total Maximum Daily Loads for DDTs and PCBs* (Santa Monica Bay DDTs and PCBs TMDL) on March 26, 2012. The TMDL includes waste load allocations for DDTs and PCBs for point sources, including the Facility. This Order implements the requirements of the Santa Monica Bay DDTs and PCBs TMDL.

G. Santa Monica Bay Beaches Dry Weather and Wet Weather Bacteria TMDLs

The Regional Water Board adopted Resolution No. 2002-004 on January 24, 2002, that amended the Basin Plan to incorporate the *Santa Monica Bay Beaches Dry Weather Bacteria TMDL*. The TMDL was approved by the USEPA on June 13, 2003. The Regional Water Board adopted Resolution No. 2002-022 on December 12, 2002, that amended the Basin Plan to incorporate the *Santa Monica Bay Beaches Wet Weather Bacteria TMDL*. The TMDL was approved by the USEPA on June 19, 2003. Responsible parties identified in these TMDLs include agencies and jurisdictions under the MS4 NPDES Program. These TMDLs do not include requirements applicable to the Discharger. Therefore, this Order does not contain requirements based on these TMDLs.

H. Other Plans, Polices and Regulations—Not Applicable

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. section 122.44(d) requires that permits include 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.

Pollutants of concern for the discharges covered under this Order were based on effluent monitoring data, constituents regulated under Order No. 00-085, and the pollutants on the 303(d) list for the Santa Monica Bay. Order No. 00-085 included effluent limitations for pH, temperature, total residual chlorine, free available chlorine, arsenic, cadmium, chromium (VI), copper, lead, mercury, nickel, selenium, silver, zinc, chronic toxicity and radioactivity. The Santa Monica Bay is listed as impaired for DDT (tissue & sediment), PCBs (tissue & sediment), sediment toxicity, debris, and fish consumption advisory (due to DDT and PCBs). Also, the Santa Monica Bay Beaches are listed as impaired for indicator bacteria.

A. Discharge Prohibitions

Discharge prohibitions in this Order are based on the Federal Clean Water Act, Basin Plan, Water Code, State Water Resources Control Board's plans and policies, California Ocean Plan, USEPA guidance and regulations, and previous permit provisions. As discussed in Sections IV.B.2 and IV.B.3 of this Fact Sheet, the discharge of polychlorinated biphenyl compounds (PCBs) is prohibited based on the standards applicable to steam-electric generating facilities contained in 40 C.F.R. part 423.

B. Technology-Based Effluent Limitations

1. Scope and Authority

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

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

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

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

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

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

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

2. Applicable Technology-Based Effluent Limitations

Pursuant to CWA section 306 (b) (1) (B), USEPA has established standards of performance for the steam electric power point source category, for existing and new sources at 40 C.F.R part 423. These regulations apply to the Facility as "*an establishment primarily engaged in the generation of electricity for distribution and sale which results primarily from a process utilizing fossil-type fuel … in conjunction with a thermal cycle employing the steam water system as the thermodynamic medium*" (40 C.F.R section 423.10). Standards of performance for existing facilities (instead of new source performance standards) are applicable to the Facility, because its construction was commenced before the publication of regulations on November 19, 1982, which proposed standards of performance for the industry.

The following are applicable technology-based standards of performance (BPT and BAT) applicable to the Facility from the ELGs for existing sources at 40 C.F.R part 423. The guidelines do not include standards of performance based on BCT.

The table below lists the Facility's waste streams subject to the ELGs for steam electric power generating point sources.

Table F-6. Plant Waste Streams Subject to Effluent Limitation Guidelines

Discharge Point	Waste Stream	ELG Classification	Volume (MGD)
001	Units 5-6 once –through cooling (OTC) water	OTC water	215
001	Retention basin discharge	Low volume wastes	0.864
002	Units 7-8 OTC water	OTC water	674

40 C.F.R. part 423 contains ELGs applicable to the following process waters: low volume wastes, fly ash transport water, bottom ash transport water, metal cleaning wastes (both chemical and non-chemical), once through cooling water, cooling tower blowdown, and discharges of coal pile runoff. Of these, the ELGs that apply to discharges from this Facility include: low volume wastes and once-through cooling water at Discharge Point 001; and OTC water at Discharge Point 002.

a. Standards of Performance Based on BPT

Applicable effluent limitations established on the basis of BPT are summarized as follows:

i. The pH of all discharges, except once-through cooling water, shall be within the range of 6.0 – 9.0 standard units [40 C.F.R section 423.12 (b) (1)].

ii. There shall be no discharge of polychlorinated biphenyl (PCB) compounds such as those commonly used for transformer fluid [40 C.F.R. section 423.12 (b) (2)].

iii. *Low volume wastes* are defined as wastewater sources for which specific limitations are not established by the effluent limitation guidelines at 40 C.F.R. part 423. The quantity of pollutants discharged from low volume waste sources shall not exceed the quantity determined by multiplying the flow of the low volume waste sources times the concentration listed in the following table [40 C.F.R. section 423.12 (b) (3)].

Table F-7. BPT Effluent Limitations for Low Volume Wastes

Parameter	Units	Effluent Limitations	
		Average of Daily Values for 30 Consecutive Days Shall Not Exceed[1]	Maximum for Any 1 Day[2]
TSS	mg/L	30.0	100.0
Oil and Grease	mg/L	15.0	20.0

[1] Applied as an average monthly (30-day average) limitation.
[2] Applied as a maximum daily limitation.

iv. *Once-through cooling water* is defined as water passed through the main cooling condensers in one or two passes for the purpose of removing waste heat. The quantity of pollutants discharged in once through cooling water shall not exceed the quantity determined by multiplying the flow of once through cooling water sources times the concentration listed in the following table [40 C.F.R. section 423.12 (b) (6)].

Table F-8. BPT Effluent Limitations for Once-through Cooling Water

Parameter	Units	Effluent Limitations	
		Average Concentration	Maximum Concentration
Free available chlorine	mg/L	0.2	0.5

v. Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit may discharge free available or total residual chlorine at any one time unless the utility can demonstrate to the Regional Water Board that the units in a particular location cannot operate at or below this level or chlorination [40 C.F.R. section 423.12 (b) (8)].

vi. In the event that waste streams from various sources are combined for treatment or discharge, the quantity of each pollutant attributable to each controlled waste source shall not exceed the specified limitations for that waste source.

Table F-9. BPT Effluent Limitation Guidelines from 40 C.F.R. section 423.12

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Concentration	Maximum Daily	Instantaneous	
					Minimum	Maximum
Effluent Limitations for Low Volume Wastes						
Total Suspended Solids	mg/L	30[1]	--	100	--	--
Oil and Grease	mg/L	15[1]	--	20	--	--
Effluent Limitations for Once-through Cooling Water						
Free Available Chlorine	mg/L	--	0.2	--	--	0.5

[1] Applied as a 30-day average concentration.

b. Standards of Performance Based on BAT

Applicable effluent limitations established on the basis of BAT are summarized as follows:

i. There shall be no discharge of polychlorinated biphenyl compounds (PCBs) such as those commonly used for transformer fluid [40 C.F.R section 423.13 (a)].

ii. For any plant with a total rated electric generating capacity of 25 or more megawatts the quantity of pollutants discharged in once through cooling water from each discharge point shall not exceed the quantity determined by multiplying the flow of once through cooling water from each discharge point times the concentration listed in the following table [40 C.F.R. section 423.13 (b) (1)].

Table F-10. BAT Effluent Limitations for Once-through Cooling Water

Parameter	Units	Effluent Limitations
		Maximum Concentration
Total Residual Chlorine	mg/L	0.20

Total residual chlorine may not be discharged from any single generating unit for more than two hours per day unless the Discharger demonstrates to the permitting authority that discharge for more than two hours per day is required for macroinvertebrate control [40 C.F.R. section 423.13 (b) (2)].

iii. At the permitting authority's discretion, the quantity of pollutant allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitations specified in paragraphs (ii) and (iii) of this section. Concentration limitations shall be those concentrations specified in this section.

Table F-11. BAT Effluent Limitation Guidelines from 40 C.F.R. section 423.13

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Effluent Limitations for Once-through Cooling Water					
PCBs[1]	µg/L	[2]			
Total Residual Chlorine	mg/L	--	0.2	--	--

[1] PCBs shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Arolclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.
[2] The Discharge of PCBs is prohibited.

8. Summary of Technology-Based Effluent Limitations

Effluent limitations in 40 C.F.R. section 423.12(b)(11) and section 423.13(g) specify that, at the permitting authority's discretion, effluent limitations may be expressed as a concentration-based limitation instead of the mass-based limitations otherwise specified. Consistent with the prior order, technology-based effluent limitations in this Order are expressed as concentration-based limitations.

Effluent limitations are specific to the type of discharge. The pH of all discharges, except once-through cooling water, shall be within the range of 6.0 – 9.0 standard units [40 C.F.R section 423.12 (b) (1)]. There shall be no discharge of PCBs such as those commonly used in transformers.

A summary of the technology-based effluent limitations for Discharge Points 001 and 002 is shown below.

Table F-12. Summary of Technology-Based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Concentration	Maximum Daily	Instantaneous	
					Minimum	Maximum
Effluent Limitations for Once-through Cooling Water						
PCBs[1]	µg/L	[2]				
Free Available Chlorine[3,4]	mg/L	--	0.2	--	--	0.5
Total Residual Chlorine[3,4]	mg/L	--	--	0.2	--	--
Effluent Limitations for Low Volume Wastes						
Total Suspended Solids	mg/L	30[5]	--	100	--	--
Oil and Grease	mg/L	15[5]	--	20	--	--
pH	s.u.	--	--	--	6.0	9.0

[1] PCBs shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Arolclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.
[2] The Discharge of PCBs that originate from the Facility is prohibited.
[3] If other oxidants are used, this shall be the total of all oxidants reported as residual chlorine.
[4] Total residual and free available chlorine may not be discharged from any single generating unit for more than two hours per day unless the Discharger demonstrates to the permitting authority that discharge for more than two hours per day is required for macroinvertebrate control.
[5] Applied as a 30-day average concentration.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

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

Section 122.44(d)(1)(i) of 40 C.F.R. requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) 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 beneficial 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 Ocean Plan, CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

a. Basin Plan. 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 Facility discharges to the Pacific Ocean and to King Harbor. The beneficial uses applicable to the Pacific Ocean and King Harbor are summarized in section III.C.1 of this Fact Sheet. The Basin Plan includes both narrative and numeric water quality objectives applicable to these receiving waters.

Priority pollutant water quality criteria in the CTR are applicable to King Harbor, the receiving water for Outfall 001. The CTR contains both saltwater and freshwater criteria. Because a distinct separation generally does not exist between freshwater and saltwater aquatic communities, the following apply, in accordance with 40 C.F.R. section 131.38(c)(3): 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 CTR criteria for saltwater, or human health for consumption of organisms, whichever is more stringent, are used to prescribe the effluent limitations to protect the beneficial uses of King Harbor.

b. Ocean Plan. As noted in section III.C of this Fact Sheet, the State Water Board adopted an Ocean 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 Ocean Plan. The beneficial uses applicable to the Pacific Ocean are summarized in section III.C.1 of this Fact Sheet. The Ocean Plan includes both narrative and numeric water quality objectives applicable to the receiving water for discharges through Outfall 001.

c. State Implementation Policy. As noted in section III.C of this Fact Sheet, the State Water Board adopted a State Implementation Policy (SIP) that establishes

implementation provisions to achieve the priority pollutant criteria promulgated for California by the USEPA through the CTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The beneficial uses applicable to King Harbor are summarized in section III.C.1 of this Fact Sheet The Basin Plan includes both narrative and numeric water quality objectives applicable to the receiving water.

d. Thermal Plan. The State Water Board adopted the Thermal Plan on May 18, 1972. The Thermal Plan includes narrative water quality objectives for discharges of elevated temperature wastes for existing discharges (those discharges at least under construction prior to the adoption of the Plan) and for new discharges. A revised Thermal Plan was adopted by the State Water Board on September 18, 1975. Definition 10 of the Thermal Plan states that any discharge which was taking place prior to the adoption of the plan is considered an existing discharge. The Facility was built and placed into service by Southern California Edison between 1954 and 1967, and is therefore considered an existing discharge.

e. Santa Monica Bay DDTs and PCBs TMDL. Consistent with 40 C.F.R. sections 130.2 and 130.7, and section 303(d) of the CWA and USEPA guidance for developing TMDLs in California, the USEPA issued the *Santa Monica Bay Total Maximum Daily Loads for DDTs and PCBs* on March 26, 2012. It includes waste load allocations (WLAs) for DDT and PCBs for point sources, including the Facility, that are described in Table 6-2 of the TMDL.

The Regional Water Board developed WQBELs for DDTs and PCBs on the basis of the WLAs. The Regional Water Board developed WQBEL's pursuant to 40 C.F.R. section 122.44(d)(1)(vii), which does not require or contemplate a reasonable potential analysis. Additionally, section 8 of the TMDL, (Implementation Recommendations) stipulates that "all discharges with WLAs identified in Table 6-2 are to be considered by NPDES permit writers to have reasonable potential under 40 C.F.R. 122.44(d) and require WQBELs following this TMDL."

The TMDL provides WLAs for the Discharger for DDT and PCBs equal to 0.00017 µg/L and 0.000019 µg/L, respectively, which are intended to meet the target concentrations within the receiving water. The WLAs are equal to the Ocean Plan objectives for the protection of human health.

As described in section 6.2 of the TMDL (Wasteload Allocations), the WLAs are to be translated to WQBELs with no further adjustment of dilution credit or background concentrations. In section 8.1, USEPA recommends the concentration-based WLAs be implemented as monthly average WQBELs in permits. As follows, monthly average effluent limitations for DDTs are included in this Order; however, the more stringent technology-based effluent limitations (TBELs) for PCBs is "no discharge" from the Facility and it is included as a narrative effluent limitation, rather than an effluent limitation based on the WLA (see discussion in section IV.D.). The TBEL for PCBs in this Order has been applied as prohibition of discharges from the facility. The Santa Monica Bay is impaired for PCBs. The concentrations of PCBs in the intake water exceed the TBEL established for discharges of PCBs from the facility. PCB containing equipment is present on the site. The equipment is located within secondary containment to ensure that any spill is kept within the area. Monitoring of the Retention Basin has resulted in no detections of PCBs. Therefore, concentrations of the pollutant in the intake and effluent will be evaluated to determine if the facility operations are contributing to the concentration of PCBs in

the effluent. Any increase in the effluent concentration of PCBs relative to the intake concentration yields a potential violation of the TBEL for PCBs.

The method for translating the DDT WLA into permit limits will vary between Discharge Point 001 and Discharge Point 002. At the time of TMDL development, the generating stations individual NPDES permits were considered ocean discharges, with Ocean Plan objectives and procedures. Following the period of initial TMDL development, the Regional Water Board notified the Discharger by letter dated January 21, 2003 that Discharge Point 002 was reclassified from an ocean discharge to an enclosed bay discharge. As a result of the reclassification for Discharge Point 002, CTR criteria and SIP procedures would apply in lieu of the Ocean Plan. Despite the reclassification, WQBELs must incorporate the assumptions of the TMDL WLAs to be consistent with the overall framework for achieving water quality objectives. Therefore the WQBEL for DDT at the Facility is translated directly into a monthly average effluent limit for Discharge Point 001. For Discharge Point 002, WQBELs for DDT are calculated from the WLAs provided in Table 6-2 of the TMDL using SIP procedures which incorporate statistical multipliers (see section IV.C.7 of this Fact Sheet).

3. Determining the Need for WQBELs for Discharge Point 001

a. Discharge Point 001 is located in the Santa Monica Bay and is subject to permitting procedures contained in the Ocean Plan. The need for effluent limitations based on water quality objectives in Table 1 of the Ocean Plan was evaluated in accordance with C.F.R. section 122.44(d) and guidance for statistically determining the "reasonable potential" for a discharged pollutant to exceed an objective, as outlined in the "California Ocean Plan Reasonable Potential Analysis (RPA) Amendment" that was adopted by the State Water Board on April 21, 2005. The statistical approach combines knowledge of effluent variability (as estimated by a coefficient of variation) with the uncertainty due to a limited amount of effluent data to estimate a maximum effluent value at a high level of confidence. This estimated maximum effluent value is based on a lognormal distribution of daily effluent values. Projected receiving water values (based on the estimated maximum effluent value or the reported maximum effluent value and minimum probable initial dilution), can then be compared to the appropriate objective to determine the potential for an exceedance of that objective and the need for an effluent limitation.

The water quality objectives contained in the Ocean Plan are summarized in the table below. This table includes pollutants which had effluent limitations for Discharge Point 001 in the prior order and/or pollutants which were detected in the effluent.

Table F-13. Ocean Plan Water Quality Objectives[1]

Parameter	6-Month Median (µg/L)	Daily Maximum (µg/L)	Instantaneous Maximum (µg/L)	30-Day Average (µg/L)
Objectives for Protection of Marine Aquatic Life				
Arsenic	8	32	80	--
Cadmium	1	4	10	--
Chromium VI	2	8	20	--
Copper	3	12	30	--

Parameter	6-Month Median (µg/L)	Daily Maximum (µg/L)	Instantaneous Maximum (µg/L)	30-Day Average (µg/L)
Lead	2	8	20	--
Mercury	0.04	0.16	0.4	--
Nickel	5	20	50	--
Selenium	15	60	150	--
Silver	0.7	2.8	7	--
Zinc	20	80	200	--
Total Residual Chlorine	2	8	60	--
Ammonia (as N)	600	2400	6000	--
Chronic Toxicity	--	1	--	--
Radioactivity	Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30253 of the California Code of Regulations. Reference to Section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.			
Objectives for Protection of Human Health – Non-Carcinogens				
Antimony	--	--	--	1,200
Chromium (III)	--	--	--	190,000
Thallium	--	--	--	2
Objectives for Protection of Human Health – Carcinogens				
Beryllium	--	--	--	0.033

1. Water quality objectives for Ocean Plan Table 1 pollutants which had effluent limitations for Discharge Point 001 in the prior order and/or pollutants which were detected in the effluent.

According to the 2012 Ocean Plan amendment, the RPA can yield three endpoints:

Endpoint 1, an effluent limitation is required and monitoring is required;

Endpoint 2, an effluent limitation is not required and the Regional Water Board may require monitoring; and

Endpoint 3, the RPA is inconclusive, monitoring is required, and an existing effluent limitation may be retained or a permit reopener clause may be included to allow inclusion of an effluent limitation if future monitoring warrants the inclusion.

a. Minimum Initial Dilution

The implementation provisions for Table 1 in section III.C of the Ocean Plan specify that the minimum initial dilution is the lowest average initial dilution within any single month of the year. Dilution estimates are to be based on observed waste flow characteristics, observed receiving water density structure, and the assumption that no currents of sufficient strength to influence the initial dilution process flow across the discharge structure. Before establishing a dilution credit for a discharge, it must

first be determined if, and how much, receiving water is available to dilute the discharge.

As previously discussed the prior order established the minimum initial dilution factor (Dm) for discharges from the Facility at Discharge Point 001 to be 11.5 to 1. The Discharger has indicated that no additions or modifications to the Facility or the outfall at Discharge Point 001 have been proposed that would alter the previously determined dilution characteristics. Therefore, the dilution ratios established in Order 00-085 are retained in this Order for the discharge to the Pacific Ocean and applied to the RPA and WQBELs established herein. As discussed in Section C.9.b of this Fact Sheet, dilution credits are not allowed for Discharge Point 002.

b. RPA Results for Discharge Point 001

Effluent data submitted to the Los Angeles Water Board for the period from November, 2010 through November, 2015 for Discharge Point 001 was considered in the RPA. The dilution credit of 11.5 applicable to the ocean outfall was considered to evaluate reasonable potential in accordance with the procedures contained in the Ocean Plan. Based on the evaluation using the *RPcalc 2.2* software tool, which was developed by the State Water Board for the purpose of conducting RPAs of ocean discharges, the discharge demonstrates reasonable potential to cause or contribute to an excursion above an Ocean Plan Table 1 water quality objective for beryllium and that effluent limits are required for this pollutant.

The Regional Water Board has determined that total residual chlorine and chronic toxicity demonstrate reasonable potential based on Step 13 of the RPA procedure described in Appendix VI of the Ocean Plan which states that one may conduct an RPA on the basis of best professional judgment. The discharge is subject to TBELs resulting from ELGs for total residual chlorine. Permitting procedures in the EPA "*NPDES Permit Writers Manual*" require comparing the WQBEL to the Technology-based limit and applying the more stringent as limit. This step ensures that any TBELs applied as limits would not allow for an exceedance of a water quality objective. In regard to chronic toxicity, the large volume of chlorinated discharge warrant inclusion of a chronic toxicity limit based on Step 13 of the Ocean Plan, which allows for consideration of the potential toxic impact of discharges. Therefore, consistent with Step 13 of the Ocean Plan, the Regional Water Board has determined that the discharge demonstrates reasonable potential to cause or contribute to an exceedance of water quality standards for chlorine and chronic toxicity in the receiving water (Endpoint 1). Effluent limitations for these pollutants are retained in this Order.

Based on the evaluation using the *RPcalc 2.2* software tool the discharge does not demonstrate reasonable potential for arsenic, copper and zinc (Endpoint 2). The prior order included effluent limitations for these pollutants. Thus, as specified in the Ocean Plan, effluent limitations for these pollutants have not been retained in this Order.

For many of the Ocean Plan Table 1 parameters, most of the sampling events yielded non-detect results. Evaluation using the *RPcalc 2.2* software tool yielded Endpoint 3 result. This result means the RPA was inconclusive. The Ocean Plan indicates that when the RPA is inconclusive, monitoring for the pollutant is required and any effluent limitation for a pollutant from the prior order shall be retained in the permit. Order No. 00-085 included effluent limitations for cadmium, chromium (VI), lead, mercury, nickel, selenium, and silver. The limitations for these pollutants are

retained in this Order. Effluent limitations for all other pollutants displaying Endpoint 3 are not included in this Order. However, the Order does include monitoring for these constituents and a reopener such that limits may be inserted if the monitoring data yields reasonable potential.

A summary of the RPA results is provided in the table below:

Table F-14. Reasonable Potential Analysis (RPA) Results Summary for Discharge Point 001

Pollutant	Units	n[1]	MEC[2,3]	Most Stringent Criteria	Background	RPA Endpoint[4]
Objectives for Protection of Marine Aquatic Life						
Arsenic, Total Recoverable	µg/L	12	29.4	8	3	Endpoint 2
Cadmium, Total Recoverable	µg/L	12	<0.0835[5]	1	0	Endpoint 3
Chromium (Hexavalent), Total Recoverable	µg/L	13	<4	2	0	Endpoint 3
Copper, Total Recoverable	µg/L	12	11.2	3	2	Endpoint 2
Lead, Total Recoverable	µg/L	12	0.183[5]	2	0	Endpoint 3
Mercury	µg/L	10	0.0831[5]	0.04	0.0005	Endpoint 3
Nickel, Total Recoverable	µg/L	12	1.47	5	0	Endpoint 3
Selenium, Total Recoverable	µg/L	12	0.414[5]	15	0	Endpoint 3
Silver, Total Recoverable	µg/L	12	4.46[5]	0.7	0.16	Endpoint 3
Zinc, Total Recoverable	µg/L	12	47.7	20	8	Endpoint 2
Cyanide	µg/L	1	<7	1	0	Endpoint 3
Total Chlorine Residual	µg/L	2	80	2	0	Endpoint 1[6]
Ammonia	µg/L	6	280	600	0	Endpoint 3
Chronic Toxicity	TUc	49	2	1	0	Endpoint 1[6]
Phenolic Compounds (non-chlorinated)[7]	µg/L	1	<1	30	0	Endpoint 3
Chlorinated Phenolics[8]	µg/L	1	<1.2	1	0	Endpoint 3
Endosulfan	µg/L	1	<0.014	0.009	0	Endpoint 3
Endrin	µg/L	1	<0.015	0.002	0	Endpoint 3
HCH[9]	µg/L	1	<0.014	0.004	0	Endpoint 3
Objectives for Protection of Human Health – Non-Carcinogens						
Acrolein	µg/L	1	<14	220	0	Endpoint 3
Antimony	µg/L	11	10.1[5]	1200	0	Endpoint 3
Bis(2-chloroethoxy) methane	µg/L	1	<1.3	4.4	0	Endpoint 3
Bis(2-chloroisopropyl) ether	µg/L	1	<1.6	1200	0	Endpoint 3
Chlorobenzene	µg/L	1	<0.17	570	0	Endpoint 3

Pollutant	Units	n[1]	MEC[2,3]	Most Stringent Criteria	Background	RPA Endpoint[4]
Chromium (III)	µg/L	12	11.5	190,000	0	Endpoint 3
Di-n-butyl-phthalate	µg/L	1	<1.5	3,500	0	Endpoint 3
Dichlorobenzenes	µg/L	2	<1.5	5,100	0	Endpoint 3
Diethyl phthalate	µg/L	1	<1.4	33,000	0	Endpoint 3
Dimethyl phthalate	µg/L	1	<1.3	820,000	0	Endpoint 3
4,6-dinitro-2-methylphenol	µg/L	1	<7.1	220	0	Endpoint 3
2,4-dinitrophenol	µg/L	1	<6.7	4.0	0	Endpoint 3
Ethylbenzene	µg/L	1	<0.14	4,100	0	Endpoint 3
Fluoranthene	µg/L	1	<1.6	15	0	Endpoint 3
Hexachlorocyclopentadiene	µg/L	1	<3.5	58	0	Endpoint 3
Nitrobenzene	µg/L	1	<1.5	4.9	0	Endpoint 3
Thallium	µg/L	9	10[5]	2	0	Endpoint 3
Toluene	µg/L	1	<0.24	85,000	0	Endpoint 3
Tributyltin	µg/L	[7]	--	0.0014	0	Endpoint 3
1,1,1-trichloroethane	µg/L	1	<0.3	540,000	0	Endpoint 3
Objectives for Protection of Human Health – Carcinogens						
Acrylonitrile	µg/L	1	<8	0.10	0	Endpoint 3
Aldrin	µg/L	1	<0.013	0.000022	0	Endpoint 3
Benzene	µg/L	1	<0.14	5.9	0	Endpoint 3
Benzidine	µg/L	1	<3.3	0.000069	0	Endpoint 3
Beryllium	µg/L	12	22.6	0.033	0	Endpoint 1
Bis(2-chloroethyl) ether	µg/L	1	<1.2	0.045	0	Endpoint 3
Bis(2-ethylhexyl) phthalate	µg/L	1	<1.6	3.5	0	Endpoint 3
Carbon tetrachloride	µg/L	1	<0.23	0.90	0	Endpoint 3
Chlordane	µg/L	1	<0.17	0.000023	0	Endpoint 3
Chlorodibromomethane	µg/L	1	<0.25	8.6	0	Endpoint 3
Chloroform	µg/L	1	<0.46	130	0	Endpoint 3
DDT[10]	µg/L	1	<0.013	0.00017	0	Endpoint 3
1,4-dichlorobenzene	µg/L	1	<0.43	18	0	Endpoint 3
3,3'-dichlorobenzidine	µg/L	1	<1.3	0.0081	0	Endpoint 3
1,2-dichloroethane	µg/L	1	<0.24	28	0	Endpoint 3
1,1-dichloroethylene	µg/L	1	<0.43	0.9	0	Endpoint 3
Dichlorobromomethane	µg/L	1	<0.21	6.2	0	Endpoint 3

Pollutant	Units	n[1]	MEC[2,3]	Most Stringent Criteria	Background	RPA Endpoint[4]
Dichloromethane	µg/L	[7]	--	450	0	Endpoint 3
1,3-dichloropropene	µg/L	1	<0.25	8.9	0	Endpoint 3
Dieldrin	µg/L	1	<0.014	0.00004	0	Endpoint 3
2,4-dinitrotoluene	µg/L	1	<1.2	2.6	0	Endpoint 3
1,2-diphenylhydrazine	µg/L	1	<0.43	0.16	0	Endpoint 3
Halomethanes[11]	µg/L	1	<0.5	130	0	Endpoint 3
Heptachlor	µg/L	1	<0.013	0.00005	0	Endpoint 3
Heptachlor epoxide	µg/L	1	<0.013	0.00002	0	Endpoint 3
Hexachlorobenzene	µg/L	1	<1.5	0.00021	0	Endpoint 3
Hexachlorobutadiene	µg/L	1	<1.4	14	0	Endpoint 3
Hexachloroethane	µg/L	1	<1.5	2.5	0	Endpoint 3
Isophorone	µg/L	1	<1.3	730	0	Endpoint 3
N-nitrosodimethylamine	µg/L	1	<1.6	7.3	0	Endpoint 3
N-nitrosodi-N-propylamine	µg/L	1	<1.2	0.38	0	Endpoint 3
N-nitrosodiphenylamine	µg/L	1	<1.4	2.5	0	Endpoint 3
PAHs[12]	µg/L	1	<1.1	0.0088	0	Endpoint 3
PCBs[13]	µg/L	1	<0.063	0.000019	0	Endpoint 3
TCDD equivalents[14]	µg/L	1	<0.00000066	$3.9x10^{-9}$	0	Endpoint 3
1,1,2,2-tetrachloroethane	µg/L	1	<0.41	2.3	0	Endpoint 3
Tetrachloroethylene	µg/L	1	<0.39	2.0	0	Endpoint 3
Toxaphene	µg/L	1	<0.3	0.00021	0	Endpoint 3
Trichloroethylene	µg/L	1	<0.37	27	0	Endpoint 3
1,1,2-trichloroethane	µg/L	1	<0.38	9.4	0	Endpoint 3
2,4,6-trichlorophenol	µg/L	1	<1.3	0.29	0	Endpoint 3
Vinyl chloride	µg/L	1	<0.3	36	0	Endpoint 3

1. Number of data points available for the RPA.
2. If there is a detected value, the highest reported value is summarized in the table. If there are no detected values, the lowest MDL is summarized in the table.
3. Note that the reported MEC does not account for dilution. The RPA does account for dilution; therefore it is possible for a parameter with an MEC in exceedance of the most stringent criteria not to present an Endpoint 1.
4. Endpoint 1 – Reasonable Potential (RP) determined, limit required, monitoring required.
   Endpoint 2 – Discharger determined not to have RP, monitoring may be established.
   Endpoint 3 – RPA was inconclusive, carry over previous limitations if applicable, and establish monitoring.
5. Result was detected at a concentration greater than the method detection limit (MDL) and less than the ML.
6. Total residual chlorine and chronic toxicity possesses reasonable potential based on Step 13 of Ocean Plan and Resolution 88-80 which stipulates that the Discharger's 301(g) exception to Ocean Plan requirements for total residual chlorine is contingent upon the discharge at Discharge Point 001 meeting a chronic toxicity limits of 19 TUc as a daily maximum.
7. Non-chlorinated phenolic compounds represent the sum of 2-nitrophenol; phenol; 2,4-dimethylphenol; 2,4-dinitrophenol; 2-methyl-4,6-dinitrophenol; and 4-nitrophenol.
8. Chlorinated phenolic compounds represent the sum of 2-chlorophenol; 2,4-dichlorophenol; 2,4,6-trichlorophenol; 4-chloro-3-methylphenol; and pentachlorophenol.
9. HCH shall mean the sum of alpha, beta, gamma (lindane), and delta isomers of hexachlorocyclohexane.
10. DDT shall mean the sum of 4,4'-DDT, 2,4'-DDT, 4,4'-DDE, 2,4'-DDE, 4,4'-DDD, and 2,4'-DDD.
11. Halomethanes shall mean the sum of bromoform, bromomethane (methyl bromide), and chloromethane (methyl chloride).
12. PAHs shall mean the sum of acenaphthylene; anthracene; 1,2-benzanthracene; 3,4-benzofluoranthene; benzo(k)fluoranthene; 1,12-benzoperylene; benzo(a)pyrene; chrysene; dibenzo(a,h)anthracene; fluorine; indeno(1,2,3-cd)pyrene; phenanthrene; and pyrene.
13. PCBs shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Arolclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.
14. TCDD Equivalents shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below. USEPA method 1613 may be used to analyze dioxin and furan congeners.

    Dioxin-TEQ (TCDD Equivalents) = Σ (C_x x TEF_x)

    Where:

    C_x = concentration of dioxin or furan congener x

    TEF_x = TEF for congener x

Toxicity Equivalency Factors

Isomer Group	Toxicity Equivalency Factor (TEF)
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
Octa CDD	0.001
2,3,7,8 tetra CDF	0.1
1,2,3,7,8 penta CDF	0.05
2,3,4,7,8 penta CDF	0.5
2,3,7,8 hexa CDFs	0.1
2,3,7,8 hepta CDFs	0.01
Octa CDF	0.001

4. WQBEL Calculations for Discharge Point 001

From the Table 1 water quality objectives of the Ocean Plan, effluent limitations are calculated according to Equation 1 of the Ocean Plan for all pollutants, except for radioactivity:

$$Ce = Co + Dm(Co - Cs)$$

Where:

Ce = the effluent limitation (µg/L)
Co = the water quality objective to be met at the completion of initial dilution (µg/L)
Cs = background seawater concentration (µg/L)
Dm = minimum probable initial dilution expressed as parts seawater per part wastewater

As discussed in Sections II.B and IV.C.3 of the Fact Sheet, the Dm, approved by the State Water Board, is 11.5:1.

Table 3 of the Ocean Plan establishes background concentrations (represented as "Cs") for some pollutants to be used when determining reasonable potential. In accordance with Table 1 implementation procedures, Cs equals zero for all pollutants not established in Table C. The background concentrations provided in Table C are summarized below:

Table F-15. Background Seawater Concentrations (Cs)

Parameter	Ocean Plan Table 3 Background Concentration (µg/L)
Arsenic	3
Copper	2
Mercury	0.0005
Silver	0.16
Zinc	8

Section III.C.8.d of the Ocean Plan describes compliance determination for Table 1 pollutants for dischargers that use a large volume of ocean water for once-through cooling and states:

> *Effluent concentration values (C_e) shall be determined through the use of equation 1 considering the minimum probable initial dilution of the combined effluent (in-plant waste streams plus cooling water flow). These concentration values shall then be converted to mass emission limitations as indicated in equation 3. The mass emission limits will then serve as requirements applied to all in-plant waste streams taken together which discharge into the cooling water flow, except for total chlorine residual, acute [if applicable per Section 3 (c)] and chronic toxicity, and instantaneous maximum concentrations in Table 1 shall apply to, and be measured in, the combined final effluent, as adjusted for dilution with ocean water.*

In accordance with Ocean Plan implementation procedures for dischargers using a large volume of ocean water for once-through cooling, this Order establishes WQBELs applicable to the combined discharge through Discharge Point 001 as concentration-based limitations for all Ocean Plan Table 1 parameters requiring instantaneous maximum; and as both concentration- and mass-based limitations for all Table 1 parameters requiring 6-month median, daily maximum, and average monthly (30-day average) limitations. This Order also establishes WQBELs applicable to the low volume in-plant waste streams as mass-based limitations for all Table 1 parameters requiring 6-

month median, average monthly (30-day average), and daily maximum effluent limitations, with compliance determined by the **total in-plant waste streams mass discharge** taken together, which will be calculated as the sum of the mass discharges from the individual in-plant waste streams.

The following demonstrates how the WQBELs, taking silver as an example, are established:

Silver

Compute effluent concentration limitations and values at Discharge Point 001:

As previously stated the Ocean Plan equation for effluent limitations (Ce) is:

Ce = Co + Dm (Co - Cs)

As defined above for Discharge Point 001 for silver:

Co = 0.7 µg/L (6-Month Median)
2.8 µg/L (Daily Maximum)
7 µg/L (Instantaneous Maximum)
Cs = 0.16 (Background Seawater Concentration)
Dm = 11.5 (minimum probable initial dilution)

Therefore:

C_e = 0.7 µg/L + 11.5 (0.7 µg/L – 0.16) = **6.9 µg/L** (6-Month Median)
C_e = 2.8 µg/L + 11.5 (2.8 µg/L – 0.16) = **33 µg/L** (Daily Maximum)
C_e = 7 µg/L + 11.5 (7 µg/L – 0.16) = **86 µg/L** (Instantaneous Maximum)

Section III.C.4.j of the Ocean Plan states that the permit "shall also specify effluent limitations in terms of mass emission rate limits" applicable to the commingled discharge in addition to concentration-based WQBELs. This Order establishes mass emission rate effluent limitations applicable to the commingled discharge at Discharge Point 001 (i.e., instantaneous maximum WQBELs). The mass emission rate limits are calculated utilizing Equation 3 of the Ocean Plan:

L_e = 0.00834 x Ce x Q

Where

L_e = the total mass emission limitation (lbs/day)

Ce = the effluent concentration limit (µg/L)

Q = the flow rate (MGD)*Compute the total mass-based limitations (L_e) of silver for the combined effluent flow at Discharge Point 001 based on a maximum combined flow of 215 MGD at Monitoring Location EFF-001.*

L_e = 0.00834 x 6.9 µg/L x 215 MGD = **12.4 lbs/day** (6-Month Median)

L_e = 0.00834 x 33 µg/L x 215 MGD = **59.1 lbs/day** (Daily Maximum)

Compute the total maximum mass emission limitations (L_e) of silver for all in-plant waste streams taken together based on a maximum combined flow of 0.305 MGD (which includes 0.065 for low volume wastes) discharged at Monitoring Location INT-001A:

L_e = 0.00834 x 6.9 µg/L x 0.305 MGD = 0.018 lbs/day (6-Month Median)
L_e = 0.00834 x 33 µg/L x 0.305 MGD = 0.084 lbs/day (Daily Maximum)

5. Bacteria

The Ocean Plan contains water quality objectives for bacteria that apply to the discharge to the Pacific Ocean from Discharge Point 001 as follows:

Water-Contact Standards

Both the State Water Board and the California Department of Public Health (CDPH) have established standards to protect water contact recreation in coastal waters from bacterial contamination. Subsection a of this section contains bacterial objectives adopted by the State Water Board for ocean waters used for water contact recreation. Subsection b describes the bacteriological standards adopted by CDPH for coastal waters adjacent to public beaches and public water contact sports areas in ocean waters.

a. State Water Board Water-Contact Standards

1) Within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and in areas outside this zone used for water contact sports, as determined by the Regional Board (i.e., waters designated as REC-1), but including all kelp beds, the following bacterial objectives shall be maintained throughout the water column:

30-day Geometric Mean – The following standards are based on the geometric mean of the five most recent samples from each site:

i. Total coliform density shall not exceed 1,000 per 100 mL;
ii. Fecal coliform density shall not exceed 200 per 100 mL; and
iii. Enterococcus density shall not exceed 35 per 100 mL.

Single Sample Maximum:

i. Total coliform density shall not exceed 10,000 per 100 mL;
ii. Fecal coliform density shall not exceed 400 per 100 mL;
iii. Enterococcus density shall not exceed 104 per 100 mL; and
iv. Total coliform density shall not exceed 1,000 per 100 mL when the fecal coliform/total coliform ratio exceeds 0.1.

2) The “Initial Dilution Zone” of wastewater outfalls shall be excluded from designation as "kelp beds” for purposes of bacterial standards, and Regional Boards should recommend extension of such exclusion zone where warranted to the State Water Board (for consideration under Chapter III. J.). Adventitious assemblages of kelp plants on waste discharge structures (e.g., outfall pipes and diffusers) do not constitute kelp beds for purposes of bacterial standards.

b. CDPH Standards

CDPH has established minimum protective bacteriological standards for coastal waters adjacent to public beaches and for public water-contact sports areas in ocean waters. These standards are found in the California Code of Regulations, title 17, section 7958, and they are identical to the objectives contained in subsection a. above. When a public beach or public water-contact sports area fails to meet these standards, CDPH or the local public health officer may post with warning signs or otherwise restrict use of the public beach or public water-contact sports area until the standards are met. The CDPH regulations impose more frequent monitoring and

more stringent posting and closure requirements on certain high-use public beaches that are located adjacent to a storm drain that flows in the summer.

For beaches not covered under AB 411 regulations, CDPH imposes the same standards as contained in Title 17 and requires weekly sampling but allows the county health officer more discretion in making posting and closure decisions.

Shellfish Harvesting Standards

a. At all areas where shellfish* may be harvested for human consumption, as determined by the Regional Board, the following bacterial objectives shall be maintained throughout the water column:

   1) The median total coliform density shall not exceed 70 per 100 mL, and not more than 10 percent of the samples shall exceed 230 per 100 mL.

This Order includes bacterial monitoring in order to confirm that the discharge is not contributing to bacterial impairment in the receiving water. In addition, this Order contains receiving water limitations for bacteria to ensure that the discharge is not contributing to an impairment of the receiving water environment**.**

6. Radioactivity

The prior order included an effluent limitation for radioactivity based on Ocean Plan water quality objectives. This Order retains the effluent limitation for radioactivity for Discharge Point 001.

7. Temperature

The prior order included effluent limitations for temperature based on specific water quality objectives for existing coastal water dischargers in the Thermal plan. This Order retains the effluent limitations for temperature for Discharge Point 001.

8. Whole Effluent Toxicity

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 toxics 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 and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction and growth.

Although chronic toxicity data did not demonstrate statistical reasonable potential, Regional Water Board staff has determined that chronic toxicity possesses reasonable potential based on Step 13 (other available information) from the Ocean Plan. As explained below, the chronic toxicity limitation in this Order implements the USEPA’s 2010 Test of Significant Toxicity (TST) statistical approach. The chronic toxicity effluent limitations in this Order are as stringent as necessary to protect the Ocean Plan water quality objective for chronic toxicity.

The Ocean Plan establishes a daily maximum chronic toxicity objective of 1.0 TUc = 100/NOEC, using a 5-concentration hypothesis test. In 2010, USEPA endorsed the peer-reviewed TST statistical approach in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010) as an improved hypothesis-testing tool to evaluate data from USEPA’s toxicity test methods. The TST statistical approach more reliably identifies toxicity—in relation to the chronic

(0.25 or more) and acute (0.20 or more) mean responses of regulatory management concern—than the NOEC hypothesis-point testing approach used in the Ocean Plan. TST results are also more transparent than the point estimate model approach used for acute toxicity in the Ocean Plan that is not designed to address the question of statistical uncertainty around the modeled toxicity test result in relation to the effect level of concern. The TST is the superior approach for addressing statistical uncertainty when used in combination with USEPA's toxicity test methods and is implemented in federal permits issued by USEPA Region 9.

The TST's null hypothesis for chronic toxicity is:

H_0: Mean response (In-stream Waste Concentration (IWC) in % effluent) ≤ mean response (Control).

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

The chronic toxicity IWC for Discharge Point 001 is 100/(11.5 + 1) = 8 percent effluent.

9. Final WQBELs for Discharge Point 001

A summary of the WQBELs for the combined discharge at Discharge Point 001 are described in the following table:

Table F-16. Summary of Water Quality-based Effluent Limitations for Discharge Point 001

Parameter	Units	Effluent Limitations			
		6-Month Median	Daily Maximum	Instantaneous Maximum	30-day Average
Temperature	°F	[1]			
Beryllium, Total Recoverable	µg/L	--	--	--	0.41
Cadmium, Total Recoverable	µg/L	12.5	50	125	--
Chromium (VI)[2]	µg/L	25	100	250	--
Lead, Total Recoverable	µg/L	25	100	250	--
Mercury, Total Recoverable	µg/L	0.49	2	5	--
Nickel, Total Recoverable	µg/L	62.5	250	625	--
Selenium, Total Recoverable	µg/L	188	750	1875	--
Silver, Total Recoverable	µg/L	6.9	33	86	--
Chronic Toxicity	Pass or Fail and % Effect	--	Pass or % Effect <50[3]	--	Pass[3,4]
DDT[5]	µg/L		--	--	0.00017

Parameter	Units	Effluent Limitations			
		6-Month Median	Daily Maximum	Instantaneous Maximum	30-day Average
PCBs[6]	µg/L	[7]			
Radioactivity	[8]				

[1] The temperature of wastes discharged shall not exceed 106°F during normal operation of the facility. During heat treatment, the temperature of wastes discharged shall not exceed 125°F except during adjustment of the recirculation gate at which time the temperature of wastes discharged shall not exceed 135°F. Temperature fluctuations during gate adjustment above 125°F shall not last for more than thirty minutes.
[2] The Discharger may at their option meet this effluent limitation as a total chromium effluent limitation.
[3] Report "Pass" or "Fail" for Median Monthly Effluent Limitation (MMEL). Report "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL). During a calendar month, exactly three independent toxicity tests are required for routine monitoring when one toxicity test results in "Fail".
[4] This is a Median Monthly Effluent Limitation.
[5] DDT shall mean the sum of 4,4'-DDT, 2,4'-DDT, 4,4'-DDE, 2,4'-DDE, 4,4'-DDD, and 2,4'-DDD.
[6] PCBs shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.
[7] The Discharge of PCBs that originate from the Facility is prohibited (See Order Prohibitions section IV.A).
[8] Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30253 of the California Code of Regulations. Reference to Section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.

10. Determining the Need for WQBELs for Discharge Point 002

c. Discharge Point 002 is located in King Harbor and is subject to permitting procedures contained in the State Implementation Plan (SIP). 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 (C) outlined in the CTR, NTR, as well as the Basin Plan. For all pollutants that have a reasonable potential to cause or contribute to an excursion above a state water quality standard, numeric WQBELs are required. 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 specifies three triggers to complete a RPA:

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

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

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.

Effluent data for Discharge Point 002 submitted to the Regional Water Board from November, 2010 through November, 2015 were used for the RPA. The discharger

was not required to monitor the receiving water column for priority pollutants and as a result did not collect such data. Receiving water data from King Harbor was available from SMR data submitted by a nearby permitted facility-Seaside Lagoon (NPDES No. CA0064297). The date range of Seaside Lagoon data corresponded to the date range for the Facility effluent data.

d. Assimilative Capacity and Dilution Credit

Order No. 00-085 established a dilution credit for the discharges from Facility based on the policies and procedures contained in the Ocean Plan as last amended in 2012. However, as discussed in section II.B of this Fact Sheet, the receiving water is no longer categorized as an ocean discharge and is now regulated as an inland surface water. The dilution credit determined for the Facility under the Ocean Plan is no longer applicable, instead dilution shall be determined based on the policies and procedures contained in the SIP.

Insufficient information is available to assess the appropriateness of establishing dilution credit in relation to requirements in the SIP; therefore, this Order has established WQBELs on the assumption of zero assimilative capacity. The impact of assuming zero assimilative capacity within the receiving water is that discharge limitations are end-of-pipe limits with no allowance for dilution within the receiving water.

e. RPA Results for Discharge Point 002

The RPA was performed for the priority pollutants included in the Basin Plan and the CTR criteria for which data are available. Based on the RPA, pollutants that demonstrate reasonable potential are copper, mercury, nickel, silver, thallium, and zinc. These parameters resulted in Trigger 1 reasonable potential because the MEC was greater than C. Effluent limitations contained in Order No. 00-085 for pollutants which do not display reasonable potential are not retained in this Order. Therefore the prior order effluent limitations for arsenic, cadmium, hexavalent chromium, lead and selenium are not included in this Order (see section IV.D.1 for further discussion of compliance with anti-backsliding requirements).

The reasonable potential analysis for ammonia was performed based on water quality objectives applicable to the receiving water contained in the Basin Plan. Consistent with procedures contained in the Basin Plan, the water quality objectives for ammonia were converted to total ammonia concentrations (i.e., ammonia plus ammonium concentrations) utilizing receiving water pH, temperature, and salinity data from receiving water monitoring station RSW-003 in King Harbor. Higher pH and temperature and lower salinity result in a higher percentage of unionized ammonia ergo, a lower concentration. The 90th percentile pH and temperature, and the 10th percentile salinity were selected to convert the acute unionized ammonia objective to a total ammonia concentration. The 50th percentile pH, temperature, and salinity were selected to convert the chronic ammonia objective to total ammonia concentration. Total ammonia in the effluent from Discharge Point 002 did not demonstrate reasonable potential and ammonia effluent limitations are not required.

The Regional Water Board has determined that total residual chlorine and chronic toxicity demonstrate reasonable potential based on Step 7 of the RPA which states that other information may be used to determine if a WQBEL is required. The discharge is subject to TBELs resulting from ELGs for total residual chlorine. Permitting procedures in the EPA "*NPDES Permit Writers Manual*" require comparing the WQBEL to the TBEL and applying the more stringent limit. This step

ensures that any TBELs applied as limits would not allow for an exceedance of a water quality objective. In regard to chronic toxicity, information which may be considered under Step 7 includes consideration of the potential toxic impact of the discharge. The large volume of chlorinated discharge warrants inclusion of a chronic toxicity WQBEL. Therefore, consistent with Step 7 of the SIP, the Regional Water Board has determined that the discharge demonstrates reasonable potential to cause or contribute to an exceedance of water quality standards for chlorine and chronic toxicity in the receiving water. Effluent limitations for these pollutants are retained in this Order.

The following table summarizes results from the RPA at Discharge Point 002.

Table F-17. Reasonable Potential Analysis (RPA) Results Summary for Discharge Point 002

CTR No.	Constituent	Units	Applicable Water Quality Criteria (C)	Maximum Effluent Conc. (MEC)	Maximum Detected Receiving Water Conc. (B)	RPA Result - Need Limit?	Reason[1]
--	Ammonia Nitrogen, Total (as N)	µg/L	1.4	0.17	NA	No	MEC<C
1	Antimony	µg/L	4,300	7.61	32.96	No	MEC<C
2	Arsenic	µg/L	36	27.6	19	No	MEC<C
3	Beryllium	µg/L	No Criteria	19.2	<0.03	No	No Criteria
4	Cadmium	µg/L	9.36	0.0877	<0.01	No	MEC<C
5a	Chromium III	µg/L	No Criteria	11.5	No Data	No	No Criteria
5b	Chromium (VI)	µg/L	50	<0.67	3	No	MEC<C
6	Copper	µg/L	3.7	42.2	32.46	**Yes**	**Trigger 1**
7	Lead	µg/L	8.52	1.12	<0.2	No	MEC<C
8	Mercury	µg/L	0.051	0.068	0.082	**Yes**	**Trigger 1**
9	Nickel	µg/L	8.3	27.1	5	**Yes**	**Trigger 1**
10	Selenium	µg/L	71	<0.347	318	No	MEC<C
11	Silver	µg/L	2.2	3.7	27	**Yes**	**Trigger 1**
12	Thallium	µg/L	6.3	9.02	<0.1	**Yes**	**Trigger 1**
13	Zinc	µg/L	86	133	963	**Yes**	**Trigger 1**
--	Chronic Toxicity	TU_c	1	1	NA	**Yes**	**Trigger 3**

NA = not available

[1] Section 1.3 of the SIP specifies three triggers to complete an RPA:
Trigger 1 – If the MEC ≥ C, a limit is needed.
Trigger 2 – If B > C and the pollutant is detected in the effluent, a limit is needed.
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.

11. WQBEL Calculations for Discharge Point 002

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

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

ii. Use of a steady-state model to derive MDELs and AMELs.

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

b. The final WQBELs for copper, mercury, nickel, silver and thallium are based on monitoring results and following the procedure based on the steady-state model, available in Section 1.4 of the SIP.

c. Insufficient information is available to assess the appropriateness of establishing dilution credit in relation to requirements in the SIP; therefore, this Order has established WQBELs on the assumption of zero assimilative capacity. 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. <u>WQBEL Calculation Example for Discharge Point 002</u>

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 at Discharger Point 002 for this Order using the process described below.

The process for developing these limits is in accordance with Section 1.4 of the SIP and also with the *Santa Monica Bay Total Maximum Daily Loads for DDT and PCBs*.

Calculation of aquatic life AMEL and MDEL:

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

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

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

Where

C = The priority pollutant criterion/objective, adjusted if necessary for hardness, pH and translators.

D = The dilution credit, and

B = The ambient background concentration

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

$ECA = C$

For nickel, the applicable water quality criteria are:

$ECA = WLA_{acute} = 75$ µg/L

$ECA = WLA_{chronic} = 8.3$ µg/L

Note that when a WLA has been established through a TMDL for a parameter, the WLA is set equal to the ECA. For example, the ECA for DDT was set to the WLA from the *Santa Monica Bay Total Maximum Daily Loads for DDT and PCBs* (0.00017 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. If the data set is greater than 10 samples, and at least 20% of all the samples in the data set are reported as detected, the CV shall be equal to the standard deviation (σ) of the data set divided by the average of the data set. For nickel there were 13 samples and 11 were reported as detected, therefore a calculated CV applies. For effluent data points below the detection limit, a value of one-half of the detection limit was used in the calculations per SIP instructions. For nickel the calculated average was 8.52 with a σ value of 10.75. Therefore the CV was determined as follows:

CV = σ/average = 10.75/8.52 = 1.26

For nickel, the following data were used to develop the acute and chronic LTAs 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$_{acute}$	ECA Multiplier$_{chronic}$
13	1.26	0.166	0.307

$LTA_{acute} = 75$ µg/L x 0.166 = 12.4 µg/L

$LTA_{chronic} = 8.3$ µg/L x 0.307 = 2.55 µg/L

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

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

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

$LTA_{selenium} = LTA_{chronic} = 2.55$ µg/L

Step 4: Calculate the WQBELs by multiplying the LTA by a factor (multiplier). WQBELs are expressed as Maximum Daily Effluent Limit (MDEL) or Average Monthly Effluent Limit (AMEL). The multiplier is a statistically based factor that adjusts the LTA for the averaging periods and exceedance frequencies of the criteria/objectives and the effluent limitations. The value of the multiplier varies depending on the probability basis, the CV of the data set, the number of samples (for AMEL) and whether it is a monthly average or daily maximum 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 are provided in section 1.4, Step 5 of the SIP and will not be repeated here.

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

For nickel the following data were used to develop the MDEL using equations provided in section 1.4, Step 5 of the SIP:

No. of Samples	CV	$Multiplier_{MDEL99}$	$Multiplier_{AMEL95}$
4	1.26	6.02	2.19

AMEL= 2.55 µg/L x 2.19 = 5.6 µg/L

MDEL= 2.55 µg/L x 6.02 = 15 µg/L

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

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

For nickel:

$AMEL_{human\ health}$ = 4,600 µg/L

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

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

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

No. of Samples	CV	$Multiplier_{MDEL\ 99}$	$Multiplier_{AMEL\ 95}$	Ratio
4	1.26	6.02	2.19	2.74

For nickel:

$MDEL_{human\ health}$= 4,600 µg/L x 2.74 = 12,604 µg/L

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

12. WQBELs at Discharge Point 002 Based on Basin Plan Objectives

a. pH. Instantaneous maximum and minimum effluent limitations for pH based on Basin Plan objectives (6.5 – 8.5) are more stringent than pH limitations based on applicable ELGs (6.0 – 9.0; see Section IV.B of the Fact Sheet). This Order establishes the more stringent limitations based on Basin Plan objectives.

b. Bacteria. The Basin Plan establishes water quality objectives for bacteria in receiving waters designated for water contact recreation (REC-1) that are applicable to the discharge from this Facility. As the discharge is to King Harbor, the following water quality objectives for marine waters apply:

i. *Geometric Mean Limits*

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

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

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

ii. *Single Sample Limits*

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

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

(c) *Enterococcus 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.*

This Order includes bacterial monitoring in order to confirm that the discharge is not contributing to bacterial impairment in the receiving water. In addition, this Order contains receiving water limitations for bacteria to ensure that the discharge is not contributing to an impairment of the receiving water environment**.**

c. Ammonia. A reasonable potential analysis was performed for ammonia at Discharge Point 002. The Basin Plan objective for ammonia was translated from unionized to total ammonia as described in this Fact Sheet section IV.C.6.c. The effluent did not demonstrate reasonable potential to exceed the Basin Plan objective and effluent limitations are not required.

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

e. Total Residual Chlorine. Disinfection of wastewaters with chlorine produces residual chlorine. Chlorine and its reaction products are toxic to aquatic life. The limit for residual chlorine is based on the Basin Plan (page 3-9) narrative, "*Chlorine residual shall not be present in surface water discharges at concentrations that exceed 0.1 mg/L and shall not persist in receiving waters at any concentration that causes impairment of beneficial uses*." As discussed in Section IV.B of the Fact Sheet, TBELs for total residual chlorine are applicable to the combined discharge at Discharge Point 002. However, the applicable TBEL is less stringent than the WQBEL of 0.1 mg/L based on the water quality objective contained in the Basin Plan. Therefore, this Order establishes the more stringent total residual chlorine effluent limitation based on Basin Plan objectives.

f. Radioactivity. Order 00-082 included effluent limitations specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30269 of the

California Code of Regulations. These limitations were based on requirements of the Ocean Plan. These limitations have not been retained in this Order for Discharge Point 002 due to the recategorization of the discharge from a marine discharge to an enclosed bay discharge. The Basin Plan states that "Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life or that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life." Therefore, this Order establishes the Basin Plan narrative effluent limitation for radionuclides for Discharge Point 002.

g. 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 aquatic species routinely available in surface water bodies within the Los Angeles Region including: steelhead, topsmelt, ghost shrimp, brown rock crab, jackknife clam, and blue mussel.

The Facility discharges once-through cooling water, process wastewater and storm water through Discharge Point 002 to King Harbor. As a result of the reclassification of Discharge Point 002 to an inland surface discharge the Thermal Plan water quality objective for existing coastal water dischargers no longer applies. Definition 10 of the Thermal Plan states that any discharge which was taking place prior to the adoption of the plan is considered an existing discharge. The Facility was built and placed into service by Southern California Edison prior to the adoption of the Thermal Plan, and is therefore considered an existing discharge. Water Quality Objective 4A of the Thermal Plan is applicable to existing thermal discharges to the enclosed bays of California and therefore applicable to discharges from the Facility through Discharge Point 002:

4A(1) Elevated temperature waste discharges shall comply with limitations necessary to assure protection of beneficial uses.

In compliance with the Thermal Plan and in accordance with Regional Water Board specifications, this Order establishes an instantaneous maximum effluent limitation for temperature of 86°F for discharges from the Facility through Discharge Point 002.

13. Whole Effluent Toxicity

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

The Basin Plan specifies a narrative objective for toxicity, requiring that all waters be maintained free of toxic substances in concentrations that are lethal to or produce other detrimental responses in aquatic organisms. Detrimental response includes but is not limited to decreased growth rate, decreased reproductive success of resident or indicator

species, and/or significant alterations in population, community ecology, or receiving water biota.

Order No. 00-085 contained a maximum daily effluent limitations for chronic toxicity of 8.0 TU_c at Discharge Point 002. The Regional Water Board has determined that chronic toxicity demonstrates reasonable potential based on Step 7 of the RPA procedure described in the SIP which states that other information may be considered to determine whether a WQBEL is needed. Such information includes, among other aspects, the facility type, the discharge type, and the potential toxic impacts of the discharge. The Facility discharges large volumes of chlorinated water, such that slight instances of toxicity may potentially result in widespread impacts. A chronic toxicity effluent limitation is included in this Order to ensure that the receiving water meets the Basin Plan narrative water quality objective for toxicity.

The USEPA Regions 8, 9 and 10 Toxicity Training Tool (January 2010) (Toxicity Tool) recommends that permitting authorities establish a monthly median effluent limit (MML) of 1.0 TU_c as the monthly compliance level for chronic WET for NPDES dischargers without a mixing zone or dilution allowance (Section 2.6.2). The use of the MML of 1.0 TU_c for chronic WET is recommended only in conjunction with the following permit conditions as defined in the USEPA's Technical Support Document For Water Quality-based Toxics Control (March 1991) (TSD):

- A statistically calculated maximum daily effluent limit (MDL) for chronic WET (TSD Section 5.4.1); and
- Routine WET monitoring using the most sensitive test species identified through screening using species representing three different phyla (TSD Section 1.3.4).

This Order establishes a MMEL of "Pass", as the monthly chronic toxicity effluent limit, and a MDEL of "Pass" or "% Effect <50", as the daily chronic toxicity effluent limit. While the chronic toxicity TMDL uses USEPA's multi-concentration NOEC-LOEC statistical approach and recommended numeric water quality criterion of 1.0 TUc to set and measure the toxicity target, the numeric chronic toxicity effluent limits use USEPA's TST statistical approach. Both of these approaches are scientifically valid and provide comparable levels of water quality protection. However, the TST approach is superior in that it improves test power, provides the incentive for toxicity laboratories to generate high quality data, streamlines toxicity test data analysis, and is more likely to correctly classify toxic and not toxic samples (USEPA, 2010; Diamond et al, 2013). The TST statistical approach derives from and complies with the underlying water quality standard for chronic toxicity in the Basin Plan, and is consistent with the assumptions and requirements of the available final WLA for chronic toxicity approved by USEPA (40 C.F.R. 122.44(d)(1)(vii)). These effluent limits are feasible and fully comply with applicable NPDES regulations (e.g., 40 C.F.R. 122.44(d)(1) and 122.45(d)(1)). The routine WET monitoring requirements have been established in Section V.B of Attachment E – Monitoring and Reporting Requirements of this Order.

14. Final WQBELs for Discharge Point 002

A summary of the WQBELs for the combined discharge at Discharge Point 002 are described in the following table.

Table F-18. Summary of Water Quality-based Effluent Limitations for Discharge Point 002

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous	
				Minimum	Maximum
pH	standard units	--	--	6.5	8.5
Total Residual Chlorine[1,2]	mg/L	--	0.1	--	--
Temperature	°F	--	--	--	86
Copper, Total Recoverable	µg/L	2.1	5.8	--	--
Mercury, Total Recoverable	µg/L	0.051	0.10	--	--
Nickel, Total Recoverable	µg/L	5.6	15	--	--
Silver, Total Recoverable	µg/L	1.1	2.2	--	--
Thallium, Total Recoverable	µg/L	6.3	13	--	--
Zinc, Total Recoverable	µg/L	30	92	--	--
DDT[3]	µg/L	0.00017	0.00034	--	--
PCBs[4]	µg/L	[5]			
Chronic Toxicity	Pass or Fail and % Effect for TST approach	Pass[6,7]	Pass or % Effect <50[7]	--	--
Radioactivity	--	[9]			

1 Total residual chlorine and free available chlorine may not be discharged from any single generating unit for more than two hours per day unless the Discharger demonstrates to the permitting authority that discharge for more than two hours per day is required for macroinvertebrate control.
2 If other oxidants are used, this shall be the total of all oxidants reported as residual chlorine.
3 DDT 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 PCBs shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.
5 The Discharge of PCBs that originate from the Facility is prohibited (See Order Prohibitions section IV.A).
6 Report "Pass" or "Fail" for Median Monthly Effluent Limitation (MMEL). Report "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL). During a calendar month, exactly three independent toxicity tests are required for routine monitoring when one toxicity test results in "Fail".
7 This is a Median Monthly Effluent Limitation.
8 Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life or that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

D. Final Effluent Limitation Considerations

1. Anti-Backsliding Requirements

Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, with the exception of those discussed below.

a. Discharge Point 001

The effluent limitations from Order No. 00-085 for arsenic, copper and zinc have been removed in this Order for Discharge Point 001. The removal of these effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations, based on the consideration of new information obtained since the prior permit was issued [CWA section 402(o)(2)(B)(i)]. New information obtained includes data from self-monitoring reports that were used to conduct a new reasonable potential analysis (RPA). The result of the RPA was that reasonable potential to cause or contribute to an excursion above water quality objectives was not demonstrated for these pollutants. This resulted in the removal of effluent limitations for these pollutants. As addressed in section IV.D.2 of this Fact Sheet, relaxation of these effluent limitations is not expected to result in degradation of the receiving water and therefore is consistent with CWA section 303(d)(4).

The ELGs (average and maximum limitations) as specified in 40 C.F.R. part 423 for free available chlorine and total residual chlorine were included in Order No. 00-085 as 30-day average and daily maximum limitations. As explained in section IV.B.3 of this Fact Sheet, this Order instead implements the average and maximum limitations for free available chlorine and total residual chlorine as average concentration effluent limitations and instantaneous maximum limitations, to be consistent with 40 C.F.R. section 423.11 and the 2013 EPA document (EPA-821-R-13-002). Therefore, the limitations for these parameters are consistent with anti-backsliding requirements and are at least as stringent as those in Order No. 00-085.

b. Discharge Point 002

The effluent limitations from Order No. 00-085 for arsenic, cadmium, chromium (VI), lead and selenium have been removed in this Order for Discharge Point 002. New information obtained was used to conduct a RPA. The result was that reasonable potential to cause or contribute to an excursion above water quality objectives was not demonstrated for these constituents. This resulted in the removal of effluent limitations for these constituents.

c. Metal Cleaning Wastes

The effluent limitations from Order No. 00-085 for suspended solids, oil and grease, copper and iron have been removed in this Order for metal cleaning wastes. The removal of these effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations, based on the consideration of new information obtained since the prior permit was issued [CWA section 402(o)(2)(B)(i)]. New information obtained includes testimony from the Discharger that the discharge of metal cleaning wastes has ceased and these wastes are currently contained and transported offsite to an authorized waste facility. This resulted in the removal of effluent limitations for these pollutants. As addressed in

section IV.D.2 of this Fact Sheet, relaxation of these effluent limitations is not expected to result in degradation of the receiving water given the waste is no longer discharged and therefore is consistent with CWA section 303(d)(4).

2. Antidegradation Policies

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 Ocean Plan at Outfall 001 and of the SIP at Outfall 002 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 40 C.F.R.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 consist of restrictions on PCBs, free available chlorine, total residual chlorine, total suspended solids (TSS), oil and grease, pH, copper (total recoverable) and iron (total recoverable) at Discharge Points 001 and 002. Restrictions on these parameters are discussed in section IV.B.2 of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

This Order includes water quality-based effluent limitations (WQBELs) at Discharge Point 001 for beryllium, cadmium, chromium (VI), copper, lead, mercury, nickel, silver, selenium, zinc, DDT, PCBs and chronic toxicity. WQBELs have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. The procedures for calculating the individual water quality-based effluent limitations at Discharge Point 001 are based on the Ocean Plan, most recently amended, effective August 19, 2013. All beneficial uses and water quality objectives contained in the Ocean Plan were approved under state law and submitted to and approved by U.S. EPA and are applicable water quality standards pursuant to 40 C.F.R. section 131.21(c)(2).

This Order also includes WQBELs at Discharge Point 002 for pH, total residual chlorine, temperature, copper, mercury, nickel, silver, thallium, zinc, DDT, chronic toxicity and radioactivity. 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 toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 C.F.R. 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.

4. Intake Credits for Priority Pollutants for Discharge Point 002

a. Effluent Limitations for Priority Pollutants Based on Intake Water Credits

The receiving water for Discharge Point 002 is an inland surface water subject to the provisions of the SIP. Section 1.4.4 of the SIP provides that the Regional Water Board may consider priority pollutants in intake water on a pollutant-by-pollutant and discharge-by-discharge basis when establishing water quality-based effluent limitations, provided that the discharger has demonstrated to the satisfaction of the Regional Water Board that the following conditions are met:

(1) The observed maximum ambient background concentration, as determined in section 1.4.3.1, and the intake water concentration of the pollutant exceeds the most stringent applicable criterion/objective for that pollutant;

(2) The intake water credits provided are consistent with any TMDL applicable to the discharge that has been approved by the Regional Water Board, State Water Board, and USEPA;

(3) The intake water is from the same water body as the receiving water body. The discharger may demonstrate this condition by showing that;

(a) the ambient background concentration of the pollutant in the receiving water, excluding any amount of the pollutant in the facility's discharge, is similar to that of the intake water;

(b) there is a direct hydrological connection between the intake and discharge points;

(c) the water quality characteristics are similar in the intake and receiving waters; and

(d) the intake water pollutant would have reached the vicinity of the discharge point in the receiving water within a reasonable period of time and with the same effect had it not been diverted by the discharger.

The Regional Water Board may also consider other factors when determining whether the intake water is from the same water body as the receiving water body;

(4) The facility does not alter the intake water pollutant chemically or physically in a manner that adversely affects water quality and beneficial uses; and

(5) The timing and location of the discharge does not cause adverse effects on water quality and beneficial uses that would not occur if the intake water pollutant had been left in the receiving water body.

Where the above conditions are met, the Regional Water Board may establish effluent limitations allowing the facility to discharge a mass and concentration of the intake water pollutant that is no greater than the mass and concentration found in the facility's intake water. A discharger may add mass of the pollutant to its waste stream if an equal or greater mass is removed prior to discharge, so there is no net addition of the pollutant in the discharge compared to the intake water. Where proper operation and maintenance of a facility's treatment system results in the removal of an intake water pollutant, the Regional Water Board may establish

limitations that reflect the lower mass and concentration of the pollutant achieved by such treatment.

According to Section 1.4.4 of the SIP, the Regional Water Board may establish effluent limitations allowing the Facility to discharge a mass and concentration of the intake water pollutant that is no greater than the mass and concentration found in the facility's intake water. The Regional Water Board may also determine compliance by simultaneously monitoring the pollutant concentrations in the intake water and in the effluent.

The monthly average intake concentration of a pollutant is calculated by adding all analytical monitoring results in a calendar month divided by the number of monitoring events for that month. If only a single sample is taken during the calendar month then the analytical result for that sample will be considered as the monthly average value or result.

If the influent water pollutant concentration does not exceed the average monthly limitation then the limitations are applied as noted in Footnote 11 of Table F-20 Summary of Final Effluent Limitations Discharge Point 002. If the influent water pollutant concentration exceeds the average monthly limitation but does not exceed the maximum daily limitation then compliance with the average monthly limitation will be determined based on intake water credits and compliance with the maximum daily limitation is applied as noted in Footnote 11 of Table F-20. If the influent water pollutant concentration exceeds the maximum daily limitation then compliance with both the average monthly and the maximum daily will be determined based on intake water credits.

When applying intake water credit, the pollutant effluent limitation is equal to the maximum pollutant concentration in the influent water, which is the same as the intake water. The equation is as follows:

> Pollutant effluent limitation with intake water credit = maximum pollutant influent water concentration

Two influent samples shall be collected, one immediately after the other, at approximately the same time as the effluent sample to address the variability of the influent water. When evaluating compliance with the pollutant effluent limitations based on intake water credit, compare the pollutant effluent concentration to the maximum pollutant influent water concentration as follows:

> If pollutant effluent concentration > maximum pollutant influent water concentration, then the discharge is in violation of the effluent limitation.
>
> If pollutant effluent concentration ≤ maximum pollutant influent water concentration, then the discharge is in compliance with the maximum daily effluent limitation.
>
> If pollutant monthly average effluent concentration ≤ monthly average pollutant influent concentration, then the discharge is in compliance with the average monthly effluent limitation..
>
> (If only one effluent sample is taken per month, then the monitoring result has to comply with the monthly average limitation based on intake credits).
>
> The potential to use intake credits, when the above criteria are satisfied, has been implemented at Outfall 002 for PCBs, DDT, copper, mercury, nickel, silver, thallium and zinc.

E. 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)

The flow rate is defined as the permitted flow rate from each discharge point as follows:

Discharge Point 001 = 215 MGD

Discharge Point 002 = 674 MGD

F. Summary of Final Effluent Limitations

Table F-19. Summary of Final Effluent Limitations for Discharge Point 001

Parameter	Units	Effluent Limitations					Basis[1]
		6-Month Median	Daily Maximum	Instanta-neous Maximum	30-day Average	Average Concentration	
pH	s.u.	[2]					OP, PO, ELG
Temperature	°F	[3]					PO, TP
Beryllium, Total Recoverable	µg/L	--	--	--	0.41	--	OP
	lbs/day[4]	--	--	--	0.74	--	
Cadmium, Total Recoverable	µg/L	12.5	50	125	--	--	OP, PO
	lbs/day[4]	22	90	224	--	--	
Chromium (VI)[5]	µg/L	25	100	250	--	--	OP, PO
	lbs/day[4]	45	179	448	--	--	
Lead, Total Recoverable	µg/L	25	100	250	--	--	OP, PO
	lbs/day[4]	45	179	448	--	--	
Mercury, Total Recoverable	µg/L	0.49	2	5	--	--	OP, PO
	lbs/day[4]	0.9	3.6	9.0	--	--	
Nickel, Total Recoverable	µg/L	62.5	250	625	--	--	OP, PO
	lbs/day[4]	112	448	1,121	--	--	
Selenium, Total Recoverable	µg/L	188	750	1875	--	--	OP, PO
	lbs/day[4]	337	1,345	3,362	--	--	
Silver, Total Recoverable	µg/L	6.9	33	86	--	--	OP, PO
	lbs/day[4]	12	59	154	--	--	
Chronic Toxicity	Pass or Fail and % Effect	--	Pass or % Effect <50[7]	--	Pass[6,7]	--	OP, PO
DDT[8]	µg/L		--	--	0.00017	--	TMDL
	lbs/day[4]	--	--	--	0.0003	--	
PCBs[9]	µg/L	[10]					ELG, PO
Free Available Chlorine[11,12]	mg/L	--	--	0.5	--	0.2	ELG, PO

Parameter	Units	Effluent Limitations					Basis[1]
		6-Month Median	Daily Maximum	Instantaneous Maximum	30-day Average	Average Concentration	
Total Residual Chlorine[11,12]	mg/L	--	0.2	--	--	--	ELG, PO
Radioactivity	[13]						

[1] ELG = Effluent Limitations Guidelines and Standards; OP = Ocean Plan; PO = Prior Order; TMDL = Santa Monica Bay Total Maximum Daily Loads for DDTs and PCBs; TP = Thermal Plan

[2] The effluent pH shall at all times be within the range of 6.0 to 9.0 pH units.

[3] The temperature of wastes discharged shall not exceed 106°F during normal operation of the facility. During heat treatment, the temperature of wastes discharged shall not exceed 125°F except during adjustment of the recirculation gate at which time the temperature of wastes discharged shall not exceed 135°F. Temperature fluctuations during gate adjustment above 125°F shall not last for more than thirty minutes.

[4] The mass (lbs/day) limitations are based on the permitted discharge flow for each discharge point (215 MGD for Discharge Point 001) and are calculated as follows:

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

[5] The Discharger may at their option meet this effluent limitation as a total chromium effluent limitation.

[6] Report "Pass" or "Fail" for Median Monthly Effluent Limitation (MMEL). Report "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL). During a calendar month, exactly three independent toxicity tests are required for routine monitoring when one toxicity test results in "Fail".

[7] This is a Median Monthly Effluent Limitation.

[8] DDT shall mean the sum of 4,4'-DDT, 2,4'-DDT, 4,4'-DDE, 2,4'-DDE, 4,4'-DDD and 2,4'-DDD.

[9] PCBs shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

[10] The Discharge of PCBs that originate from the Facility is prohibited as per 40 C.F.R. section 423.13(a).

[11] If other oxidants are used, this shall be the total of all oxidants reported as residual chlorine.

[12] Total residual and free available chlorine may not be discharged from any single generating unit for more than two hours per day unless the Discharger demonstrates to the permitting authority that discharge for more than two hours per day is required for macroinvertebrate control.

[13] Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30253 of the California Code of Regulations. Reference to Section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.

Table F-20. Summary of Final Effluent Limitations for Discharge Point 002

Parameter	Units	Effluent Limitations				Basis[1]
		Average Monthly	Maximum Daily	Average Concentration	Instantaneous Maximum	
pH	S.U.	--	--		6.5/8.5	BP
Temperature	°F	--	--	--	86	BP, TP, PO
PCBs[2,11]	µg/L	[3]				ELG, PO
Free Available Chlorine[4,5]	mg/L	--	--	0.2	0.50	ELG
Total Residual Chlorine[4,5]	mg/L	--	0.1	--	--	BP
Copper, Total Recoverable[11]	µg/L	2.1	5.8	--	--	CTR, SIP
	lbs/day[6]	12	33	--	--	
Mercury, Total Recoverable[11]	µg/L	0.051	0.10	--	--	CTR, SIP
	lbs/day[6]	0.29	0.56	--	--	
Nickel, Total Recoverable[11]	µg/L	5.6	15	--	--	CTR, SIP
	lbs/day[6]	31	84	--	--	
Silver, Total Recoverable[11]	µg/L	1.1	2.2	--	--	CTR, SIP
	lbs/day[6]	6.2	12	--	--	
Thallium, Total Recoverable[11]	µg/L	6.3	13	--	--	CTR, SIP
	lbs/day[6]	35	73	--	--	
Zinc, Total Recoverable[11]	µg/L	30	92	--	--	CTR, SIP
	lbs/day[6]	168	517	--	--	
DDT[7, 11]	µg/L	0.00017	0.00034	--	--	TMDL, SIP
	lbs/day[6]	0.00096	0.0019	--	--	
Chronic Toxicity	Pass or Fail and % Effect for TST approach	Pass[8,9]	Pass or % Effect <50[9]	--	--	BP
Radioactivity	--	[10]				BP

[1] BP = Basin Plan; CTR = California Toxics Rule; ELG = Effluent Limitations Guidelines and Standards; PO = Prior Order; SIP = State Implementation Policy; TP = Thermal Plan; TMDL = Santa Monica Bay Total Maximum Daily Loads for DDTs and PCBs

[2] PCBs shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Arolclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

[3] The Discharge of PCBs that originate from the Facility is prohibited as per 40 C.F.R. section 423.13(a).

[4] If other oxidants are used, this shall be the total of all oxidants reported as residual chlorine.

[5] Total residual and free available chlorine may not be discharged from any single generating unit for more than two hours per day unless the Discharger demonstrates to the permitting authority that discharge for more than two hours per day is required for macroinvertebrate control.

[6] The mass (lbs/day) limitations are based on the permitted discharge flow for each discharge point (215 MGD for Discharge Point 001 and 674 for Discharge Point 002 and are calculated as follows:

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

[7] DDT shall mean the sum of 4,4'-DDT, 2,4'-DDT, 4,4'-DDE, 2,4'-DDE, 4,4'-DDD and 2,4'-DDD.

[8] Report "Pass" or "Fail" for Median Monthly Effluent Limitation (MMEL). Report "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL). During a calendar month, exactly three independent toxicity tests are required for routine monitoring when one toxicity test results in "Fail".

[9] This is a Median Monthly Effluent Limitation.

[10] Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life or that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

[11] If the influent water pollutant concentration (measured at intake for Units 7 and 8) does not exceed the average monthly limitation then the limitations are applied as noted in the Table. If the influent water pollutant concentration exceeds the average monthly limitation but does not exceed the maximum daily limitation then compliance with the average monthly limitation will be determined based on intake water credits and compliance with the maximum daily limitation is applied as noted in the Table. If the influent water pollutant concentration exceeds the maximum daily limitation then compliance with both the average monthly and the maximum daily will be determined based on intake water credits. When determining compliance based on intake water credit, the pollutant effluent limitation is equal to the maximum pollutant concentration in the influent water. The equation is as follows:

Maximum Pollutant Effluent Limitation with Intake Water Credit = Maximum Pollutant Influent Water Concentration
Monthly Pollutant Effluent Limitation with Intake Water Credit = Monthly Pollutant Influent Water Concentration

Table F-21. Summary of Final Effluent Limitations for Low Volume Wastes—Discharge Point 001

Parameter	Units	Effluent Limitations				Basis[1]
		30-day Average	Maximum Daily	Instantaneous		
				Minimum	Maximum	
Effluent Limitations for Low Volume Wastes at Monitoring Location INT-001A						
Total Suspended Solids	mg/L	30	100	--	--	PO, ELG
	lbs/day[2]	223	746	--	--	
Oil and Grease	mg/L	15	20	--	--	PO, ELG
	lbs/day[2]	111	149	--	--	
pH	s.u.	--	--	6.0	9.0	PO, ELG

[1] ELG = Effluent Limitations, Guidelines and Standards; PO = Prior Order

[2] The mass (lbs/day) limitations are based on the permitted discharge flow for each discharge point (0.864 MGD for Low Volume Wastes) and are calculated as follows:

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

Section III.C.8.d of the Ocean Plan states that, due to the large total volume of power plant discharges, special procedures must be applied for determining compliance with Table 1 objectives. Calculated effluent concentration values shall be converted to mass emisssions limitations. The mass emissions limitations shall then serve as requirements applied to all in-plant waste streams taken together which discharge into the cooling water flow, except for total residual chlorine, chronic toxicity and instantaneous maximum concentrations.

This Order, therefore, establishes mass-based effluent limitations for total in-plant waste streams based on the calculated effluent limitations for Discharge Point 001. The total volume of the in-plant waste streams discharging through Discharge Point 001 is 0.1755 million gallons per day (MGD), which includes low volume wastes. The mass-based limitations are summarized in the following table:

Table F-22. Summary of Mass-based Effluent Limitations for Low Volume Wastes—Discharge Point 001

Parameter	Units	Effluent Limitations			Basis[1]
		6-Month Median	Daily Maximum	30-day Average	
Beryllium, Total Recoverable	lbs/day[2]	--	--	0.003	OP
Cadmium, Total Recoverable	lbs/day[2]	0.09	0.36	--	OP
Chromium (VI)[3]	lbs/day[2]	0.18	0.72	--	OP
Lead, Total Recoverable	lbs/day[2]	0.18	0.72	--	OP
Mercury, Total Recoverable	lbs/day[2]	0.0035	0.014	--	OP
Nickel, Total Recoverable	lbs/day[2]	0.45	1.8	--	OP
Selenium, Total Recoverable	lbs/day[2]	1.4	5.4	--	OP
Silver, Total Recoverable	lbs/day[2]	0.05	0.24	--	OP

[1] OP = Ocean Plan

[2] The mass-based limitations are based on a maximum combined flow of 0.864 for all in-plant waste streams and are calculated as follows:

$L_e = C \times Q_m \times 0.00834$ (conversion factor)

Where:

L_e = Mass-based limitation (lbs/day)

C = Concentration-based limitation (µg/L) from Table F-21.

Q_m = 0.864 MGD, the maximum combined flow for all in-plant waste streams

Example for cadmium, 6-month median:

Le = 12.5 x 0.864 x 0.00834 = 0.09 lbs/day

[3] The Discharger may at their option meet this effluent limitation as a total chromium limitation.

G. Interim Effluent Limitations—Not Applicable

H. Land Discharge Specifications—Not Applicable

I. Recycling Specifications—Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

The Basin Plan contains numeric and narrative water quality objectives applicable to all surface waters within the Los Angeles Region. Water quality objectives include an objective to maintain the high quality waters pursuant to federal regulations (40 C.F.R. § 131.12) and State Water Board Resolution No. 68-16. The Ocean Plan contains numeric and narrative water quality objectives applicable to the coastal waters of California. Receiving water limitations in this Order are included to ensure protection of beneficial uses of the receiving waters and are based on the water quality objectives contained in the Basin Plan and Ocean Plan.

B. Groundwater—Not Applicable

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

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

Sections 122.41(a)(1) and (b) through (n) of 40 C.F.R. establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 C.F.R. section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

These provisions are based on 40 C.F.R. section 123 and the prior 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 or the OTC policy.

b. Mixing Zone Study Workplan. The dilution ratio of 11.5:1 (receiving water to effluent) established in Order No. 00-085 is retained in this Order for Discharge Point 001 which discharges to the ocean. The Facility will cease discharges from Discharge Point 001 by December 31, 2020 as per the OTC Policy. If discharges will continue past that date, the Discharger must provide advanced notification to the

Regional Water Board, as well as a work plan to timely complete a mixing zone study. The study shall identify the boundary of the zone of initial dilution (ZID) based on modeling results, and include monitoring upstream of the discharge point, directly above the discharge location, at the boundary of the ZID and outside the ZID for the list of constituents included in Table 1 of the Ocean Plan, to confirm the assumptions made by the model.

3. Best Management Practices and Pollution Prevention

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

b. Best Management Practices Plan (BMPP). This Order requires the Discharger to develop and implement a BMPP. The purpose of the BMPP is to establish site-specific procedures that ensure proper operation and maintenance of equipment, to ensure that unauthorized non-storm water discharges (i.e. spills) do not occur at the Facility.

Special Provision V.C.3.b requires the Discharger to develop, maintain, and implement a BMPP. The BMPP may be included within the SWPPP as a description of best management practices (BMPs). Appendix G requires a discussion on the effectiveness of each BMP to reduce or prevent pollutants in storm water discharges. The Special Provision V.C.3.b and Appendix G requirements satisfy the TMDL component to address BMP performance.

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

4. Construction, Operation, and Maintenance Specifications

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

5. Special Provisions for Municipal Facilities (POTWs Only)—Not Applicable

6. Other Special Provisions

Once-Through Cooling Water Compliance Schedule. Under Track 1 of the OTC Policy, an existing power plant must reduce the intake flow rate to a level commensurate with closed-cycle wet cooling such that the through-screen intake velocity does not exceed 0.5 foot per second.

Track 2 is available to existing plants that demonstrate that Track 1 is infeasible, and such plants must reduce impingement and entrainment by 90 percent unless the California Independent System Operator, California Energy Commission, or Public Utilities Commission determines there is continued need for the plant, in which event the State Water Board will hold a hearing to consider suspension of the compliance date. In

the interim, the OTC Policy requires plants to implement measures to mitigate impingement and entrainment impacts.

All owners or operators of existing power plants were required to submit an implementation plan identifying the OTC compliance alternative selected by April 1, 2011. The Discharger submitted an implementation plan on April 1, 2011. A revised implementation plan was later submitted on June 17, 2011. Additional implementation information was submitted on March 31, 2013 and November 8, 2013. Per the submitted information, the Discharger has indicated that the proposed mechanism to bring units 5, 6, 7 and 8 into OTC compliance will be via Track 1.

The Track 1 compliance will be completed in two phases and will consist in the construction of a dry-cooled natural gas fired combined cycle gas turbine (CCGT) power block. Compliance with Units 5, 6, 7, and 8 is expected to meet the OTC Policy compliance date of December 31, 2020. This Order requires the Discharger to provide annual progress reports to the Regional Water Board to document the Facility's progress towards compliance with the OTC Policy:

Table F-23. Progress Update Schedule for Compliance with OTC Policy

Task	Progress Report Due Date
1. Submit Workplan for OTC compliance under Track 1 and/or Track 2.	June 1, 2016
2. Submit first progress Report on compliance actions.	December 31, 2016
3. Submit second progress Report.	December 31, 2017
4. Submit third progress Report.	December 31, 2018
5. Submit fourth progress Report.	December 31, 2019
6. Achieve full compliance with Units 5, 6, 7 and 8.	December 31, 2020

Immediate and Interim Requirements. The OTC Policy further requires the immediate and interim requirements:

a. As of October 1, 2011, the owner or operator of an existing power plant with an offshore intake shall install large organism exclusion devices having a distance between exclusion bars of no greater that nine inches, or install other exclusion devices, deemed equivalent by the State Water Board.

b. As of October 1, 2011, any unit that is not directly engaged in power-generating activities or critical system maintenance shall cease intake flows unless it has been demonstrated to the State Water Board that a reduced minimum flow is necessary for operations.

c. Commencing on October 1, 2015 and continuing up and until achieving final compliance with the OTC Policy, the owner or operator of the existing power plant must implement measures to mitigate the interim impingement and entrainment impacts resulting from the discharge.

Per the submitted Implementation plan and subsequent correspondence, the Discharger indicated that the Facility has three ocean water intake structures which are fitted with velocity caps, Units 7 and 8 are supported by one intake structure, and Units 5 and 6 are supported by two intake structures. The Redondo Beach intake structures currently have large organism exclusion devices constructed of fiberglass C-Channels, on the top and bottom of the assemblies with vertical fiberglass rods between the top and bottom assemblies. The existing large organism exclusion devices were installed in the early

1980s and the original spacing of each vertical rod was at 15 inches on centers. However, as of October 1, 2011, additional holes were drilled in the existing fiberglass C-Channels to place new additional fiberglass rods at 7 inches on centers. This installation of additional fiberglass rods has met the requirements of Section 2 (C) 1 of the OTC Policy of having a distance between exclusion bars of no greater than 9 inches.

With regards to intake flows when the generating units are offline and no longer generating power, circulating water pumps at the RBGS are periodically required for safe operation of critical plant systems. These critical plant systems include service air system, generator hydrogen sealing system, and instrument air system. These critical plant systems all require cooling water from the bearing cooling water system, which, over time, will rise in temperature requiring the circulation of cooling water to reduce the temperature of the bearing cooling water. When the Facility is not generating power, circulating water flow for critical plant systems is typically required from 1 to 3 hours per day to reduce bearing cooling water temperature. The amount of time it typically takes for the temperature in the bearing cooling water system to rise, and to be reduced, depends on many factors, including plant configuration, ongoing work or outages, cooling water tank levels, ambient air conditions, and circulating water temperatures. Normally one circulating pump with a capacity of 36,000 GPM is required for up to 3 hours per day for bearing cooling water, however, depending on cooling requirements one of the larger 117,000 GPM pumps may be cycled on to meet the water demands for these critical plant systems. Current and past operating data demonstrate that there are no months when intake flows at the Facility are likely to cease completely. Minimum month flows are typically January through March when power generation is expected to be at a minimum; however, as previously indicated, one 36,000 GPM pump circulating ocean water at the Facility is required for up to 3 hours per day at all times of the year.

With regards to the mitigating measures, the Discharger has indicated that as of October 1, 2015 and until the Facility achieves full OTC compliance, it will provide funding to the Coastal Conservancy to be used for mitigation projects directed toward increases in marine life associated with the State's Marine Protected Areas in the local region of the Facility. The amount to be provided shall be determined by the Deputy Director of the Division of Water Quality of the State Water Board.

OTC Policy Compliance Update

As previously discussed, new information provided by the Discharger indicates that the current plan is to permanently retire the Facility between May, 2018 and December, 2020. The Facility is no longer planning to construct new CCGT power blocks and the discharge of OTC water will cease when the Facility is permanently retired.

7. Compliance Schedules—Not Applicable

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

40 C.F.R. section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. 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, establishes monitoring and reporting requirements that implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring

Section 316(b) of the CWA requires the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact. Cooling water intake monitoring requirements have been retained from the Order 00-085. These monitoring requirements for flow and temperature are necessary to evaluate compliance with effluent limitations contained in this Order and compliance with the requirements of the Thermal Plan. Periodic monitoring of the biological impacts caused by the operation of the intake structure is required to ensure compliance with the determination that the design, construction, and operation of the intake structure to be Best Available Technology Economically Achievable consistent with the OTC Policy, as amended June 18, 2013.

Order 00-085 contained semi-annual monitoring for a variety of metals in the intake water which This Order also includes monthly influent monitoring for the metals with effluent limitations, as well as DDT, PCBs, and bacteria (fecal coliform, total coliform, and enterococcus).

B. Effluent Monitoring

1. Discharge Point 001

a. Monthly monitoring has been established for those pollutants where effluent limitations at Discharge Point 001 have been established in the Order (i.e., pH, temperature, PCBs, free available chlorine, total residual chlorine, beryllium, cadmium, chromium (VI), lead, mercury, nickel, selenium, silver, DDT and radioactivity). This monitoring is necessary to determine compliance with effluent limitations and to provide data for evaluating reasonable potential for the discharge to cause or contribute to an exceedance of applicable water quality objectives during future permit reissuances.

b. Revisions to the Ocean Plan that were incorporated into the 2012 Ocean Plan Appendix III include a model monitoring framework for point sources, storm water point sources, and non-point sources. Based on Appendix III, core monitoring, described as basic, site-specific monitoring necessary to measure compliance with individual effluent limits and/or impacts to receiving water quality," is required for Ocean Plan Table 1 constituents. Section 5.1 of Appendix III in the 2012 Ocean Plan specifies a minimum semiannual monitoring frequency for Table 1 pollutants in discharges greater than 10 MGD. Based on the model monitoring framework of the 2012 Ocean Plan, this Order establishes the frequency of monitoring for Table 1 pollutants to semiannually (2/year). Data generated from this monitoring is necessary for evaluating reasonable potential for the discharge to cause or contribute to an exceedance of applicable water quality objectives contained in the Ocean Plan during future permit reissuances.

c. Annual monitoring for total coliform, fecal coliform, and *Enterococcus* is established in this Order to assess the impact of bacteria in the discharge on the beneficial uses of the receiving water.

d. Compliance with effluent limits must be determined using an approved method under 40 C.F.R. part 136. In the case of PCBs, this is Method 608. Consistent with the Santa Monica Bay Total Maximum Daily Loads for DDT and PCBs (TMDL), this Order also recommends that each Discharger monitor and report PCBs using USEPA's proposed Method 1668c, which is capable of quantifying PCBs that are present at lower levels than Method 608. The Regional Water Board will use data generated by Method 1668c to verify assumptions and evaluate the need to further refine wasteload allocations in the TMDL. The Regional Water Board finds that these monitoring and reporting requirements bear a reasonable relationship to the Regional Water Board's need for and the benefits obtained from the reports.

e. Monitoring of the total mass emission of chromium, mercury, and silver for the in-plant waste streams before combining with once-through cooling water flow. Compliance shall be determined by the total mass emission for each parameter reported, calculated as the sum of the mass emissions from the individual in-plant waste streams as measured in INT-001A, utilizing the actual flow rates of the individual in-plant waste streams.

2. Discharge Point 002

a. Monthly monitoring has been established for those pollutants where effluent limitations at Discharge Point 002 have been established in the Order (i.e., pH, temperature, PCBs, free available chlorine, total residual chlorine, copper, lead, mercury, nickel, silver, thallium, zinc, DDT and radioactivity).

b. Monitoring for all priority pollutants not possessing effluent limitations shall be conducted once per year during the permit term.

c. Quarterly monitoring for total coliform, fecal coliform, and *Enterococcus* are established in this Order to assess the impact of bacteria in the discharge on the beneficial uses of the receiving water.

d. Compliance with effluent limits must be determined using an approved method under 40 C.F.R. part 136. In the case of PCBs, this is Method 608. Consistent with the Santa Monica Bay Total Maximum Daily Loads for DDT and PCBs (TMDL), this Order also recommends that each Discharger to monitor and report PCBs using USEPA's proposed Method 1668c, which is capable of quantifying PCBs that are present at lower levels than Method 608. The Regional Water Board will use data generated by Method 1668c to verify assumptions and evaluate the need to further refine wasteload allocations in the TMDL.

3. Low Volume Wastes

Monitoring requirements for low volume wastes included in Order 00-085 have been retained in the MRP (Attachment E). These monitoring requirements are necessary to determine compliance with effluent limitations established in this Order.

4. Metal Cleaning Wastes

Monitoring requirements for metal cleaning wastes (both chemical and non-chemical) included in Order 00-085 have not been retained in the MRP (Attachment E). These monitoring requirements are no longer applicable as metal cleaning wastes are no longer discharged to the receiving waters.

C. Whole Effluent Toxicity Testing Requirements

Chronic toxicity limitations have been established in this Order for Discharge Points 001 and 002. Whole effluent toxicity (WET) testing protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. This Order requires annual monitoring for chronic toxicity which is a more stringent measure of the aggregate toxic properties of the discharge than acute toxicity. For this permit, chronic toxicity in the discharge is limited and evaluated using USEPA's 2010 TST statistical approach.

D. Receiving Water Monitoring

1. Surface Water

Monitoring requirements are included in the MRP (Attachment E) to determine compliance with the receiving water limitations established in Limitations and Discharge Requirements, Receiving Water Limitations, Section V.A. Receiving water monitoring requirements included Order 00-085 have been retained without modification.

Annual monitoring for ammonia, pH, salinity, dissolved oxygen, temperature, chronic toxicity and priority pollutants in the receiving water has been established in this order.

2. Visual Monitoring of Receiving Water Sampling Point

The Discharger is required to perform general observations of the receiving water when discharges occur and report the observations in the monitoring report. Attention shall be given to the presence or absence of floating or suspended matter, discoloration, aquatic life, visible film, sheen or coating, and fungi, slime, or objectionable growths.

3. Groundwater—Not Applicable

E. Other Monitoring Requirements

Monitoring during the discharge of calcareous material has been retained from Order 00-085. This monitoring is necessary to evaluate the effect of the discharge on the beneficial uses of the receiving water.

VIII. PUBLIC PARTICIPATION

The Regional Water Board has considered the issuance of WDRs that will serve as an NPDES permit for the Redondo Beach Generating Station. As a step in the WDR adoption process, Regional Water Board staff has developed tentative WDRs and has encouraged public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through email and public notice.

The public had access to the agenda and any changes in dates and locations through the Regional Water Board's website: http://www.waterboards.ca.gov/losangeles.

B. Written Comments

Interested parties were invited to submit written comments concerning the tentative WDRs as provided through the notification process. Comments were required to be submitted either in person or by mail to the Executive Office at the Regional Water Board at 320 West 4th Street, Suite 200, Los Angeles, CA 90013 or by email to losangeles@waterboards.ca.gov with a copy to thomas.siebels@waterboards.ca.gov.

To be fully responded to by staff and considered by the Regional Water Board, the written comments were due at the Regional Water Board office by 5:00 p.m. on **May 6, 2016**.

C. Public Hearing

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

Date:	June 9, 2016
Time:	9:00 AM
Location:	The Metropolitan Water District of Southern California Board Room 700 North Alameda Street Los Angeles, CA 90012

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

D. Reconsideration of Waste Discharge Requirements

Any person aggrieved by this action of the Regional Water Board may petition the State Water Board to review the action in accordance with 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 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.

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

E. Information and Copying

The Report of Waste Discharge, tentative WDRs, comments received, other information are on file and may be inspected at the Regional Water Board's office at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Viewing and copying of documents may be arranged through the Regional Water Board by calling (213) 576-6600.

F. Register of Interested Persons

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

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Thomas Siebels at (213) 576-6756.

ATTACHMENT G – STORM WATER POLLUTION PREVENTION PLAN REQUIREMENTS

I. IMPLEMENTATION SCHEDULE

A storm water pollution prevention plan (SWPPP) shall be developed and submitted to the Regional Water Board within 90 days following the adoption of this Order. The SWPPP shall be implemented for each facility covered by this Permit within 10 days of approval from the Regional Water Board, or no later than 90 days from the date of the submittal of the SWPPP to the Regional Water Board (whichever comes first).

II. OBJECTIVES

The SWPPP has two major objectives: (a) to identify and evaluate sources of pollutants associated with industrial activities that may affect the quality of storm water discharges and authorized non-storm water discharges from the facility; and (b) to identify and implement site- specific best management practices (BMPs) to reduce or prevent pollutants associated with industrial activities in storm water discharges and authorized non-storm water discharges. BMPs may include a variety of pollution prevention measures or other low-cost and pollution control measures. They are generally categorized as non-structural BMPs (activity schedules, prohibitions of practices, maintenance procedures, and other low-cost measures) and as structural BMPs (treatment measures, run-off controls, 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 storm water pollution prevention team responsible for developing the SWPPP, assisting the facility manager in SWPPP implementation and revision, and conducting all monitoring program activities required in Attachment E of this Permit. The SWPPP shall clearly identify the Permit related responsibilities, duties, and activities of each team member. For small facilities, storm water pollution prevention teams may consist of one individual where appropriate.

B. Review Other Requirements and Existing Facility Plans

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

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

IV. SITE MAP

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

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

PLANNING AND ORGANIZATION
Form Pollution Prevention Team Review other plans

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

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

IMPLEMENTATION PHASE
Train employees Implement BMPs Conduct recordkeeping and reporting

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

The following information shall be included on the site map:

A. The facility boundaries; the outline of all storm water drainage areas within the facility boundaries; portions of the drainage area impacted by run-on from surrounding areas; and direction of flow of each drainage area, on-site surface water bodies, and areas of soil erosion. The map shall also identify nearby water bodies (such as rivers, lakes, and ponds) and municipal storm drain inlets where the facility's storm water discharges and authorized non-storm water discharges may be received.

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

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

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

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

V. LIST OF SIGNIFICANT MATERIALS

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

VI. DESCRIPTION OF POTENTIAL POLLUTANT SOURCES

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

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

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

5. **Non-Storm Water Discharges.** Facility operators shall investigate the facility to identify all non-storm water discharges and their sources. As part of this investigation, all drains (inlets and outlets) shall be evaluated to identify whether they connect to the storm drain system.

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

   Non-storm water discharges that are not authorized by this Permit, other waste discharge requirements, or other NPDES permits are prohibited. The SWPPP must include BMPs to prevent or reduce contact of authorized non-storm water discharges with significant materials or equipment.

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

B. The SWPPP shall include a summary of all areas of industrial activities, potential pollutant sources, and potential pollutants. This information should be summarized similar to Table 1. The last column of Table 1, "Control Practices", should be completed in accordance with section VIII. below.

VII. ASSESSMENT OF POTENTIAL POLLUTANT SOURCES

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

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

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

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

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

VIII. STORM WATER BEST MANAGEMENT PRACTICES

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

TABLE B

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

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

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

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

A. Non-Structural BMPs

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

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

B. Structural BMPs.

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

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

C. 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 10 days of approval by the Executive Officer or no later than 90 days after submission to the Regional Water Board, whichever comes first. Evaluations shall include the following:

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

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

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

D. An evaluation report that includes, (i) identification of personnel performing the evaluation, (ii) the date(s) of the evaluation, (iii) necessary SWPPP revisions, (iv) schedule, as required in section X.E., for implementing SWPPP revisions, (v) any incidents of non-compliance and the corrective actions taken, and (vi) a certification that the facility operator is in compliance with this Permit. If the above certification cannot be provided, explain in the evaluation report why the facility operator is not in compliance with this 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.

IX. SWPPP GENERAL REQUIREMENTS

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

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

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

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

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

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

ATTACHMENT H – STATE WATER BOARD MINIMUM LEVELS

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

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

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

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

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

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

** Phenol by colorimetric technique has a factor of 1.

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

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

Table 2d – PESTICIDES – PCBs*	GC
4,4'-DDD	0.05
4,4'-DDE	0.05
4,4'-DDT	0.01
a-Endosulfan	0.02
alpha-BHC	0.01
Aldrin	0.005
b-Endosulfan	0.01
Beta-BHC	0.005
Chlordane	0.1
Delta-BHC	0.005
Dieldrin	0.01
Endosulfan Sulfate	0.05
Endrin	0.01
Endrin Aldehyde	0.01
Heptachlor	0.01
Heptachlor Epoxide	0.01
Gamma-BHC (Lindane)	0.02
PCB 1016	0.5
PCB 1221	0.5
PCB 1232	0.5
PCB 1242	0.5
PCB 1248	0.5
PCB 1254	0.5
PCB 1260	0.5
Toxaphene	0.5

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

Techniques:

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

ATTACHMENT I – LIST OF PRIORITY POLLUTANTS

CTR Number	Parameter	CAS Number	Suggested Analytical Methods
1	Antimony	7440360	[1]
2	Arsenic	7440382	[1]
3	Beryllium	7440417	[1]
4	Cadmium	7440439	[1]
5a	Chromium (III)	16065831	[1]
5a	Chromium (VI)	18540299	[1]
6	Copper	7440508	[1]
7	Lead	7439921	[1]
8	Mercury	7439976	[1]
9	Nickel	7440020	[1]
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]

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]
87	Fluorene	86737	[1]
88	Hexachlorobenzene	118741	[1]

CTR Number	Parameter	CAS Number	Suggested Analytical Methods
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 C.F.R. part 136.

ATTACHMENT J – REASONABLE POTENTIAL ANALYSIS

					CTR Water Quality Criteria (ug/L)							REASONABLE POTENTIAL ANALYSIS (RPA)								
					Freshwater		Saltwater		Human Health for consumption of:											
CTR#	Parameters	Units	CV	MEC	C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot	Water & organisms	Organisms only	Lowest C	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	Tier 3 - other info. ?
1	Antimony	ug/L		7.61						4300.00	4300.00	No	No	Y	N		32.96		B<=C, Step 7	
2	Arsenic	ug/L		27.6			69.00	36.00			36.00	No	No	Y	N		19		B<=C, Step 7	
3	Beryllium	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.03		N	No Criteria	No Criteria
4	Cadmium	ug/L		0.0877			42.25	9.36			9.36	No	No	Y	Y	0.01		N	No detected value of B, Step 7	
5a	Chromium (III)			No Criteria							No Criteria	No Criteria	No Criteria	N					No Criteria	No Criteria
5b	Chromium (VI)	ug/L		0.67			1100.00	50.00			50.00	No	No	Y	N		3		B<=C, Step 7	
6	Copper	ug/L	1.293	42.2			5.78	3.73			3.73	Yes	Yes	Y	N		32.46		Limit required, B>C & pollutant dete	
7	Lead	ug/L		1.12			220.82	8.52			8.52	No	No	Y	Y	0.2		N	No detected value of B, Step 7	
8	Mercury	ug/L	0.629	0.068			Reserved	Reserved		0.05	0.05	Yes	Yes	Y	N		0.082		Limit required, B>C & pollutant dete	
9	Nickel	ug/L	1.291	27.1			74.75	8.28		4600.00	8.28	Yes	Yes	Y	N		5		B<=C, Step 7	
10	Selenium	ug/L		0.347			290.58	71.14			71.14	No	No	Y	N		318		B>C & eff ND, Step 7	
11	Silver	ug/L	0.6	3.7			2.24				2.24	Yes	Yes	Y	N		27		Limit required, B>C & pollutant dete	
12	Thallium	ug/L	0.6	9.02						6.30	6.30	Yes	Yes	Y	Y	0.1		N	No detected value of B, Step 7	
13	Zinc	ug/L	1.943	133			92.02	85.62			85.6	Yes	Yes	Y	N		963		Limit required, B>C & pollutant dete	
14	Cyanide	ug/L					1.00	1.00		220000.0	1.00			Y	Y	2		Y	No detected value of B, Step 7	
15	Asbestos	MFL		No Criteria							No Criteria	No Criteria	No Criteria	Y	N		0.5		No Criteria	No Criteria
16	2,3,7,8 TCDD	ug/L								1.4E-08	1.40E-08			Y	N				No detected value of B, Step 7	
	TCDD Equivalents	ug/L	0							1.4E-08	1.40E-08			Y	Y	0.01		Y	No detected value of B, Step 7	
17	Acrolein	ug/L		14						780.0	780	No	No	N					No detected value of B, Step 7	
18	Acrylonitrile	ug/L								0.66	0.660			N					No detected value of B, Step 7	
19	Benzene	ug/L		0.14						71	71.0	No	No	Y	Y	0.25		N	No detected value of B, Step 7	
20	Bromoform	ug/L		0.5						360	360.0	No	No	Y	Y	0.27		N	No detected value of B, Step 7	
21	Carbon Tetrachloride	ug/L		0.23						4.4	4.40	No	No	Y	Y	0.3		N	No detected value of B, Step 7	
22	Chlorobenzene	ug/L		0.17						21000	21000	No	No	Y	Y	0.2		N	No detected value of B, Step 7	
23	Chlorodibromomethane	ug/L		0.25						34	34.00	No	No	Y	Y	0.29		N	No detected value of B, Step 7	
24	Chloroethane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.4		N	No Criteria	No Criteria
25	2-Chloroethylvinyl ether	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	N					No Criteria	No Criteria
26	Chloroform	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	N	1.4	1.4	N	No Criteria	No Criteria
27	Dichlorobromomethane	ug/L		0.21						46	46.00	No	No	Y	N		1		B<=C, Step 7	
28	1,1-Dichloroethane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.33		N	No Criteria	No Criteria
29	1,2-Dichloroethane	ug/L		0.24						99	99.00	No	No	Y	Y	0.33		N	No detected value of B, Step 7	
30	1,1-Dichloroethylene	ug/L		0.43						3.2	3.200	No	No	N					No detected value of B, Step 7	
31	1,2-Dichloropropane	ug/L		0.42						39	39.00	No	No	Y	Y	0.29		N	No detected value of B, Step 7	
32	1,3-Dichloropropylene	ug/L		0.14						1700	1700	No	No	Y	Y	0.34		N	No detected value of B, Step 7	
33	Ethylbenzene	ug/L		0.14						29000	29000	No	No	Y	Y	0.24		N	No detected value of B, Step 7	
34	Methyl Bromide	ug/L		3.9						4000	4000	No	No	Y	Y	0.46		N	No detected value of B, Step 7	
35	Methyl Chloride	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.34		N	No Criteria	No Criteria
36	Methylene Chloride	ug/L		0.64						1600	1600.0	No	No	Y	Y	0.91		N	No detected value of B, Step 7	
37	1,1,2,2-Tetrachloroethane	ug/L		0.41						11	11.00	No	No	Y	Y	0.22		N	No detected value of B, Step 7	
38	Tetrachloroethylene	ug/L								8.85	8.9			Y	Y	0.25		N	No detected value of B, Step 7	
39	Toluene	ug/L		0.24						200000	200000	No	No	Y	Y	0.24		N	No detected value of B, Step 7	
40	1,2-Trans-Dichloroethylene	ug/L								140000	140000			N					No detected value of B, Step 7	
41	1,1,1-Trichloroethane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.29		N	No Criteria	No Criteria
42	1,1,2-Trichloroethane	ug/L		0.38						42	42.0	No	No	Y	Y	0.38		N	No detected value of B, Step 7	
43	Trichloroethylene	ug/L		0.37						81	81.0	No	No	Y	Y	0.45		N	No detected value of B, Step 7	
44	Vinyl Chloride	ug/L		0.3						525	525	No	No	Y	Y	0.39		N	No detected value of B, Step 7	
45	2-Chlorophenol	ug/L		1.2						400	400	No	No	Y	Y	0.32		N	No detected value of B, Step 7	
46	2,4-Dichlorophenol	ug/L		1.2						790	790	No	No	Y	Y	0.93		N	No detected value of B, Step 7	
47	2,4-Dimethylphenol	ug/L		1.2						2300	2300	No	No	Y	Y	0.63		N	No detected value of B, Step 7	
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	ug/L		7.1						765	765.0	No	No	Y	Y	2.8		N	No detected value of B, Step 7	
49	2,4-Dinitrophenol	ug/L		6.7						14000	14000	No	No	Y	Y	3.1		N	No detected value of B, Step 7	
50	2-Nitrophenol	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.95		N	No Criteria	No Criteria
51	4-Nitrophenol	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	1.7		N	No Criteria	No Criteria
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	1.2		N	No Criteria	No Criteria
53	Pentachlorophenol	ug/L		2.3			13.00	7.90		8.2	7.90	No	No	Y	Y	2.2		N	No detected value of B, Step 7	
54	Phenol	ug/L		1						4600000	4600000	No	No	Y	Y	0.39		N	No detected value of B, Step 7	
55	2,4,6-Trichlorophenol	ug/L		1.3						6.5	6.5	No	No	Y	Y	0.49		N	No detected value of B, Step 7	
56	Acenaphthene	ug/L		1.4						2700	2700	No	No	Y	Y	0.55		N	No detected value of B, Step 7	
57	Acenaphthylene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.65		N	No Criteria	No Criteria
58	Anthracene	ug/L		1.5						110000	110000	No	No	Y	Y	0.64		N	No detected value of B, Step 7	
59	Benzidine	ug/L								0.00054	0.00054			N					No detected value of B, Step 7	
60	Benzo(a)Anthracene	ug/L								0.049	**0.049**			Y	Y	0.53		Y	No detected value of B, Step 7	
61	Benzo(a)Pyrene	ug/L								0.049	**0.049**			Y	Y	0.56		Y	No detected value of B, Step 7	
62	Benzo(b)Fluoranthene	ug/L								0.049	0.0490			Y	Y	2.7		Y	No detected value of B, Step 7	
63	Benzo(ghi)Perylene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.77		N	No Criteria	No Criteria
64	Benzo(k)Fluoranthene	ug/L								0.049	0.0490			Y	Y	0.75		Y	No detected value of B, Step 7	
65	Bis(2-Chloroethoxy)Methane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.82		N	No Criteria	No Criteria
66	Bis(2-Chloroethyl)Ether	ug/L		1.3						1.4	1.400	No	No	Y	Y	0.45		N	No detected value of B, Step 7	
67	Bis(2-Chloroisopropyl)Ether	ug/L		1.6						170000	170000	No	No	Y	Y	1.5		N	No detected value of B, Step 7	
68	Bis(2-Ethylhexyl)Phthalate	ug/L		1.6						5.9	5.9	No	No	Y	Y	0.83		N	No detected value of B, Step 7	

				HUMAN HEALTH CALCULATIONS			AQUATIC LIFE CALCULATIONS									LIMITS			
				Organisms only			Saltwater / Freshwater / Basin Plan												
CTR#	Parameters	RPA Result - Need Limit?	Reason	AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh	ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic	Lowest LTA	AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life	Lowest AMEL	Lowest MDEL	Recommendation	Comment
1	Antimony	No	MEC<C & B<=C															No Limit	
2	Arsenic	No	MEC<C & B<=C															No Limit	
3	Beryllium	Uc	No Criteria															No Limit	
4	Cadmium	No	MEC<C & B is ND															No Limit	
5a	Chromium (III)	Uc	No Criteria															No Limit	
5b	Chromium (VI)	No	MEC<C & B<=C															No Limit	
6	Copper	Yes	MEC>=C		2.76		0.16	0.94	0.30	1.13	0.94	2.22	2.09	6.14	5.783133	2.1	5.8		
7	Lead	No	MEC<C & B is ND															No Limit	
8	Mercury	Yes	MEC>=C	0.051	2.05	0.10455						1.58		3.24		0.051	0.10		
9	Nickel	Yes	MEC>=C	4600	2.76	12711.97133	0.16	12.19	0.30	2.50	2.50	2.22	5.54	6.13	15.31409	5.5	15		
10	Selenium	No	ud; B>C & effluent ND															No Limit	
11	Silver	Yes	MEC>=C		2.01		0.32	0.72	0.53		0.72	1.55	1.11	3.11	2.235294	1.1	2.2		
12	Thallium	Yes	MEC>=C	6.3	2.01	12.63899						1.55		3.11		6.3	13		
13	Zinc	Yes	MEC>=C		3.06		0.12	10.97	0.21	17.92	10.97	2.74	30.09	8.39	92.02454	30	92		
14	Cyanide	No	UD; effluent ND, MDL>C, and															No Limit	
15	Asbestos	Uc	No Criteria															No Limit	
16	2,3,7,8 TCDD	no	ud; effluent ND, MDL>C & B>															No Limit	
	TCDD Equivalents	No	UD; effluent ND, MDL>C, and															No Limit	
17	Acrolein	No	Ud;MEC<C & no B															No Limit	
18	Acrylonitrile	No	UD;Effluent ND,MDL>C & No															No Limit	
19	Benzene	No	MEC<C & B is ND															No Limit	
20	Bromoform	No	MEC<C & B is ND															No Limit	
21	Carbon Tetrachloride	No	MEC<C & B is ND															No Limit	
22	Chlorobenzene	No	MEC<C & B is ND															No Limit	
23	Chlorodibromomethane	No	MEC<C & B is ND															No Limit	
24	Chloroethane	Uc	No Criteria															No Limit	
25	2-Chloroethylvinyl ether	Uc	No Criteria															No Limit	
26	Chloroform	Uc	No Criteria															No Limit	
27	Dichlorobromomethane	No	MEC<C & B<=C															No Limit	
28	1,1-Dichloroethane	Uc	No Criteria															No Limit	
29	1,2-Dichloroethane	No	MEC<C & B is ND															No Limit	
30	1,1-Dichloroethylene	No	Ud;MEC<C & no B															No Limit	
31	1,2-Dichloropropane	No	MEC<C & B is ND															No Limit	
32	1,3-Dichloropropylene	No	MEC<C & B is ND															No Limit	
33	Ethylbenzene	No	MEC<C & B is ND															No Limit	
34	Methyl Bromide	No	MEC<C & B is ND															No Limit	
35	Methyl Chloride	Uc	No Criteria															No Limit	
36	Methylene Chloride	No	MEC<C & B is ND															No Limit	
37	1,1,2,2-Tetrachloroethane	No	MEC<C & B is ND															No Limit	
38	Tetrachloroethylene	ud	No effluent data & B is ND															No Limit	
39	Toluene	No	MEC<C & B is ND															No Limit	
40	1,2-Trans-Dichloroethylene	Ud	No effluent data & no B															No Limit	
41	1,1,1-Trichloroethane	Uc	No Criteria															No Limit	
42	1,1,2-Trichloroethane	No	MEC<C & B is ND															No Limit	
43	Trichloroethylene	No	MEC<C & B is ND															No Limit	
44	Vinyl Chloride	No	MEC<C & B is ND															No Limit	
45	2-Chlorophenol	No	MEC<C & B is ND															No Limit	
46	2,4-Dichlorophenol	No	MEC<C & B is ND															No Limit	
47	2,4-Dimethylphenol	No	MEC<C & B is ND															No Limit	
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	No	MEC<C & B is ND															No Limit	
49	2,4-Dinitrophenol	No	MEC<C & B is ND															No Limit	
50	2-Nitrophenol	Uc	No Criteria															No Limit	
51	4-Nitrophenol	Uc	No Criteria															No Limit	
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	Uc	No Criteria															No Limit	
53	Pentachlorophenol	No	MEC<C & B is ND															No Limit	
54	Phenol	No	MEC<C & B is ND															No Limit	
55	2,4,6-Trichlorophenol	No	MEC<C & B is ND															No Limit	
56	Acenaphthene	No	MEC<C & B is ND															No Limit	
57	Acenaphthylene	Uc	No Criteria															No Limit	
58	Anthracene	No	MEC<C & B is ND															No Limit	
59	Benzidine	No	UD;Effluent ND,MDL>C & No															No Limit	
60	Benzo(a)Anthracene	No	UD; effluent ND, MDL>C, and															No Limit	
61	Benzo(a)Pyrene	No	UD; effluent ND, MDL>C, and															No Limit	
62	Benzo(b)Fluoranthene	No	UD; effluent ND, MDL>C, and															No Limit	
63	Benzo(ghi)Perylene	Uc	No Criteria															No Limit	
64	Benzo(k)Fluoranthene	No	UD; effluent ND, MDL>C, and															No Limit	
65	Bis(2-Chloroethoxy)Methane	Uc	No Criteria															No Limit	
66	Bis(2-Chloroethyl)Ether	No	MEC<C & B is ND															No Limit	
67	Bis(2-Chloroisopropyl)Ether	No	MEC<C & B is ND															No Limit	
68	Bis(2-Ethylhexyl)Phthalate	No	MEC<C & B is ND															No Limit	

					CTR Water Quality Criteria (ug/L)							REASONABLE POTENTIAL ANALYSIS (RPA)								
					Freshwater		Saltwater		Human Health for consumption of:											
CTR#	Parameters	Units	CV	MEC	C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot	Water & organisms	Organisms only	Lowest C	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	Tier 3 - other info. ?
69	4-Bromophenyl Phenyl Ethe	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.42		N	No Criteria	No Criteria
70	Butylbenzyl Phthalate	ug/L		1.2						5200	5200	No	No	Y	Y	0.62		N	No detected value of B, Step 7	
71	2-Chloronaphthalene	ug/L		1.4						4300	4300	No	No	Y	Y	0.71		N	No detected value of B, Step 7	
72	4-Chlorophenyl Phenyl Ethe	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.69		N	No Criteria	No Criteria
73	Chrysene	ug/L								0.049	**0.049**			Y	Y	0.47		Y	No detected value of B, Step 7	
74	Dibenzo(a,h)Anthracene	ug/L								0.049	0.0490			Y	Y	1.6		Y	No detected value of B, Step 7	
75	1,2-Dichlorobenzene	ug/L		0.46						17000	17000	No	No	Y	Y	0.44		N	No detected value of B, Step 7	
76	1,3-Dichlorobenzene	ug/L		0.4						2600	2600	No	No	Y	Y	0.31		N	No detected value of B, Step 7	
77	1,4-Dichlorobenzene	ug/L		0.43						2600	2600	No	No	Y	Y	0.38		N	No detected value of B, Step 7	
78	3,3 Dichlorobenzidine	ug/L								0.077	0.08			Y	Y	1.7		Y	No detected value of B, Step 7	
79	Diethyl Phthalate	ug/L		1.4						120000	120000	No	No	Y	Y	0.63		N	No detected value of B, Step 7	
80	Dimethyl Phthalate	ug/L		1.3						2900000	2900000	No	No	Y	Y	0.57		N	No detected value of B, Step 7	
81	Di-n-Butyl Phthalate	ug/L		1.5						12000	12000	No	No	Y	Y	0.9		N	No detected value of B, Step 7	
82	2,4-Dinitrotoluene	ug/L		1.2						9.10	9.10	No	No	Y	Y	0.55		N	No detected value of B, Step 7	
83	2,6-Dinitrotoluene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.44		N	No Criteria	No Criteria
84	Di-n-Octyl Phthalate	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.59		N	No Criteria	No Criteria
85	1,2-Diphenylhydrazine	ug/L		0.43						0.54	0.540	No	No	Y	Y	1.2		Y	No detected value of B, Step 7	
86	Fluoranthene	ug/L		1.6						370	370	No	No	Y	Y	0.47		N	No detected value of B, Step 7	
87	Fluorene	ug/L		1.4						14000	14000	No	No	Y	Y	0.32		N	No detected value of B, Step 7	
88	Hexachlorobenzene	ug/L								0.00077	0.00077			Y	Y	0.61		Y	No detected value of B, Step 7	
89	Hexachlorobutadiene	ug/L		1.4						50	50.00	No	No	Y	Y	0.96		N	No detected value of B, Step 7	
90	Hexachlorocyclopentadiene	ug/L		3.5						17000	17000	No	No	Y	Y	2.5		N	No detected value of B, Step 7	
91	Hexachloroethane	ug/L		1.5						8.9	8.9	No	No	Y	Y	0.93		N	No detected value of B, Step 7	
92	Indeno(1,2,3-cd)Pyrene	ug/L								0.049	0.0490			Y	Y	0.71		Y	No detected value of B, Step 7	
93	Isophorone	ug/L		1.3						600	600.0	No	No	Y	Y	0.78		N	No detected value of B, Step 7	
94	Naphthalene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.45		N	No Criteria	No Criteria
95	Nitrobenzene	ug/L		1.5						1900	1900	No	No	Y	Y	1.2		N	No detected value of B, Step 7	
96	N-Nitrosodimethylamine	ug/L		1.6						8.10	8.10000	No	No	Y	Y	1.7		N	No detected value of B, Step 7	
97	N-Nitrosodi-n-Propylamine	ug/L		1.2						1.40	1.400	No	No	Y	Y	0.74		N	No detected value of B, Step 7	
98	N-Nitrosodiphenylamine	ug/L		1.4						16	16.0	No	No	Y	Y	0.76		N	No detected value of B, Step 7	
99	Phenanthrene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.61		N	No Criteria	No Criteria
100	Pyrene	ug/L		1.5						11000	**11000**	No	No	Y	Y	0.61		N	No detected value of B, Step 7	
101	1,2,4-Trichlorobenzene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.17		N	No Criteria	No Criteria
102	Aldrin	ug/L					1.30			0.00014	0.00014			Y	Y				No detected value of B, Step 7	
103	alpha-BHC	ug/L								0.013	0.0130			Y	Y				No detected value of B, Step 7	
104	beta-BHC	ug/L		0.015						0.046	0.046	No	No	Y	Y	0.006		N	No detected value of B, Step 7	
105	gamma-BHC	ug/L		0.015			0.16			0.063	0.063	No	No	Y	Y	0.004		N	No detected value of B, Step 7	
106	delta-BHC	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.009		N	No Criteria	No Criteria
107	Chlordane	ug/L					0.09	0.004		0.00059	**0.00059**			Y	Y	0.014		Y	No detected value of B, Step 7	
108	4,4'-DDT	ug/L					0.13	0.001		0.00059	**0.00059**			Y	Y	0.012		Y	No detected value of B, Step 7	
109	4,4'-DDE (linked to DDT)	ug/L								0.00059	0.00059			Y	Y	0.004		Y	No detected value of B, Step 7	
110	4,4'-DDD	ug/L								0.00084	0.00084			Y	Y	0.011		Y	No detected value of B, Step 7	
111	Dieldrin	ug/L					0.71	0.0019		0.00014	**0.00014**			Y	Y	0.002		Y	No detected value of B, Step 7	
112	alpha-Endosulfan	ug/L					0.034	0.0087		240	0.0087			Y	Y	0.014		Y	No detected value of B, Step 7	
113	beta-Endolsulfan	ug/L					0.034	0.0087		240	0.0087			Y	Y	0.004		N	No detected value of B, Step 7	
114	Endosulfan Sulfate	ug/L		0.015						240	240	No	No	Y	Y	0.066		N	No detected value of B, Step 7	
115	Endrin	ug/L					0.037	0.0023		0.81	0.0023			Y	Y	0.006		Y	No detected value of B, Step 7	
116	Endrin Aldehyde	ug/L		0.013						0.81	0.81	No	No	Y	Y	0.023		N	No detected value of B, Step 7	
117	Heptachlor	ug/L					0.053	0.0036		0.00021	0.00021			Y	Y	0.003		Y	No detected value of B, Step 7	
118	Heptachlor Epoxide	ug/L					0.053	0.0036		0.00011	0.00011			Y	Y	0.083		Y	No detected value of B, Step 7	
119-125	PCBs sum (2)	ug/L								0.00017	**0.00017**			Y	Y	0.065		Y	No detected value of B, Step 7	
126	Toxaphene	ug/L					0.21	0.0002		0.00075	0.0002			Y	Y	0.24		Y	No detected value of B, Step 7	
	DDT	ug/L	0.6							0.00017	**0.00017**			N					No detected value of B, Step 7	

DDT = The sum of:
4,4'-DDT, 2,4'-DDT,
4,4'-DDE, 2,4'-DDE,
4,4'-DDD and 2,4'-DDE

CTR#	Parameters	RPA Result - Need Limit?	Reason	HUMAN HEALTH CALCULATIONS			AQUATIC LIFE CALCULATIONS									LIMITS		Recommendation	Comment
				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	Lowest AMEL	Lowest MDEL		
69	4-Bromophenyl Phenyl Ethe	Uc	No Criteria															No Limit	
70	Butylbenzyl Phthalate	No	MEC<C & B is ND															No Limit	
71	2-Chloronaphthalene	No	MEC<C & B is ND															No Limit	
72	4-Chlorophenyl Phenyl Ethe	Uc	No Criteria															No Limit	
73	Chrysene	No	UD; effluent ND, MDL>C, and															No Limit	
74	Dibenzo(a,h)Anthracene	No	UD; effluent ND, MDL>C, and															No Limit	
75	1,2-Dichlorobenzene	No	MEC<C & B is ND															No Limit	
76	1,3-Dichlorobenzene	No	MEC<C & B is ND															No Limit	
77	1,4-Dichlorobenzene	No	MEC<C & B is ND															No Limit	
78	3,3 Dichlorobenzidine	No	UD; effluent ND, MDL>C, and															No Limit	
79	Diethyl Phthalate	No	MEC<C & B is ND															No Limit	
80	Dimethyl Phthalate	No	MEC<C & B is ND															No Limit	
81	Di-n-Butyl Phthalate	No	MEC<C & B is ND															No Limit	
82	2,4-Dinitrotoluene	No	MEC<C & B is ND															No Limit	
83	2,6-Dinitrotoluene	Uc	No Criteria															No Limit	
84	Di-n-Octyl Phthalate	Uc	No Criteria															No Limit	
85	1,2-Diphenylhydrazine	No	MEC<C & B is ND															No Limit	
86	Fluoranthene	No	MEC<C & B is ND															No Limit	
87	Fluorene	No	MEC<C & B is ND															No Limit	
88	Hexachlorobenzene	No	UD; effluent ND, MDL>C, and															No Limit	
89	Hexachlorobutadiene	No	MEC<C & B is ND															No Limit	
90	Hexachlorocyclopentadiene	No	MEC<C & B is ND															No Limit	
91	Hexachloroethane	No	MEC<C & B is ND															No Limit	
92	Indeno(1,2,3-cd)Pyrene	No	UD; effluent ND, MDL>C, and															No Limit	
93	Isophorone	No	MEC<C & B is ND															No Limit	
94	Naphthalene	Uc	No Criteria															No Limit	
95	Nitrobenzene	No	MEC<C & B is ND															No Limit	
96	N-Nitrosodimethylamine	No	MEC<C & B is ND															No Limit	
97	N-Nitrosodi-n-Propylamine	No	MEC<C & B is ND															No Limit	
98	N-Nitrosodiphenylamine	No	MEC<C & B is ND															No Limit	
99	Phenanthrene	Uc	No Criteria															No Limit	
100	Pyrene	No	MEC<C & B is ND															No Limit	
101	1,2,4-Trichlorobenzene	Uc	No Criteria															No Limit	
102	Aldrin	No	UD; effluent ND, MDL>C, and															No Limit	
103	alpha-BHC	No	UD; effluent ND, MDL>C, and															No Limit	
104	beta-BHC	No	MEC<C & B is ND															No Limit	
105	gamma-BHC	No	MEC<C & B is ND															No Limit	
106	delta-BHC	Uc	No Criteria															No Limit	
107	Chlordane	No	UD; effluent ND, MDL>C, and															No Limit	
108	4,4'-DDT	No	UD; effluent ND, MDL>C, and															No Limit	
109	4,4'-DDE (linked to DDT)	No	UD; effluent ND, MDL>C, and															No Limit	
110	4,4'-DDD	No	UD; effluent ND, MDL>C, and															No Limit	
111	Dieldrin	No	UD; effluent ND, MDL>C, and															No Limit	
112	alpha-Endosulfan	No	UD; effluent ND, MDL>C, and															No Limit	
113	beta-Endolsulfan	No	UD; effluent ND, MDL>C, and															No Limit	
114	Endosulfan Sulfate	No	MEC<C & B is ND															No Limit	
115	Endrin	No	UD; effluent ND, MDL>C, and															No Limit	
116	Endrin Aldehyde	No	MEC<C & B is ND															No Limit	
117	Heptachlor	No	UD; effluent ND, MDL>C, and															No Limit	
118	Heptachlor Epoxide	No	UD; effluent ND, MDL>C, and															No Limit	
119-125	PCBs sum (2)	No	UD; effluent ND, MDL>C, and															No Limit	
126	Toxaphene	No	UD; effluent ND, MDL>C, and															No Limit	
	DDT	Yes	UD;Effluent ND,MDL>C & No	0.00017	2.01	0.00034						1.55		3.11		0.00	0.00		Limit required per TMDL

DDT = The sum of:
4,4'-DDT, 2,4'-DDT,
4,4'-DDE, 2,4'-DDE,
4,4'-DDD and 2,4'-DDE

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