

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION**

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**ORDER NO. R9-2018-0062
NPDES NO. CA0109215**

**WASTE DISCHARGE REQUIREMENTS
FOR SAN DIEGO GAS AND ELECTRIC COMPANY
PALOMAR ENERGY CENTER
DISCHARGE TO THE PACIFIC OCEAN
THROUGH THE SAN ELIJO OCEAN OUTFALL**

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

Table 1. Discharger Information

Discharger	San Diego Gas and Electric Company
Name of Facility	Palomar Energy Center
Facility Address	2300 Harveson Place
	Escondido, CA 92029
	San Diego County

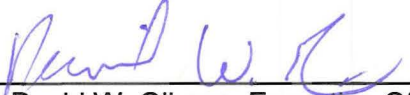
Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
I-001	Low Volume Waste Sources	33° 07' 090" N	117° 07' 032" W	Internal Discharge Location
001	Cooling Tower Blowdown	33° 00' 21" N	117° 18' 09" W	Pacific Ocean

Table 3. Administrative Information

This Order was adopted on:	October 10, 2018
This Order shall become effective on:	December 1, 2018
This Order shall expire on:	November 30, 2023
The Discharger shall file a Report of Waste Discharge (ROWD) as an application for reissuance of WDRs in accordance with title 23, California Code of Regulations (CCR), 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, San Diego Region have classified this discharge as follows:	Major

I, David W. Gibson, 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, San Diego Region, on the date indicated above.



 David W. Gibson, Executive Officer

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I. FACILITY INFORMATION

Information describing the Palomar Energy Center (PEC or 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, San Diego Region (San Diego Water Board), finds:

- A. Legal Authorities.** This Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (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). This Order shall serve as an NPDES permit authorizing the San Diego Gas and Electric Company (SDG&E or Discharger) to discharge into waters of the United States (U.S.) at the discharge location described in Table 2 subject to the WDRs in this Order.
- B. Background and Rationale for Requirements.** The San Diego 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, G, and H are also incorporated into this Order.
- C. Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections IV.B, IV.C, V.B, VI.C.1.b, and VI.C.1.c 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. Executive Officer Delegation of Authority.** The San Diego Water Board by prior resolution has delegated all matters that may legally be delegated to its Executive Officer to act on its behalf pursuant to Water Code section 13223. Therefore, the Executive Officer is authorized to act on the San Diego Water Board's behalf on any matter within this Order unless such delegation is unlawful under Water Code section 13223 or this Order explicitly states otherwise.
- E. Notification of Interested Parties.** The San Diego 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. The San Diego Water Board has also provided an opportunity for the Discharger and interested agencies and persons to submit oral comments and recommendations at a public hearing. Details of the notification are provided in the Fact Sheet (Attachment F).
- F. Consideration of Public Comment.** The San Diego 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 (Attachment F).

THEREFORE, IT IS HEREBY ORDERED, that this Order supersedes Order No. R9-2012-0015, as amended by Order No. R9-2017-0012, except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines

adopted thereunder, the Discharger shall comply with the requirements in this Order. The Discharger is hereby authorized to discharge subject to WDRs in this Order at the discharge location described in Table 2 to the Pacific Ocean off the coast of San Diego County. If any part of this Order is subject to a temporary stay of enforcement, unless otherwise specified in the order granting stay, the Discharger shall comply with the analogous portions of Order No. R9-2012-0015, as amended by Order No. R9-2017-0012. This action in no way prevents the San Diego Water Board from taking enforcement action for past violations of Order No. R9-2012-0015, as amended by Order No. R9-2017-0012.

III. DISCHARGE PROHIBITIONS

- A. The discharge of waste from the Facility not in compliance with the effluent limitations specified in section IV.A of this Order, and/or to a location other than Discharge Point No. 001, unless specifically regulated by this Order or separate WDRs, is prohibited.
- B. The discharge of polychlorinated biphenyl (PCB) compounds such as those commonly used for transformer fluid at Discharge Point Nos. 001 and I-001 is prohibited.
- C. The Discharger must comply with Discharge Prohibitions contained in chapter 4 of the *Water Quality Control Plan for the San Diego Basin (Basin Plan)*, incorporated into this Order as if fully set forth herein and summarized in Attachment G, as a condition of this Order.
- D. The Discharger must comply with Discharge Prohibitions contained in the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (Ocean Plan)*, incorporated into this Order as if fully set forth herein and summarized in Attachment G, as a condition of this Order.
- E. The use of any priority pollutant listed in Appendix A of title 40 of the Code of Federal Regulations (40 CFR) part 423, in the contents of chemical formulations added for cooling tower maintenance is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations and Performance Goals

1. Effluent Limitations

- a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 001, with compliance measured at Monitoring Location EFF-001, as described in the Monitoring and Reporting Program (MRP, Attachment E):

Table 4. Effluent Limitations for at Monitoring Location EFF-001¹

Parameter	Units	Effluent Limitations			
		6-Month Median	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow	million gallons per day (MGD)	--	1.4	--	--
Free Available Chlorine ¹	microgram per liter (µg/L)	--	200 ²	--	500
	pounds per day (lbs/day)	--	2.3 ^{2,3}	--	5.8 ³
Total Chlorine Residual ¹	µg/L	476	1,900	--	14,300
	lbs/day	5.6 ⁴	22 ⁴	--	167 ⁴
pH	standard units (SU)	--	--	6.0	9.0

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
 2. Applied as a two-hour average.

3. The mass emission rate (MER) limitations for free available chlorine, in lbs/day, were calculated based on the following equation: $MER \text{ (lbs/day)} = 8.34 \times Q \times C$, where Q is the reasonable measure of the actual production of the Facility (maximum daily flow of 1.38 MGD) and C is the concentration (mg/L).
 4. The MER limitations for total chlorine residual, in lbs/day, were calculated based on the following equation: $MER \text{ (lbs/day)} = 8.34 \times Q \times C$, where Q is the permitted flow for the Facility (1.4 MGD) and C is the concentration (mg/L).
- b. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. I-001 for low volume waste sources, with compliance measured at Monitoring Location I-001, as described in the MRP (Attachment E):

Table 5. Effluent Limitations at Monitoring Location I-001¹

Parameter	Units	Effluent Limitations			
		30-day Average	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	SU	--	--	6.0	9.0
Total Suspended Solids (TSS)	mg/L	30	100	--	--
	lbs/day	115 ²	742 ³	--	--
Oil and Grease	mg/L	15	20	--	--
	lbs/day	58 ²	148 ³	--	--

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
2. The MER limitations, in lbs/day, were calculated based on the following equation: $MER \text{ (lbs/day)} = 8.34 \times Q \times C$, where Q is the reasonable measure of the actual production of the Facility (maximum average monthly of 0.46 MGD) and C is the concentration (mg/L).
3. The MER limitations, in lbs/day, were calculated based on the following equation: $MER \text{ (lbs/day)} = 8.34 \times Q \times C$, where Q is the reasonable measure of the actual production of the Facility (maximum daily of 0.89 MGD) and C is the concentration (mg/L).

2. Performance Goals

Parameters that do not have reasonable potential to cause or contribute to an exceedance of water quality objectives, or for which reasonable potential to cause or contribute to an exceedance of water quality objectives cannot be determined, are referred to as performance goal parameters and are assigned the performance goals listed in Table 6. Performance goal parameters shall be monitored at Monitoring Location EFF-001, as described in the MRP (Attachment E), but the results will be used for informational purposes only, not compliance determinations. The performance goals in Table 6 are not water quality-based effluent limitations (WQBELs) and are not enforceable, as such.

Table 6. Performance Goals at Monitoring Location EFF-001¹

Parameter	Unit	Performance Goals ^{2,3}			
		6-Month Median	Average Monthly	Maximum Daily	Instantaneous Maximum
OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE					
Arsenic, Total Recoverable	µg/L	1.19E+03	--	6.91E+03	1.83E+04
	lbs/day	1.09E+01	--	6.33E+01	1.68E+02
Cadmium, Total Recoverable	µg/L	2.38E+02	--	9.52E+02	2.38E+03
	lbs/day	2.18E+00	--	8.73E+00	2.18E+01
Chromium (VI), Total Recoverable ⁴	µg/L	4.76E+02	--	1.90E+03	4.76E+03
	lbs/day	4.37E+00	--	1.75E+01	4.37E+01

Parameter	Unit	Performance Goals ^{2,3}			
		6-Month Median	Average Monthly	Maximum Daily	Instantaneous Maximum
Copper, Total Recoverable	µg/L	2.40E+02	--	2.38E+03	6.67E+03
	lbs/day	2.20E+00	--	2.19E+01	6.12E+01
Lead, Total Recoverable	µg/L	4.76E+02	--	1.90E+03	4.76E+03
	lbs/day	4.37E+00	--	1.75E+01	4.37E+01
Mercury, Total Recoverable	µg/L	9.40E+00	--	3.80E+01	9.51E+01
	lbs/day	8.62E-02	--	3.48E-01	8.72E-01
Nickel, Total Recoverable	µg/L	1.19E+03	--	4.76E+03	1.19E+04
	lbs/day	1.09E+01	--	4.37E+01	1.09E+02
Selenium, Total Recoverable	µg/L	3.57E+03	--	1.43E+04	3.57E+04
	lbs/day	3.28E+01	--	1.31E+02	3.28E+02
Silver, Total Recoverable	µg/L	1.29E+02	--	6.28E+02	1.63E+03
	lbs/day	1.18E+00	--	5.77E+00	1.49E+01
Zinc, Total Recoverable	µg/L	2.86E+03	--	1.71E+04	4.57E+04
	lbs/day	2.63E+01	--	1.57E+02	4.19E+02
Cyanide, Total	µg/L	2.38E+02	--	9.52E+02	2.38E+03
	lbs/day	2.18E+00	--	8.73E+00	2.18E+01
Ammonia (expressed as nitrogen)	µg/L	1.43E+05	--	5.71E+05	1.43E+06
	lbs/day	1.31E+03	--	5.24E+03	1.31E+04
Chronic Toxicity ^{5,6}	"Pass"/ "Fail"	--	"Pass"	--	--
Phenolic Compounds (non-chlorinated) ¹	µg/L	7.14E+03	--	2.86E+04	7.14E+04
	lbs/day	6.55E+01	--	2.62E+02	6.55E+02
Chlorinated Phenolics ¹	µg/L	2.38E+02	--	9.52E+02	2.38E+03
	lbs/day	2.18E+00	--	8.73E+00	2.18E+01
Endosulfan ¹	µg/L	2.14E+00	--	4.28E+00	6.43E+00
	lbs/day	1.97E-02	--	3.93E-02	5.90E-02
Endrin	µg/L	4.76E-01	--	9.52E-01	1.43E+00
	lbs/day	4.37E-03	--	8.73E-03	1.31E-02
HCH (BHC) ¹	µg/L	9.52E-01	--	1.90E+00	2.86E+00
	lbs/day	8.73E-03	--	1.75E-02	2.62E-02
Radioactivity	pCi/L	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 – NONCARCINOGENS					
Acrolein	µg/L	--	5.24E+04	--	--
	lbs/day	--	4.80E+02	--	--
Antimony, Total Recoverable	µg/L	--	2.86E+05	--	--
	lbs/day	--	2.62E+03	--	--
Bis(2-chloroethoxy) Methane	µg/L	--	1.05E+03	--	--
	lbs/day	--	9.61E+00	--	--

Parameter	Unit	Performance Goals ^{2,3}			
		6-Month Median	Average Monthly	Maximum Daily	Instantaneous Maximum
Bis(2-chloroisopropyl) Ether	µg/L	--	2.86E+05	--	--
	lbs/day	--	2.62E+03	--	--
Chlorobenzene	µg/L	--	1.36E+05	--	--
	lbs/day	--	1.24E+03	--	--
Chromium (III), Total Recoverable ⁴	µg/L	--	4.52E+07	--	--
	lbs/day	--	4.15E+05	--	--
Di-n-butyl Phthalate	µg/L	--	8.33E+05	--	--
	lbs/day	--	7.64E+03	--	--
Dichlorobenzenes ¹	µg/L	--	1.21E+06	--	--
	lbs/day	--	1.11E+04	--	--
Diethyl Phthalate	µg/L	--	7.85E+06	--	--
	lbs/day	--	7.21E+04	--	--
Dimethyl Phthalate	µg/L	--	1.95E+08	--	--
	lbs/day	--	1.79E+06	--	--
4,6-dinitro-2-methylphenol	µg/L	--	5.24E+04	--	--
	lbs/day	--	4.80E+02	--	--
2,4-dinitrophenol	µg/L	--	9.52E+02	--	--
	lbs/day	--	8.73E+00	--	--
Ethylbenzene	µg/L	--	9.76E+05	--	--
	lbs/day	--	8.95E+03	--	--
Fluoranthene	µg/L	--	3.57E+03	--	--
	lbs/day	--	3.28E+01	--	--
Hexachlorocyclopentadiene	µg/L	--	1.38E+04	--	--
	lbs/day	--	1.27E+02	--	--
Nitrobenzene	µg/L	--	1.17E+03	--	--
	lbs/day	--	1.07E+01	--	--
Thallium, Total Recoverable	µg/L	--	4.76E+02	--	--
	lbs/day	--	4.37E+00	--	--
Toluene	µg/L	--	2.02E+07	--	--
	lbs/day	--	1.86E+05	--	--
Tributyltin	µg/L	--	3.33E-01	--	--
	lbs/day	--	3.06E-03	--	--
1,1,1-trichloroethane	µg/L	--	1.29E+08	--	--
	lbs/day	--	1.18E+06	--	--
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS					
Acrylonitrile	µg/L	--	2.4E+01	--	--
	lbs/day	--	2.2E-01	--	--
Aldrin	µg/L	--	5.2E-03	--	--
	lbs/day	--	4.8E-05	--	--

Parameter	Unit	Performance Goals ^{2,3}			
		6-Month Median	Average Monthly	Maximum Daily	Instantaneous Maximum
Benzene	µg/L	--	1.4E+03	--	--
	lbs/day	--	1.3E+01	--	--
Benzidine	µg/L	--	1.6E-02	--	--
	lbs/day	--	1.5E-04	--	--
Beryllium, Total Recoverable	µg/L	--	7.9E+00	--	--
	lbs/day	--	7.2E-02	--	--
Bis(2-chloroethyl) Ether	µg/L	--	1.1E+01	--	--
	lbs/day	--	9.8E-02	--	--
Bis(2-ethylhexyl) Phthalate	µg/L	--	8.3E+02	--	--
	lbs/day	--	7.6E+00	--	--
Carbon Tetrachloride	µg/L	--	2.1E+02	--	--
	lbs/day	--	2.0E+00	--	--
Chlordane ¹	µg/L	--	5.5E-03	--	--
	lbs/day	--	5.0E-05	--	--
Chlorodibromomethane	µg/L	--	2.0E+03	--	--
	lbs/day	--	1.9E+01	--	--
Chloroform	µg/L	--	3.1E+04	--	--
	lbs/day	--	2.8E+02	--	--
Dichlorodiphenyltrichloroethane (DDT) ¹	µg/L	--	4.0E-02	--	--
	lbs/day	--	3.7E-04	--	--
1,4-dichlorobenzene	µg/L	--	4.3E+03	--	--
	lbs/day	--	3.9E+01	--	--
3,3'-dichlorobenzidine	µg/L	--	1.9E+00	--	--
	lbs/day	--	1.8E-02	--	--
1,2-dichloroethane	µg/L	--	6.7E+03	--	--
	lbs/day	--	6.1E+01	--	--
1,1-dichloroethylene	µg/L	--	2.1E+02	--	--
	lbs/day	--	2.0E+00	--	--
Dichlorobromomethane	µg/L	--	1.5E+03	--	--
	lbs/day	--	1.4E+01	--	--
Dichloromethane	µg/L	--	1.1E+05	--	--
	lbs/day	--	9.8E+02	--	--
1,3-dichloropropene	µg/L	--	2.1E+03	--	--
	lbs/day	--	1.9E+01	--	--
Dieldrin	µg/L	--	9.5E-03	--	--
	lbs/day	--	8.7E-05	--	--
2,4-dinitrotoluene	µg/L	--	6.2E+02	--	--
	lbs/day	--	5.7E+00	--	--

Parameter	Unit	Performance Goals ^{2,3}			
		6-Month Median	Average Monthly	Maximum Daily	Instantaneous Maximum
1,2-diphenylhydrazine	µg/L	--	3.8E+01	--	--
	lbs/day	--	3.5E-01	--	--
Halomethanes ¹	µg/L	--	3.1E+04	--	--
	lbs/day	--	2.8E+02	--	--
Heptachlor	µg/L	--	1.2E-02	--	--
	lbs/day	--	1.1E-04	--	--
Heptachlor Epoxide	µg/L	--	4.8E-03	--	--
	lbs/day	--	4.4E-05	--	--
Hexachlorobenzene	µg/L	--	5.0E-02	--	--
	lbs/day	--	4.6E-04	--	--
Hexachlorobutadiene	µg/L	--	3.3E+03	--	--
	lbs/day	--	3.1E+01	--	--
Hexachloroethane	µg/L	--	6.0E+02	--	--
	lbs/day	--	5.5E+00	--	--
Isophorone	µg/L	--	1.7E+05	--	--
	lbs/day	--	1.6E+03	--	--
N-nitrosodimethylamine	µg/L	--	1.7E+03	--	--
	lbs/day	--	1.6E+01	--	--
N-nitrosodi-N-propylamine	µg/L	--	9.0E+01	--	--
	lbs/day	--	8.3E-01	--	--
N-nitrosodiphenylamine	µg/L	--	6.0E+02	--	--
	lbs/day	--	5.5E+00	--	--
polycyclic aromatic hydrocarbons (PAHs) ¹	µg/L	--	2.1E+00	--	--
	lbs/day	--	1.9E-02	--	--
TCDD Equivalents ¹	µg/L	--	9.3E-07	--	--
	lbs/day	--	8.5E-09	--	--
1,1,2,2-tetrachloroethane	µg/L	--	5.5E+02	--	--
	lbs/day	--	5.0E+00	--	--
Tetrachloroethylene (Tetrachloroethene)	µg/L	--	4.8E+02	--	--
	lbs/day	--	4.4E+00	--	--
Toxaphene	µg/L	--	5.0E-02	--	--
	lbs/day	--	4.6E-04	--	--
Trichloroethylene	µg/L	--	6.4E+03	--	--
	lbs/day	--	5.9E+01	--	--
1,1,2-trichloroethane	µg/L	--	2.2E+03	--	--
	lbs/day	--	2.1E+01	--	--
2,4,6-trichlorophenol	µg/L	--	6.9E+01	--	--
	lbs/day	--	6.3E-01	--	--
Vinyl Chloride	µg/L	--	8.6E+03	--	--
	lbs/day	--	7.9E+01	--	--

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
2. Scientific "E" notation is used to express certain values. In scientific "E" notation, the number following the "E" indicates that position of the decimal point in the value. Negative numbers after the "E" indicate that the value is less than 1, and positive numbers after the "E" indicate that the value is greater than 1. In this notation, a value of 6.1E-02 represents 6.1×10^{-2} or 0.061, 6.1E+02 represents 6.1×10^2 or 610, and 6.1E+00 represents 6.1×10^0 or 6.1.
3. The MER limitations, in lbs/day, were calculated based on the following equation: $MER \text{ (lbs/day)} = 8.34 \times Q \times C$, where Q is the permitted flow for the Facility (1.4 MGD) and C is the concentration (mg/L).
4. The Discharger may, at their option, apply this performance goal as a total chromium performance goal.
5. Applicable to chronic toxicity as specified in section VII.K of this Order and section III.C of the MRP (Attachment E).
6. The chronic toxicity effluent limitation is protective of both the numeric acute and chronic toxicity 2015 Ocean Plan water quality objectives. The effluent limitation will be implemented using *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995), current USEPA guidance in the *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, June 2010) (https://www3.epa.gov/npdes/pubs/wet_final_tst_implementation2010.pdf), and USEPA Regions 8, 9, and 10, Toxicity Training Tool (January 2010).

B. Land Discharge Specifications – Not Applicable

C. Recycling Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitation

The receiving water limitations set forth below for ocean waters are based on water quality objectives contained in the Basin Plan and Ocean Plan and are a required part of this Order. The discharge of waste shall not cause or contribute to violation of these limitations in the Pacific Ocean. Compliance with these limitations shall be determined from samples collected at stations representative of the area outside of the zone of initial dilution (ZID).

1. Bacterial Characteristics

- a. Within a zone bounded by the shoreline and a distance of three nautical miles from the shoreline, including all kelp beds, the following bacterial objectives shall be maintained throughout the water column. The ZID for the ocean outfall is excluded.
 - i. 30-day Geometric Mean – The following standards are based on the geometric mean of the five most recent samples from each site:
 - (a) Total coliform density (colony forming units, CFU) shall not exceed 1,000 per 100 milliliter (ml);
 - (b) Fecal coliform density (CFU) shall not exceed 200 per 100 ml; and
 - (c) Enterococcus density (CFU) shall not exceed 35 per 100 ml.
 - ii. Single Sample Maximum:
 - (a) Total coliform density (CFU) shall not exceed 10,000 per 100 ml;
 - (b) Fecal coliform density (CFU) shall not exceed 400 per 100 ml;
 - (c) Enterococcus density (CFU) shall not exceed 104 per 100 ml; and
 - (d) Total coliform density (CFU) shall not exceed 1,000 per 100 ml when the fecal coliform/total coliform ratio exceeds 0.1.
- b. The ZID of 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.

- c. At all areas where shellfish may be harvested for human consumption, as determined by the San Diego Water Board, the median total coliform density (CFU) 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.

2. Physical Characteristics

- a. Floating particulates and grease and oils shall not be visible.
- b. The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean surface.
- c. Natural light shall not be significantly reduced at any point outside the ZID as a result of the discharge of waste.
- d. The rate of deposition of inert solids and the characteristics of inert solids in the ocean sediments shall not be changed such that benthic communities are degraded.
- e. Trash shall not be present in ocean waters, along shorelines or adjacent areas in amounts that adversely affect beneficial uses or cause nuisance.

3. 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.
- 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 Ocean Plan apply to all discharges within the jurisdiction of the Ocean Plan. Unless otherwise specified, all metal concentrations are expressed as total recoverable concentrations.

4. Biological Characteristics

- a. Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded.
- b. The natural taste, odor, 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.

5. Radioactivity

Discharge of radioactive waste shall not degrade marine life.

6. Elevated Temperature Requirements (Thermal Plan)

- a. Elevated temperature waste shall be discharged to the open ocean away from the shoreline to achieve dispersion through the vertical water column.
- b. Elevated temperature wastes shall be discharged a sufficient distance from areas of special biological significance to assure the maintenance of natural temperature in these areas.
- c. The maximum temperature of thermal waste discharges shall not exceed the natural temperature of receiving waters by more than 20°F.
- d. The discharge of elevated temperature wastes shall not result in increases in the natural water temperature exceeding 4 degrees Fahrenheit (°F) at (a) the shoreline, (b) the surface of any ocean substrate, or (c) the ocean surface beyond 1,000 feet from the discharge system. The surface temperature limitation shall be maintained at least 50 percent of the duration of any complete tidal cycle.
- e. Additional limitations shall be imposed when necessary to assure protection of beneficial uses.

B. Groundwater Limitations – Not Applicable

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. **San Diego Water Board Standard Provisions.** The Discharger shall comply with the following provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply.
 - a. The expiration date of this Order is contained in Table 3 of this Order. After the expiration date, the terms and conditions of this Order are automatically continued pending issuance of a new permit, provided that all requirements of USEPA's NPDES regulations at 40 CFR section 122.6 and the State's regulations at title 23, division 3, chapter 9, article 3, section 2235.4 of the CCR regarding the continuation of expired permits and WDRs are met.
 - b. A copy of this Order shall be posted at a prominent location and shall be available to site personnel, San Diego Water Board, State Water Resources Control Board (State Water Board), and USEPA or their authorized representative at all times.

B. Monitoring and Reporting Program (MRP) Requirements

- 1. The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E.
- 2. Notifications required to be provided under this Order to the San Diego Water Board shall be made to:

E-mail – SanDiego@waterboards.ca.gov, or
Telephone – (619) 516-1990, or
Facsimile – (619) 516-1994.

C. Special Provisions

1. Reopener Provisions

- a. This Order may be reopened for modification to include an effluent limitation if monitoring establishes that the discharge causes, has the reasonable potential to cause, or contributes to an excursion above a performance goal(s) set forth in section IV.A.2 of this Order or as otherwise described in Table 1 of the Ocean Plan. (40 CFR section 122.44(d)(1))
- b. This Order may be reopened for modification of the monitoring and reporting requirements and/or special studies requirements, at the discretion of the San Diego Water Board. Such modification(s) may include, but is (are) not limited to, revision(s) (i) to implement recommendations from Southern California Coastal Water Research Project (SCCWRP); (ii) to develop, refine, implement, and/or coordinate a regional monitoring program; (iii) to develop and implement improved monitoring and assessment programs in keeping with San Diego Water Board Resolution No. R9-2012-0069, *Resolution in Support of a Regional Monitoring Framework*; and/or (iv) to add provisions to require the Discharger to evaluate and provide information on cost and values of the MRP (Attachment E).
- c. This Order may be modified, revoked and reissued, or terminated for cause in accordance with the provisions of 40 CFR parts 122, 124, and 125 at any time prior to its expiration under any of the following circumstances:
 - i. Violation of any terms or conditions of this Order (Water Code section 13381(a));
 - ii. Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts (Water Code section 13381(b)); and
 - iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge (Water Code section 13381(c)).
- d. The filing of a request by the Discharger for modifications, revocation and reissuance, or termination of this Order does not stay any condition of this Order. Notification by the Discharger of planned operational or facility changes or anticipated noncompliance with this Order does not stay any condition of this Order. (40 CFR section 122.41(f))
- e. If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under CWA section 307(a) for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in this Order, the San Diego Water Board may institute proceedings under these regulations to modify or revoke and reissue this Order to conform to the toxic effluent standard or prohibition. (40 CFR section 122.44(b)(1))
- f. This Order may be reopened and modified for consistency with any new or modified water quality control plan, policy, law, or regulation. (40 CFR section 122.62(a)(3).)

- g. This Order may be reopened and modified to revise effluent limitations as a result of Ocean Plan, Basin Plan, and/or other statewide Water Quality Control Plan amendments; or the adoption of a total maximum daily load (TMDL) for the receiving water. (40 CFR section 122.62(a)(2))
- h. This Order may be reopened upon submission by the Discharger of adequate information, as determined by the San Diego Water Board, to provide for dilution credits or a mixing zone, as may be appropriate. (40 CFR section 122.62(a)(2))
- i. This Order may also be reopened and modified, revoked and reissued, or terminated in accordance with the provisions of 40 CFR sections 122.44, 122.62 to 122.64, and 125.62. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this Order, and endangerment to human health or the environment resulting from the permitted activity.
- j. The mass emission performance goals, contained in section IV.A.2 of this Order, may be re-evaluated and modified during this Order term, or this Order may be modified to incorporate WQBELs, in accordance with the requirements set forth at 40 CFR sections 122.62 and 124.5.

- 2. Special Studies, Technical Reports, and Additional Monitoring Requirements – Not Applicable**
- 3. Best Management Practices and Pollution Prevention – Not Applicable**
- 4. Construction, Operation and Maintenance Specifications**
 - a. The Facility shall be protected against a 100-year peak stream flows as defined by the San Diego County Flood Control District (FCD).
 - b. The Facility shall be protected against erosion, overland runoff, and other impacts resulting from a 100-year, 24-hour storm event as defined by the San Diego County FCD.
- 5. Special Provisions for Publicly-Owned Treatment Works (POTWs) – Not Applicable**
- 6. Other Special Provisions – Not Applicable**
- 7. Compliance Schedules – Not Applicable**

VII. COMPLIANCE DETERMINATION

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

A. Compliance with 30-day Average

If the median of daily discharges over any 30-day period exceeds the 30-day average effluent limitation for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that 30-day period for that parameter. The next assessment of compliance will occur after the next sample is taken. If only a single sample is taken during a given 30-day period and the analytical result for that sample exceeds the 30-day average effluent limitation, the Discharger will be considered out of compliance for the 30-day period. For any 30-day period during which no sample is taken, no compliance determination can be made for the 30-day average effluent limitation.

B. Compliance with Average Monthly Effluent Limitation (AMEL)

If the average of daily discharges over a calendar month exceeds the AMEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of

compliance for each day of that month for that parameter (e.g., resulting in 31 days of noncompliance in a 31-day month). The average of daily discharges over the calendar month that exceeds the AMEL for a parameter will be considered out of compliance for that month only. 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.

C. Compliance with Average Weekly Effluent Limitation (AWEL)

If the average of daily discharges over a calendar week (Sunday through Saturday) exceeds the AWEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that week for that parameter, resulting in seven days of noncompliance. The average of daily discharges over the calendar week that exceeds the AWEL for a parameter will be considered out of compliance for that week only. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Discharger will be considered out of compliance for that calendar week. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

D. Compliance with Maximum Daily Effluent Limitation (MDEL)

The MDEL shall apply to flow weighted 24-hour composite samples, or grab samples, as specified in the MRP (Attachment E). If a daily discharge exceeds the MDEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for that parameter for that one day only within the reporting period. For any one day during which no sample is taken, no compliance determination can be made for that day.

E. Compliance with Instantaneous Minimum Effluent Limitation

The instantaneous minimum effluent limitation shall apply to grab sample determinations. If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, an alleged violation will be flagged and the 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 noncompliance with the instantaneous minimum effluent limitation).

F. Compliance with Instantaneous Maximum Effluent Limitation

The instantaneous maximum effluent limitation shall apply to grab sample determinations. If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, an alleged 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 noncompliance with the instantaneous maximum effluent limitation).

G. Compliance with 6-Month Median Effluent Limitation

If the median of daily discharges over any 180-day period exceeds the 6-month median effluent limitation for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that 180-day period for that parameter. The next assessment of compliance will occur after the next sample is taken. If only a single sample is taken during a given 180-day period and the analytical result for that sample exceeds the 6-month median effluent limitation, the Discharger will be considered out

of compliance for the 180-day period. For any 180-day period during which no sample is taken, no compliance determination can be made for the 6-month median effluent limitation.

H. Mass- and Concentration-based Limitations

Compliance with mass- and concentration-based effluent limitations for the same parameter shall be determined separately with their respective limitations. When the concentration of a constituent in an effluent sample is determined to be “Not Detected” (ND) or “Detected, but Not Quantified” (DNQ), the corresponding MER determined from that sample concentration shall also be reported as “ND” or “DNQ.”

I. Ocean Plan Provisions for Table 1 Constituents

Sufficient sampling and analysis shall be required to determine compliance with the effluent limitations.

1. Compliance with Single-constituent Effluent Limitations

The Discharger shall be deemed out of compliance with an effluent limitation or discharge specification if the concentration of the constituent in the monitoring sample is greater than the effluent limitation or discharge specification and greater than or equal to the minimum level (ML).

2. Compliance with Effluent Limitations Expressed as a Sum of Several Constituents

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

3. Multiple Sample Data Reduction

The concentration of the pollutant in the effluent may be estimated from the result of a single sample analysis or by a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses when all sample results are quantifiable (i.e., greater than or equal to the reported ML). When one or more sample results are reported as ND or DNQ, the central tendency concentration of the pollutant shall be the median (middle) value of the multiple samples. If, in an even number of samples, one or both of the middle values is ND or DNQ, the median will be the lower of the two middle values.

4. Mass Emission Rate (MER)

The MER, in pounds per day, shall be obtained from the following calculation for any calendar day:

$$\text{MER (lbs/day)} = 8.34 \times Q \times C$$

In which Q and C are the flow rate in MGD and the constituent concentration in mg/L, respectively, and 8.34 is a conversion factor (lbs/gallon of water). If a composite sample is taken, then C is the concentration measured in the composite sample and Q is the average flow rate occurring during the period over which the samples are composited.

J. Bacterial Standards and Analysis

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

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

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

2. For all bacterial analyses, sample dilutions should be performed so the range of values extends from 2 to 16,000 CFU/100 ml. The detection methods used for each analysis shall be reported with the results of the analysis. Detection methods used for coliforms (total and fecal) shall be those listed in 40 CFR part 136 or any improved method determined by the San Diego Water Board (and approved by USEPA) to be appropriate. Detection methods used for enterococcus shall be those presented in USEPA publication USEPA 600/4-85/076, *Test Methods for Escherichia coli and Enterococci in Water by Membrane Filter Procedure*, listed under 40 CFR part 136, and any other method approved by the San Diego Water Board.

K. Chronic Toxicity

The discharge is subject to determination of “Pass” or “Fail” from a chronic toxicity test using the Test of Significant Toxicity (TST) statistical t-test approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010), Appendix A, Figure A-1 and Table A-1, and Appendix B, Table B-1. The null hypothesis (H_0) for the TST statistical approach is:

Mean discharge “in-stream” waste concentration (IWC) response $\leq 0.75 \times$ 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.” This is a t-test (formally Student’s t-test), a statistical analysis comparing two sets of replicate observations—in the case of whole effluent toxicity (WET) test, only two test concentrations (i.e., a control and IWC). The purpose of this statistical test is to determine if the means of the two sets of observations are different (i.e., if the IWC or receiving water concentration differs from the control (the test result is “Pass” or “Fail”). The Welch’s t-test employed by the TST statistical approach is an adaptation of Student’s t-test and is used with two samples having unequal variances.

The performance goal for chronic toxicity is exceeded when a chronic toxicity test, analyzed using the TST statistical approach, results in “Fail.”

The performance goal for chronic toxicity is set at the IWC for the discharge (0.42% effluent¹) and expressed in units of the TST statistical approach (“Pass” or “Fail”). All monitoring for the performance goal for chronic toxicity shall be reported using the IWC effluent concentration and negative control, expressed in units of the TST. The TST hypothesis (H_0) (see above) is statistically analyzed using the IWC and a negative control. Effluent toxicity tests shall be run using *Short-Term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine Estuarine Organisms* (EPA/600/R-95/136, 1995). The San Diego Water Board’s review of reported toxicity test results will include review of concentration-response patterns as appropriate (see section IV.C.5 of the Fact Sheet (Attachment F)). As described in the laboratory audit directives to the San Jose Creek Water Quality Laboratory from the State Water Board dated August 07, 2014, and from USEPA dated December 24, 2013, the Percent Minimum Significant Difference (PMSD) criteria only apply to compliance reporting for the no-observed-effect-concentration (NOEC) and the sublethal statistical endpoints of the NOEC, and therefore are not used to interpret TST results. Standard operating procedures (SOPs) used by the toxicity testing laboratory to identify and report valid, invalid, anomalous, or inconclusive effluent (and receiving water) toxicity test measurement results from the TST statistical approach, including those that

¹ IWC = 1/minimum initial dilution factor (Dm) = 1/237 = 0.0042 = 0.42%

incorporate a consideration of concentration-response patterns, must be submitted to the San Diego Water Board (40 CFR section 122.41(h)). The San Diego Water Board will make a final determination as to whether a toxicity test result is valid, and may consult with the Discharger, USEPA, the State Water Board's Quality Assurance (QA) Officer, or the State Water Board, Division of Drinking Water (DDW) Environmental Laboratory Accreditation Program (ELAP) as needed.

ATTACHMENT A – DEFINITIONS

Part 1. – Abbreviations

Abbreviation	Definition
40 CFR	Title 40 of the Code of Federal Regulations
AMEL ¹	Average Monthly Effluent Limitation
AQUA	Aquaculture
ASBS ¹	Areas of Special Biological Significance
AWEL ¹	Average Weekly Effluent Limitation
Basin Plan	Water Quality Control Plan for the San Diego Basin
BAT	Best available Technology Economically Achievable
BCT	Best Conventional Pollutant Control Technology
BIOL	Preservation of Biological Habitats of Special Significance
BOD ₅	Biochemical Oxygen Demand (5-day @ 20°C)
BPJ	Best Professional Judgement
BPT	Best Practicable Treatment Control Technology
°C	Degrees Celsius
CAISO	California Independent System Operator
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CEC	California Energy Commission
CFR	Code of Federal Regulations
CFU	Colony Forming Units
CIWQS	California Integrated Water Quality System
COMM	Commercial and Sport Fishing
CTG	Combustion Turbine Generators
CWA	Clean Water Act
DDT ¹	Dichlorodiphenyltrichloroethane
DDW	Division of Drinking Water
DEI	Deionization Systems
Discharger	San Diego Gas and Electric Company
Dm	Initial Dilution
DMR	Discharge Monitoring Report
DNQ ¹	Detected, but Not Quantified
EC25	Effects Concentration at 25 Percent
ELAP	Environmental Laboratory Accreditation Program
ELGs	Effluent Limitations, Guidelines and Standards
ELO	Escondido Land Outfall
ERTC	Escondido Research and Technology Center
eSMR	Electronic Self-Monitoring Reports
°F	Degrees Fahrenheit
Facility	Palomar Energy Center
FCD	Flood Control District
HARRF	Hale Avenue Resource Recovery Facility
HCH ¹	Hexachlorocyclohexane, also known as BHC
Ho	Hypothesis
HRSG	Heat Recovery Steam Generator
IBCS	Industrial Brine Collection System
IND	Industrial Service Supply

Abbreviation	Definition
IUD	Industrial User Discharge
IWC ¹	"In-Stream" Waste Concentration
lbs/day	Pounds per Day
LC	Lethal Concentration
LC 50	Percent Waste Giving 50 Percent Survival of Test Organisms
MAR	Marine Habitat
MDEL ¹	Maximum Daily Effluent Limitation
MDL ¹	Method Detection Limit
MEC	Maximum Effluent Concentration
MER	Mass Emission Rate
MFRO Facility	Membrane Filtration/Reverse Osmosis Facility
mg/kg	Milligram per Kilogram
mg/L	Milligrams per Liter
MGD	Million Gallons per Day
MIGR	Migration of Aquatic Organisms
ML ¹	Minimum Level
ml	Milliliter
ml/L	Milliliters per Liter
MRP	Monitoring and Reporting Program
MW	Megawatt
NAV	Navigation
ND	Not Detected
ng/L	Nanogram per Liter
NOEC	No-Observed-Effect-Concentration
NOEL	No Observed Effect Level
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standards
NTU	Nephelometric Turbidity Unit
Ocean Plan	California Ocean Plan, Water Quality Control Plan Ocean Waters Of California
PAH ¹	Polynuclear Aromatic Hydrocarbons
PCB ¹	Polychlorinated Biphenyl
pCi/L	Picocuries per Liter
PEC	Palomar Energy Center
PMSD	Percent Minimum Significant Difference
POTWs	Publicly-Owned Treatment Works
ppt	Parts per Thousand
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RARE	Rare, Threatened, or Endangered Species
REC-1	Contact Water Recreation
REC-2	Non-Contact Water Recreation
RL	Reporting Level
RMR	Reliability-Must-Run
RO	Reverse Osmosis
ROWD	Report of Waste Discharge
RPA	Reasonable Potential Analysis
San Diego Water Board	California Regional Water Quality Control Board, San Diego Region

Abbreviation	Definition
SCCWRP	Southern California Coastal Waters Research Project
SDS	Safety Data Sheets
SEOO	San Elijo Ocean Outfall
SHELL	Shellfish Harvesting
SMR	Self-Monitoring Report
SOPs	Standard Operating Procedures
SPWN	Spawning, Reproduction, and/or Early Development
SSM Rule	Sufficiently Sensitive Methods Rule
State Water Board	State Water Resources Control Board
STG	Steam Turbine-Generator
TAC	Test Acceptability Criteria
TBELs	Technology-Based Effluent Limitations
TCDD ¹	Tetrachlorodibenzodioxin
TIE ¹	Toxicity Identification Evaluation
TMDL	Total Maximum Daily Load
TRE ¹	Toxicity Reduction Evaluation
TSD	Technical Support Document
TSS	Total Suspended Solids
TST	Test of Significant Toxicity
TUa	Toxic Units Acute
TUc	Toxic Units Chronic
UF	Ultra-Filters
µg	Microgram
µg/kg	Microgram per Kilogram
µg/L	Microgram per Liter
UM3	USEPA Modeling Application Visual Plumes
U.S.C.	United States Code
U.S.	United States
USEPA	United States Environmental Protection Agency
Water Code	California Water Code
WDRs	Waste Discharge Requirements
WET	Whole Effluent Toxicity
WILD	Wildlife Habitat
WQBELs	Water Quality-Based Effluent Limitations
ZID	Zone of Initial Dilution

¹. See Part 2 of Attachment A (Glossary of Common Terms) for further definition.

Part 2. – Glossary of Common Terms

30-day average

The arithmetic mean of pollutant parameter values of samples collected in a period of 30 consecutive days.

Areas of Special Biological Significance (ASBS)

Those areas designated by the State Water Board as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable. All Areas of Special Biological Significance are also classified as a subset of State Water Quality Protection Areas.

Average Concentration

The term average concentration as it relates to chlorine discharge means the average of analyses made over a single period of chlorine release which does not exceed two hours. (40 CFR 423.11(k))

Average Monthly Effluent Limitation (AMEL)

The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL)

The highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Beneficial Uses

The uses of water necessary for the survival or well being of man, plants, and wildlife. These uses of water serve to promote the tangible and intangible economic, social, and environmental goals. "Beneficial Uses" of the waters of the State that may be protected against include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. In the *Water Quality Control Plan for the San Diego Basin* (Basin Plan), existing beneficial uses are uses that were attained in the surface or ground water on or after November 28, 1975; and potential beneficial uses are uses that would probably develop in future years through the implementation of various control measures. "Beneficial Uses" are equivalent to "Designated Uses" under federal law. [California Water Code section 13050(f)].

Best Management Practices (BMPs)

Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the U.S. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Bioassay

A test used to evaluate the relative potency of a chemical or a mixture of chemicals by comparing its effect on a living organism with the effect of a standard preparation on the same type of organism.

Biosolids

Nutrient-rich organic materials resulting from the treatment of sewage sludge. When treated and processed, sewage sludge becomes biosolids which can be safely recycled and applied as fertilizer to sustainably improve and maintain productive soils and stimulate plant growth.

Blowdown

The term blowdown means the minimum discharge of recirculating water for the purpose of discharging materials contained in the water, the further buildup of which would cause concentration in amounts exceeding limits established by best engineering practices. (40 CFR 423.11(j))

Brine

The byproduct of desalinated water having a salinity concentration greater than a desalination facility's intake source water.

Bypass

The intentional diversion of waste streams from any portion of a treatment facility. (40 CFR section 122.41(m)(1)(i).)

Chlordane

Shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

Chronic Toxicity

This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response.

- a. Chronic Toxicity (TUc)
Expressed as Toxic Units Chronic (TUc)

$$TUc = \frac{100}{NOEL}$$

- b. No Observed Effect Level (NOEL)

The NOEL is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test listed in Ocean Plan Appendix II.

Chlorinated Phenolics

The sum of 4-chloro-3-methylphenol, 2-chlorophenol, pentachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol.

Composite Sample

A composite sample is defined as a combination of at least eight sample aliquots of at least 100 ml, collected at periodic intervals during the operating hours of a facility over a 24-hour period. For volatile pollutants, aliquots must be combined in the laboratory immediately before analysis. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically. The 100-ml minimum volume of an aliquot does not apply to automatic self-purging samplers. If one 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.

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.

A composite sample is defined as a combination of at least eight sample aliquots of at least 100 ml, collected at periodic intervals during the operating hours of a facility over a 24-hour period. For volatile pollutants, aliquots must be combined in the laboratory immediately before analysis. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically. The 100-ml minimum volume of an aliquot does not apply to automatic self-purging samplers. If one 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.

A grab sample is an individual sample of at least 100 ml collected at a randomly selected time over a period not exceeding 15 minutes.

Degrade

Degradation shall be determined by comparison of the waste field and reference site(s) for characteristic species diversity, population density, contamination, growth anomalies, debility, or supplanting of normal species by undesirable plant and animal species. Degradation occurs if there are significant differences in any of three major biotic groups, namely, demersal fish, benthic invertebrates, or attached algae. Other groups may be evaluated where benthic species are not affected, or are not the only ones affected.

Desalination Facility

An industrial facility that processes water to remove salts and other components from the source water to produce water that is less saline than the source water.

Detected, but Not Quantified (DNQ)

Sample results that are less than the reported ML, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

Dichlorobenzenes

Shall mean the sum of 1,2- and 1,3-dichlorobenzene.

Dichlorodiphenyltrichloroethane (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.

Dilution Credit

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.

Discharge

Discharge of a pollutant means: (a) Any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source," or (b) Any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channelled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any "indirect discharger."

Discharge Monitoring Reports (DMRs)

The DMRs means the Environmental Protection Agency (EPA) uniform national form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by permittees. DMRs must be used by “approved States” as well as by EPA. EPA will supply DMRs to any approved State upon request. The EPA national forms may be modified to substitute the State agency name, address, logo, and other similar information, as appropriate, in place of EPA’s.

Downstream Ocean Waters

Waters downstream with respect to ocean currents.

Dredged Material

Any material excavated or dredged from the navigable waters of the U.S., including material otherwise referred to as “spoil.”

Enclosed Bays

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 headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

Endosulfan

The sum of endosulfan-alpha and -beta and endosulfan sulfate.

Estuaries and Coastal Lagoons

Estuaries and Coastal Lagoons are waters at the mouths of streams that serve as mixing zones for fresh and ocean waters during a major portion of the year. Mouths of streams that are temporarily separated from the ocean by sandbars shall be considered as estuaries. Estuarine waters will generally be considered to extend from a bay or the open ocean to the upstream limit of tidal action but may be considered to extend seaward if significant mixing of fresh and salt water occurs in the open coastal waters. The waters described by this definition include but are not limited to the Sacramento-San Joaquin Delta as defined by Section 12220 of the California Water Code, Suisun Bay, Carquinez Strait downstream to Carquinez Bridge, and appropriate areas of the Smith, Klamath, Mad, Eel, Noyo, and Russian Rivers.

Facility

Palomar Energy Center

Free Available Chlorine

The term free available chlorine means the value obtained using any of the “chlorine—free available” methods in Table IB in 40 CFR 136.3(a) where the method has the capability of measuring free available chlorine, or other methods approved by the permitting authority. (40 CFR 423.11(I))

Grab Sample

An individual sample of at least 100 milliliters collected at a randomly selected time over a period not exceeding 15 minutes. The sample is taken from a waste stream on a one-time basis without consideration of the flow rate of the waste stream and without consideration of time of day.

Halomethanes

The mean the sum of bromoform, bromomethane (methyl bromide) and chloromethane (methyl chloride).

HCH

The mean the sum of the alpha, beta, gamma (lindane) and delta isomers of hexachlorocyclohexane. Also known as BHC.

Indicator Bacteria

Includes total coliform bacteria, fecal coliform bacteria (or E. coli), and/or Enterococcus bacteria.

Initial Dilution

The process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

For a submerged buoyant discharge, characteristic of most municipal and industrial wastes that are released from the submarine outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

For shallow water submerged discharges, surface discharges, and non-buoyant discharges, characteristic of cooling water wastes and some individual discharges, turbulent mixing results primarily from the momentum of discharge. Initial dilution, in these cases, is considered to be completed when the momentum induced velocity of the discharge ceases to produce significant mixing of the waste, or the diluting plume reaches a fixed distance from the discharge to be specified by the San Diego Water Board, whichever results in the lower estimate for initial dilution.

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).

In-stream Waste Concentration (IWC)

The concentration of a toxicant of effluent in the receiving water after mixing (the inverse of the dilution factor). A discharge of 100% effluent will be considered the IWC whenever mixing zones or dilution credits are not authorized by the applicable Water Board.

Kelp Beds

For purposes of the bacteriological standards of the Ocean Plan, kelp beds are significant aggregations of marine algae of the genera Macrocystis and Nereocystis. Kelp beds include the total foliage canopy of Macrocystis and Nereocystis plants throughout the water column.

Low Volume Waste Sources

The term low volume waste sources means, taken collectively as if from one source, wastewater from all sources except those for which specific limitations or standards are otherwise established in this Order. Low volume waste sources include, but are not limited to, the following: Wastewaters from ion exchange water treatment systems, water treatment evaporator blowdown, laboratory and sampling streams, boiler blowdown, floor drains, cooling tower basin cleaning wastes, recirculating house service water systems, and wet scrubber air pollution control systems whose primary purpose is particulate removal. Sanitary wastes, air conditioning wastes, and wastewater from carbon capture or sequestration systems are not included in this definition. (40 CFR 423.11(b))

Mariculture

The culture of plants and animals in marine waters independent of any pollution source.

Material

(a) In common usage: (1) the substance or substances of which a thing is made or composed (2) substantial; (b) For purposes of the Ocean Plan relating to waste disposal, dredging and the disposal of dredged material and fill, MATERIAL means matter of any kind or description which is subject to regulation as waste, or any material dredged from the navigable waters of the U.S. See also, DREDGED MATERIAL.

Maximum Daily Effluent Limitation (MDEL)

The highest allowable daily discharge of a pollutant.

Method Detection Limit (MDL)

The minimum concentration of a substance that can be reported with 99 percent confidence that the measured concentration is distinguishable from method blank results, as defined in 40 CFR part 136, Attachment B.

Minimum Level (ML)

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.

Multiport Diffusers

Linear structures consisting of spaced ports or nozzles that are installed on submerged marine outfalls and enable rapid mixing, dispersal, and dilution of brine within a relatively small area.

Natural Light

Reduction of natural light may be determined by the San Diego Water Board by measurement of light transmissivity or total irradiance, or both, according to the monitoring needs of the San Diego Water Board.

Not Detected (ND)

Those sample results less than the laboratory's MDL.

Nuisance

Water Code section 13050, subdivision (m), defines nuisance as anything which meets all of the following requirements:

1. Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.
2. Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
3. Occurs during, or as a result of, the treatment or disposal of wastes.

Ocean Waters

The territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. If a discharge outside the territorial waters of the State could affect the quality of the waters of the State, the discharge may be regulated to assure no violation of the Ocean Plan will occur in ocean waters.

Percent Removal

A percentage expression of the removal efficiency across a treatment plant for a given pollutant parameter, as determined from the average values of the raw wastewater influent pollutant concentrations to the facility and the average values of the effluent pollutant concentrations for a given time period.

PAHs (polynuclear aromatic hydrocarbons)

The sum of 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.

PCBs (polychlorinated biphenyls)

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.

Phenolic Compounds (non-chlorinated)

The sum of 2,4-dimethylphenol, 4,6-Dinitro-2-methylphenol, 2, 4-dinitrophenol, 2-methylphenol, 4-methylphenol, 2-nitrophenol, 4-nitrophenol, and phenol.

Pollutant

Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 United States Code (U.S.C.) 2011 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. It does not mean: (a) Sewage from vessels; or (b) Water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well, if the well used either to facilitate production or for disposal purposes is approved by authority of the State in which the well is located, and if the State determines that the injection or disposal will not result in the degradation of ground or surface water resources.

Recycled Water

Recycled water means water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefore considered a valuable resource.

Reported Minimum Level (ML)

The reported ML (also known as the Reporting Level or 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 San Diego Water Board either from Appendix II of the Ocean Plan in accordance with section III.C.5.a. of the Ocean Plan or established in accordance with section III.C.5.b. of the Ocean Plan. 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 reported ML.

Salinity

A measure of the dissolved salts in a volume of water. Salinity shall be measured using a standard method approved by the Regional Water Board (e.g., Standard Method 2520 B, EPA Method 120.1, EPA Method 160.1) and reported in parts per thousand. For historical salinity data not recorded in parts per thousand, the Regional Water Board may accept converted data at their discretion.

Seawater

Salt water that is in or from the ocean. For implementation of Chapter III.M of the Ocean Plan, seawater includes tidally influenced waters in coastal estuaries and coastal lagoons and underground salt water beneath the seafloor, beach, or other contiguous land with hydrologic connectivity to the ocean.

Severe Property Damage

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

Shellfish

Organisms identified by the California Department of Health Services as shellfish for public health purposes (i.e., mussels, clams and oysters).

Significant Difference

Defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.

Six-Month Median Effluent Limitation

The highest allowable moving median of all daily discharges for any 180-day period.

Sludge

Any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effect.

State Water Quality Protection Areas (SWQPAs)

Non-terrestrial marine or estuarine areas designated to protect marine species or biological communities from an undesirable alteration in natural water quality. All Areas of Special Biological Significance (ASBS) that were previously designated by the State Water Board in Resolutions 74-28, 74-32, and 75-61 are now also classified as a subset of State Water Quality Protection Areas and require special protections afforded by the Ocean Plan.

TCDD Equivalents (Tetrachlorodibenzodioxin Equivalents)

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.

Isomer Group	Toxicity Equivalence Factor
	1.0
2,3,7,8-tetra CDD	
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

Thirty-Day Average

See 30-day average above for definition of this term.

Total Residual Chlorine

The term total residual chlorine (or total residual oxidants for intake water with bromides) means the value obtained using any of the “chlorine—total residual” methods in Table IB in 40 CFR 136.3(a), or other methods approved by the permitting authority (40 CFR 423.11(a))

Toxicity Identification Evaluation (TIE)

A set of procedures conducted to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.

Toxicity Reduction Evaluation (TRE)

A study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A TIE may be required as part of the TRE, if appropriate.

Trash

Trash means all improperly discarded solid material from any production, manufacturing, or processing operation including, but not limited to, products, product packaging, or containers constructed of plastic, steel, aluminum, glass, paper, or other synthetic or natural materials.

Waste

As used in the Ocean Plan, waste includes a Discharger's total discharge, of whatever origin, i.e., gross, not net, discharge.

Water Quality Control Plans

There are two types of water quality control plans - Basin Plans and Statewide Plans. Regional Boards adopt Basin Plans for each region based upon surface water hydrologic basin boundaries. The Regional Basin Plans designates or describes (1) existing and potential beneficial uses of ground and surface water; (2) water quality objectives to protect the beneficial uses; (3) implementation programs to achieve these objectives; and (4) surveillance and monitoring activities to evaluate the effectiveness of the water quality control plan. The Statewide Plans address water quality concerns for surface waters that overlap Regional Board boundaries, are statewide in scope, or are otherwise considered significant and contain the same four elements. Statewide Water Quality Control Plans include the Ocean Plan, the Enclosed Bays and Estuaries Plan, the Inland Surface Waters Plan, and the Thermal Plan. A water quality control plan consists of a designation or establishment for the waters within a specified area of (1) beneficial uses to be protected, (2) water quality objectives, and (3) a program of implementation needed for achieving water quality objectives [California Water Code section 13050(j)].

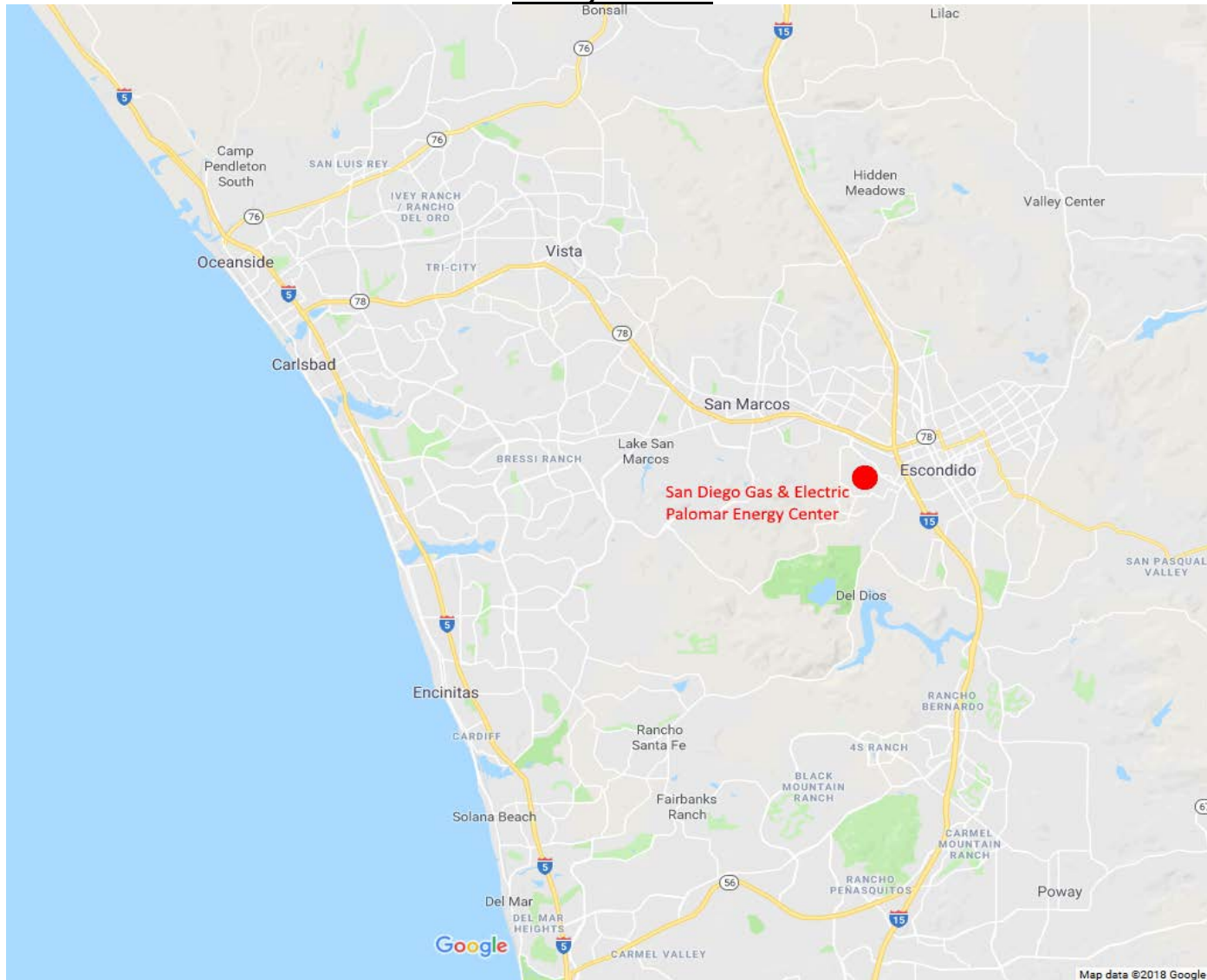
Water Quality Objectives

Numerical or narrative limits on constituents or characteristics of water designed to protect designated beneficial uses of the water. [California Water Code section 13050(h)]. California's water quality objectives are established by the State and Regional Water Boards in the Water Quality Control Plans.

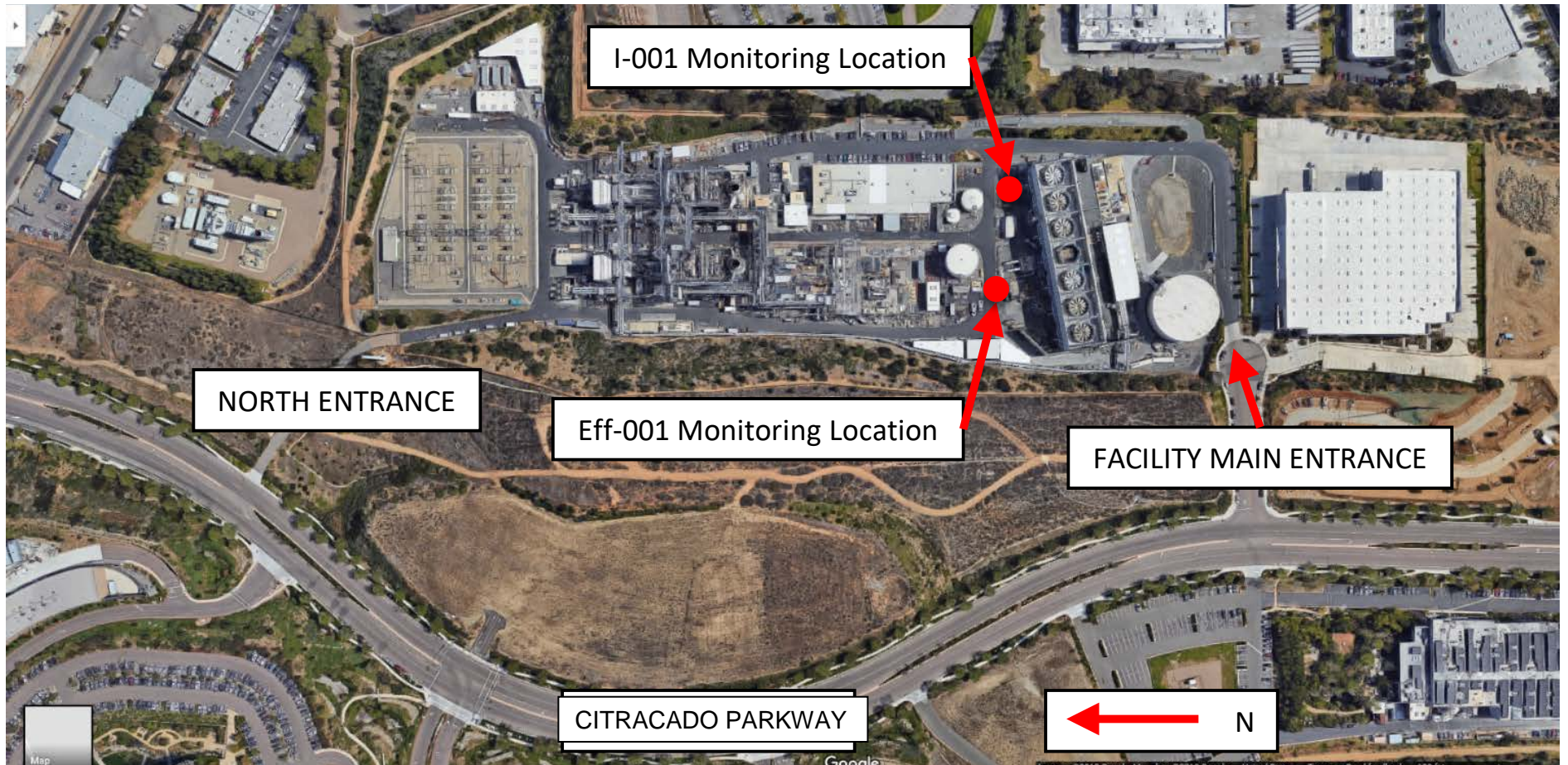
Water Quality Standards

Provisions of State or federal law which consist of a designated use or uses for waters of the United States and water quality criteria for such waters based upon such uses. Water quality standards are to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act [40 CFR section 131.3(i)]. Under State law, the Water Boards establish beneficial uses and water quality objectives in their water quality control plans or basin plans. Together with an antidegradation policy, these beneficial uses and water quality objectives serve as water quality standards under the Clean Water Act. In Clean Water Act parlance, state beneficial uses are called "designated uses" and state water quality objectives are called "criteria." Throughout this Order, the relevant term is used depending on the statutory scheme.

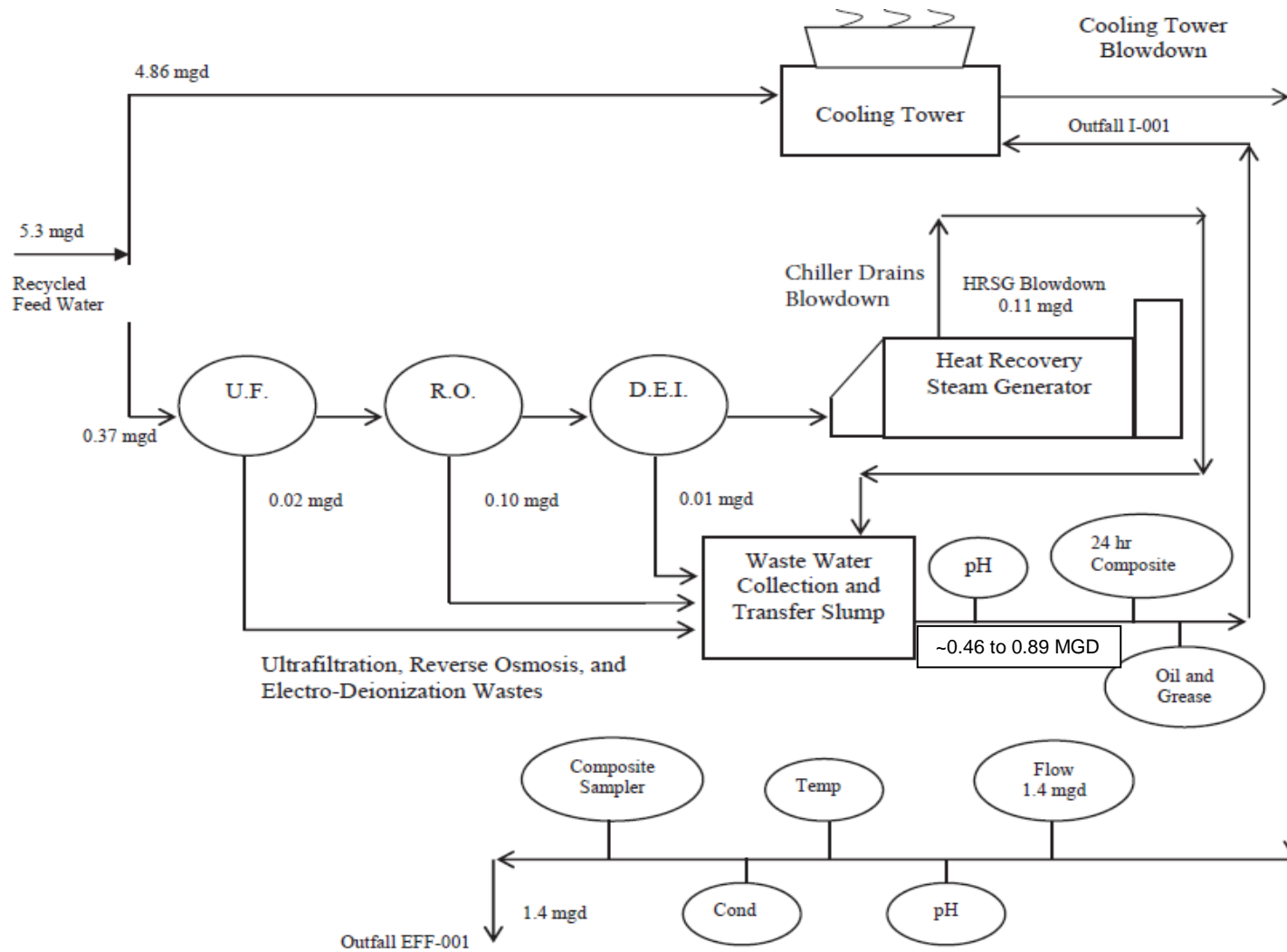
ATTACHMENT B – MAP
Facility Location



Monitoring Locations at Facility



ATTACHMENT C – FLOW SCHEMATIC



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code (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 CFR sections 122.41(a); Water Code, sections 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 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 CFR section 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

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

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 CFR section 122.41(g).)
2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations. (40 CFR section 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board), State Water Resources Control Board (State Water Board), U.S. Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (33 United States Code

(U.S.C.) section 1318(a)(4)(b); 40 CFR section 122.41(i); Water Code, sections 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. section 1318(a)(4)(b)(i); 40 CFR section 122.41(i)(1); Water Code, sections 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. section 1318(a)(4)(b)(ii); 40 CFR section 122.41(i)(2); Water Code, sections 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. section 1318(a)(4)(b)(ii); 40 CFR section 122.41(i)(3); Water Code, sections 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. section 1318(a)(4)(b); 40 CFR section 122.41(i)(4); Water Code, sections 13267, 13383.)

G. Bypass

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

4. The San Diego Water Board may approve an anticipated bypass, after considering its adverse effects, if the San Diego Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 CFR section 122.41(m)(4)(ii).)
5. Notice
 - a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass. The notice shall be sent to the San Diego Water Board. (40 CFR section 122.41(m)(3)(i).)
 - b. Unanticipated bypass. The Discharger shall submit a notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). The notice shall be sent to the San Diego Water Board. (40 CFR section 122.41(m)(3)(ii).)

H. Upset

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

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 CFR section 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 CFR section 122.41(n)(3)):
 - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 CFR section 122.41(n)(3)(i));
 - b. The permitted facility was, at the time, being properly operated (40 CFR section 122.41(n)(3)(ii));
 - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 CFR section 122.41(n)(3)(iii)); and
 - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 CFR section 122.41(n)(3)(iv).)
3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 CFR section 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

This Order is not transferable to any person except after notice to the San Diego Water Board. The San Diego 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 CFR sections 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 CFR section 122.41(j)(1).)

B. Monitoring must be conducted according to test procedures approved under 40 CFR part 136 for the analyses of pollutants unless another method is required under 40 CFR chapter 1, subchapters N or O. Monitoring must be conducted according to sufficiently sensitive test methods approved under 40 CFR part 136 for the analysis of pollutants or pollutant parameters or as required under 40 CFR 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 CFR part 136 or required under 40 CFR 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 CFR part 136 or otherwise required under 40 CFR 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 CFR sections 122.21(e)(3), 122.41(j)(4), 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

- A.** 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 San Diego Water Board Executive Officer at any time. (40 CFR section 122.41(j)(2).)
- B.** Records of monitoring information shall include:
 - 1. The date, exact place, and time of sampling or measurements (40 CFR section 122.41(j)(3)(i));
 - 2. The individual(s) who performed the sampling or measurements (40 CFR section 122.41(j)(3)(ii));
 - 3. The date(s) analyses were performed (40 CFR section 122.41(j)(3)(iii));
 - 4. The individual(s) who performed the analyses (40 CFR section 122.41(j)(3)(iv));
 - 5. The analytical techniques or methods used (40 CFR section 122.41(j)(3)(v)); and
 - 6. The results of such analyses. (40 CFR section 122.41(j)(3)(vi).)
- C.** Claims of confidentiality for the following information will be denied (40 CFR section 122.7(b)):
 - 1. The name and address of any permit applicant or Discharger (40 CFR section 122.7(b)(1)); and
 - 2. Permit applications and attachments, permits and effluent data. (40 CFR section 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the San Diego Water Board, State Water Board, or USEPA within a reasonable time, any information which the San Diego 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 San Diego Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 CFR section 122.41(h); Water Code, sections 13267, 13383.)

B. Signatory and Certification Requirements

- 1. All applications, reports, or information submitted to the San Diego 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, V.B.5, and V.B.6 below. (40 CFR section 122.41(k).)
- 2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 CFR section 122.22(a)(3).)
- 3. All reports required by this Order and other information requested by the San Diego Water Board, State Water Board, or USEPA shall be signed by a person described in

Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

- a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 CFR section 122.22(b)(1));
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 CFR section 122.22(b)(2)); and
 - c. The written authorization is submitted to the San Diego Water Board and State Water Board. (40 CFR section 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 San Diego Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 CFR section 122.22(c).)
5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

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

Any person providing the electronic signature for documents described in Standard Provisions – V.B.1, V.B.2, or V.B.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting V.B, and shall ensure that all relevant requirements of 40 CFR part 3 (Cross-Media Electronic Reporting) and 40 CFR part 127 (NPDES Electronic Reporting Requirements) are met for that submission. (40 CFR section 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 CFR section 122.41(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the San Diego 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 to the initial recipient defined in Standard Provisions – Reporting V.J and comply with 40 CFR part 3, 40 CFR section 122.22, and 40 CFR part 127. (40 CFR section 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR part 136, or another method required for

an industry-specific waste stream under 40 CFR chapter 1, 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 San Diego Water Board. (40 CFR section 122.41(l)(4)(ii).)

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

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 CFR section 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 (i.e., combined sewer overflow, sanitary sewer overflow, or bypass event), type of overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volume untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the 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 to the initial recipient defined in Standard Provisions – Reporting V.J. The reports shall comply with 40 CFR part 3, 40 CFR section 122.22, and 40 CFR part 127. The San Diego Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 CFR section 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 CFR section 122.41(l)(6)(ii)(A).)
 - b. Any upset that exceeds any effluent limitation in this Order. (40 CFR section 122.41(l)(6)(ii)(B).)
3. The San Diego 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 CFR section 122.41(l)(6)(ii)(B).)

F. Planned Changes

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

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

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

G. Anticipated Noncompliance

The Discharger shall give advance notice to the San Diego Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order's requirements. (40 CFR section 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. 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 CFR part 127. The San Diego Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 CFR section 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the San Diego Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 CFR section 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 CFR part 127 to the initial recipient defined in 40 CFR section 127.2(b). USEPA 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 CFR section 127.2(c)]. USEPA will update and maintain this listing. (40 CFR section 122.41(l)(9).)

VI. STANDARD PROVISIONS – ENFORCEMENT

The San Diego 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

Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the San Diego Water Board as soon as they know or have reason to believe (40 CFR section 122.42(a)):

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 CFR section 122.42(a)(1)):
 - a. 100 micrograms per liter ($\mu\text{g/L}$) (40 CFR section 122.42(a)(1)(i));
 - b. 200 $\mu\text{g/L}$ for acrolein and acrylonitrile; 500 $\mu\text{g/L}$ for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 CFR section 122.42(a)(1)(ii));
 - c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 CFR section 122.42(a)(1)(iii)); or
 - d. The level established by the San Diego Water Board in accordance with section 122.44(f). (40 CFR section 122.42(a)(1)(iv).)
2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 CFR section 122.42(a)(2)):
 - a. 500 $\mu\text{g/L}$ (40 CFR section 122.42(a)(2)(i));
 - b. 1 milligram per liter (mg/L) for antimony (40 CFR section 122.42(a)(2)(ii));
 - c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (ROWD) (40 CFR section 122.42(a)(2)(iii)); or
 - d. The level established by the San Diego Water Board in accordance with 40 CFR section 122.44(f). (40 CFR section 122.42(a)(2)(iv).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

Section 308 of the federal Clean Water Act (CWA) and sections 122.41(h), (j)-(l), 122.44(i), and 122.48 of title 40 of the Code of Federal Regulations (40 CFR) require that all National Pollutant Discharge Elimination System (NPDES) permits specify monitoring and reporting requirements. California Water Code (Water Code) sections 13267 and 13383 also authorize the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. Pursuant to this authority this MRP establishes conditions for the San Diego Gas and Electric Company (Discharger) to conduct routine or episodic self-monitoring of the discharges regulated under this Order at specified effluent and receiving water monitoring locations. This MRP requires the Discharger to report the results to the San Diego Water Board with information necessary to evaluate discharge characteristics and compliance status.

The purpose of this MRP is to determine and ensure compliance with effluent limitations and other requirements established in this Order, assess treatment efficiency, characterize effluents, and characterize the receiving water and the effects of the discharge on the receiving water. This MRP also specifies requirements concerning the proper use, maintenance, and installation of monitoring equipment and methods, and the monitoring type intervals and frequency necessary to yield data that are representative of the activities and discharges regulated under this Order.

Each monitoring section contains an introductory paragraph summarizing why the monitoring is needed and the key management questions the monitoring is designed to answer. In developing the list of key management questions, the San Diego Water Board considered four basic types of information for each question:

- (1) Management Information Need – Why does the San Diego Water Board need to know the answer?
- (2) Monitoring Criteria – What monitoring will be conducted for deriving an answer to the question?
- (3) Expected Product – How should the answer be expressed and reported?
- (4) Possible Management Actions – What actions will be potentially influenced by the answer?

The framework for this monitoring program has three components that comprise a range of spatial and temporal scales: 1. core monitoring, 2. regional monitoring, and 3. special studies.

1. Core monitoring consists of the basic site-specific monitoring necessary to measure compliance with individual effluent limitations and/or impacts to receiving water quality. Core monitoring is typically conducted in the immediate vicinity of the discharge by examining local scale spatial effects.
2. Regional monitoring provides information necessary to make assessments over large areas and serves to evaluate cumulative effects of all anthropogenic inputs. Regional monitoring data also assists in the interpretation of core monitoring studies. In the event that a regional monitoring effort takes place during the permit cycle in which this MRP does not specifically address regional monitoring, the San Diego Water Board may allow relief from aspects of core monitoring components in order to encourage participation pursuant to section V of this MRP.
3. Special studies are directed monitoring efforts designed in response to specific management or research questions identified through either core or regional monitoring programs. Often, they are used to help understand core or regional monitoring results, where a specific environmental process is not well understood, or to address unique issues of local importance.

I. GENERAL MONITORING PROVISIONS

- A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in section II, Table E-1 and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the San Diego Water Board.
- B. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurement is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than ± 5 percent from true discharge rates throughout the range of expected discharge volumes.
- C. Monitoring must be conducted according to U.S. Environmental Protection Agency (USEPA) test procedures approved at 40 CFR part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the CWA*, as amended, or unless other test procedures are specified in this Order and attachments thereof or otherwise specified by the San Diego Water Board.
- D. All analyses shall be performed in a laboratory certified to perform such analyses by the State Water Resource Control Board (State Water Board), Division of Drinking Water (DDW) or a laboratory approved by the San Diego Water Board. The laboratory must be accredited under the DDW Environmental Laboratory Accreditation Program (ELAP) to ensure the quality of analytical data used for regulatory purposes to meet the requirements of this Order. Additional information on ELAP can be accessed at http://www.waterboards.ca.gov/drinking_water/certlic/labs/index.shtml.
- E. Records of monitoring information shall include information required under Standard Provision, Attachment D, section IV.
- F. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year, or more frequently, to ensure continued accuracy of the devices (i.e., no more than 12 months between calibrations for the flow measurement devices).
- G. The Discharger shall have, and implement, an acceptable written quality assurance (QA) plan for laboratory analyses. Duplicate chemical analyses must be conducted on a minimum of 10 percent of the samples or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. The Discharger shall have a success rate equal to or greater than 80 percent.
- H. When requested by USEPA or the San Diego Water Board, the Discharger shall participate in the NPDES Discharge Monitoring Report QA (DMR-QA) performance study. If the DMR-QA is not requested, the Discharger shall submit the most recent Water Pollution Performance Evaluation Study. The Discharger shall ensure that the results of the DMR-QA Study or the most recent Water Pollution Performance Evaluation Study are submitted annually by December 31 to the State Water Resources Control Board at the following address:

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

- I. Analysis for toxic pollutants, including chronic toxicity, with effluent limitations or performance goals based on water quality objectives and criteria of the *Water Quality Control Plan for the San Diego Basin* (Basin Plan) and the *Water Quality Control Plan, Ocean Waters of California, California Ocean Plan* (Ocean Plan) shall be conducted in accordance with procedures described in the Ocean Plan and restated in this MRP.

II. MONITORING LOCATION

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

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
I-001	I-001	The Palomar Energy Center (PEC or Facility) low volume waste sources, at the wastewater collection and transfer sump.
001	EFF-001	The PEC cooling tower blowdown (including all low volume waste sources that were pumped into the cooling tower), prior to combining with wastewaters in the Industrial Brine Collection System (IBCS), other wastewaters in the Escondido Land Outfall (ELO) line, and/or other wastewater in the San Elijo Ocean Outfall (SEOO), where a representative sample can be obtained.

III. CORE MONITORING REQUIREMENTS

A. Influent Monitoring Requirements – Not Applicable

B. Effluent Monitoring Requirements

Effluent monitoring is the collection and analysis of samples or measurements of effluents, after all treatment processes, to determine and quantify contaminants and to demonstrate compliance with applicable effluent limitations, standards, and other requirements of this Order.

Effluent monitoring is necessary to address the following questions:

- (1) Does the effluent comply with permit effluent limitations, performance goals, and other requirements of this Order, thereby ensuring that water quality standards are achieved in the receiving water?
- (2) What is the mass of parameters that are discharged daily, monthly, or annually?
- (3) Is the effluent concentration or mass changing over time?
- (4) Is the Facility being properly operated and maintained to ensure compliance with the conditions of this Order?

1. Monitoring Location EFF-001

The Discharger shall monitor the effluent at Monitoring Location EFF-001 as provided in Table E.2 below.

Table E-2. Effluent Monitoring at Monitoring Location EFF-001¹

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	million gallons per day (MGD)	Continuous	Continuous	--
Free Available Chlorine	µg/L	Grab	1/Month ²	3
Temperature	°F	Grab	1/Month	3
Total Suspended Solids (TSS)	mg/L	24-hr composite	1/Month	3

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Dissolved Solids (TDS)	mg/L	24-hr composite	1/Month	3
pH	standard units (SU)	Grab	1/Month	3
PARAMETERS FOR PROTECTION OF MARINE AQUATIC LIFE⁵				
Arsenic, Total Recoverable	µg/L	24-hr Composite	2/Year ²	3
Cadmium, Total Recoverable	µg/L	24-hr Composite	2/Year ²	3
Chromium (VI), Total Recoverable ⁴	µg/L	24-hr Composite	2/Year ²	3
Copper, Total Recoverable	µg/L	24-hr Composite	2/Year ²	3
Lead, Total Recoverable	µg/L	24-hr Composite	2/Year ²	3
Mercury, Total Recoverable	µg/L	24-hr Composite	2/Year ²	3
Nickel, Total Recoverable	µg/L	24-hr Composite	2/Year ²	3
Selenium, Total Recoverable	µg/L	24-hr Composite	2/Year ²	3
Silver, Total Recoverable	µg/L	24-hr Composite	2/Year ²	3
Zinc, Total Recoverable	µg/L	24-hr Composite	2/Year ²	3
Cyanide, Total	µg/L	24-hr Composite	2/Year ²	3,5
Total Chlorine Residual	µg/L	Grab	1/Week ²	3
Ammonia Nitrogen, Total (as N)	µg/L	24-hr Composite	2/Year ²	3
Chronic Toxicity	Pass/Fail; % Effect	24-hr Composite	2/Year	6
Phenolic Compounds (nonchlorinated) ¹	µg/L	24-hr Composite	2/Year ²	3
Chlorinated Phenolics ¹	µg/L	24-hr Composite	2/Year ²	3
Endosulfan ¹	µg/L	24-hr Composite	2/Year ²	3
Endrin	µg/L	24-hr Composite	2/Year ²	3
HCH (BHC) ¹	µg/L	24-hr Composite	2/Year ²	3
Radioactivity	pCi/L	24-hr Composite	2/Year ²	3
PARAMETERS FOR PROTECTION OF HUMAN HEALTH – NONCARCINOGENS⁵				
Acrolein	µg/L	Grab	2/Year ²	3
Antimony, Total Recoverable	µg/L	24-hr Composite	2/Year ²	3
Bis (2-chloroethoxy) Methane	µg/L	24-hr Composite	2/Year ²	3
Bis (2-chloroisopropyl) Ether	µg/L	24-hr Composite	2/Year ²	3
Chlorobenzene	µg/L	Grab	2/Year ²	3
Chromium (III), Total Recoverable ⁴	µg/L	24-hr Composite	2/Year ²	3
Di-n-butyl Phthalate	µg/L	24-hr Composite	2/Year ²	3
Dichlorobenzenes ¹	µg/L	Grab	2/Year ²	3
Diethyl Phthalate	µg/L	24-hr Composite	2/Year ²	3
Dimethyl Phthalate	µg/L	24-hr Composite	2/Year ²	3
4,6-dinitro-2-methylphenol	µg/L	24-hr Composite	2/Year ²	3
2,4-dinitrophenol	µg/L	24-hr Composite	2/Year ²	3
Ethylbenzene	µg/L	Grab	2/Year ²	3
Fluoranthene	µg/L	24-hr Composite	2/Year ²	3
Hexachlorocyclopentadiene	µg/L	24-hr Composite	2/Year ²	3
Nitrobenzene	µg/L	24-hr Composite	2/Year ²	3
Thallium, Total Recoverable	µg/L	24-hr Composite	2/Year ²	3
Toluene	µg/L	Grab	2/Year ²	3
Tributyltin	µg/L	24-hr Composite	2/Year ²	3
1,1,1-trichloroethane	µg/L	Grab	2/Year ²	3
PARAMETERS FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS⁵				
Acrylonitrile	µg/L	Grab	2/Year ²	3
Aldrin	µg/L	24-hr Composite	2/Year ²	3
Benzene	µg/L	Grab	2/Year ²	3
Benzidine	µg/L	24-hr Composite	2/Year ²	3
Beryllium, Total Recoverable	µg/L	24-hr Composite	2/Year ²	3
Bis (2-chloroethyl) Ether	µg/L	24-hr Composite	2/Year ²	3
Bis (2-ethylhexyl) Phthalate	µg/L	24-hr Composite	2/Year ²	3

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Carbon Tetrachloride	µg/L	Grab	2/Year ²	3
Chlordane ¹	µg/L	24-hr Composite	2/Year ²	3
Chlorodibromomethane (dibromochloromethane)	µg/L	Grab	2/Year ²	3
Chloroform	µg/L	Grab	2/Year ²	3
DDT ¹	µg/L	24-hr Composite	2/Year ²	3
1,4-dichlorobenzene	µg/L	Grab	2/Year ²	3
3,3'-dichlorobenzidine	µg/L	24-hr Composite	2/Year ²	3
1,2-dichloroethane	µg/L	Grab	2/Year ²	3
1,1-dichloroethylene	µg/L	Grab	2/Year ²	3
Dichlorobromomethane	µg/L	Grab	2/Year ²	3
Dichloromethane (Methylene Chloride)	µg/L	Grab	2/Year ²	3
1,3-dichloropropene (1,3-Dichloropropylene)	µg/L	Grab	2/Year ²	3
Dieldrin	µg/L	24-hr Composite	2/Year ²	3
2,4-dinitrotoluene	µg/L	24-hr Composite	2/Year ²	3
1,2-diphenylhydrazine	µg/L	24-hr Composite	2/Year ²	3
Halomethanes ¹	µg/L	Grab	2/Year ²	3
Heptachlor	µg/L	24-hr Composite	2/Year ²	3
Heptachlor Epoxide	µg/L	24-hr Composite	2/Year ²	3
Hexachlorobenzene	µg/L	24-hr Composite	2/Year ²	3
Hexachlorobutadiene	µg/L	24-hr Composite	2/Year ²	3
Hexachloroethane	µg/L	24-hr Composite	2/Year ²	3
Isophorone	µg/L	24-hr Composite	2/Year ²	3
N-nitrosodimethylamine	µg/L	24-hr Composite	2/Year ²	3
N-nitrosodi-N-propylamine	µg/L	24-hr Composite	2/Year ²	3
N-nitrosodiphenylamine	µg/L	24-hr Composite	2/Year ²	3
polycyclic aromatic hydrocarbons (PAHs) ¹	µg/L	24-hr Composite	2/Year ²	3
polychlorinated biphenyls (PCBs) ¹	µg/L	24-hr Composite	2/Year ²	3
TCDD equivalents ¹	µg/L	24-hr Composite	2/Year ²	3
1,1,2,2-tetrachloroethane	µg/L	Grab	2/Year ²	3
Tetrachloroethylene (Tetrachloroethene)	µg/L	Grab	2/Year ²	3
Toxaphene	µg/L	24-hr Composite	2/Year ²	3
Trichloroethylene (Trichloroethene)	µg/L	Grab	2/Year ²	3
1,1,2-trichloroethane	µg/L	Grab	2/Year ²	3
2,4,6-trichlorophenol	µg/L	24-hr Composite	2/Year ²	3
Vinyl Chloride	µg/L	Grab	2/Year ²	3

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order
2. The Discharger shall calculate and report the mass emission rate (MER) of the parameter for each sample taken. The MER shall be calculated in accordance with section VII.I.4 of this Order.
3. As required under 40 CFR part 136.
4. The Discharger may, at their option, apply this performance goal as a total chromium performance goal and monitor for total recoverable chromium in lieu of total recoverable chromium (III) or total recoverable chromium (VI). If the Discharger uses this option, the Discharger does not need to conduct duplicate sampling for total chromium (i.e., the Discharger is only required to conduct monthly monitoring for total chromium).
5. If a Discharger can demonstrate to the satisfaction of the San Diego Water Board (subject to USEPA approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, performance goals may be evaluated with the combined measurement of free cyanide, simple alkali metals cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in 40 CFR part 136, as revised May 14, 1999.
6. Applicable to chronic toxicity as specified in section VII.K of this Order and section III.C of this MRP (Attachment E).

2. Monitoring Location I-001

The Discharger shall monitor the effluent at Monitoring Location I-001 as follows:

Table E-3. Effluent Monitoring at Monitoring Location I-001¹

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow ²	MGD	Continuous	Continuous	--
pH	SUs	Grab	1/Month	4
Total Suspended Solids (TSS)	mg/L	24-hr composite	1/Month	4
	lbs/day ³	Calculated		
Oil and Grease	mg/L	Grab	1/Month	4
	lbs/day ³	Calculated		

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
2. Flow shall be monitored prior to combining with any other waste stream.
3. The Discharger shall calculate and report the MER of the parameter for each sample taken. The MER shall be calculated in accordance with section VII.I.4 of this Order.
4. Pollutants shall be analyzed using the analytical methods described in 40 CFR part 136.

C. Whole Effluent Toxicity (WET) Testing Requirements

The WET refers to the overall aggregate toxic effect of an effluent measured directly by an aquatic toxicity test(s). The control of WET is one approach this Order uses to control the discharge of toxic pollutants. WET tests evaluate 1) the aggregate toxic effects of all chemicals in the effluent including additive, synergistic, or antagonistic toxicity effects; 2) the toxicity effects of unmeasured chemicals in the effluent; and 3) the variability in bioavailability of the chemicals in the effluent.

Monitoring to assess the overall toxicity of the effluent is required to answer the following questions:

- (1) Does the effluent meet the performance goal for toxicity thereby ensuring that water quality standards are achieved in the receiving water?
- (2) If the effluent does not meet the performance goal for toxicity, are unmeasured pollutants causing risk to aquatic life?
- (3) If the effluent does not meet the performance goal for toxicity, are pollutants in combinations causing risk to aquatic life?

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

The chronic IWC is calculated by dividing 100 percent by the dilution factor. The chronic toxicity IWC is 0.42 percent effluent.

2. Sample Volume and Holding Time

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

3. Chronic Marine Species and Test Methods

If effluent samples are collected from outfalls discharging to receiving waters with salinity >one part per thousand (ppt), the Discharger shall conduct the following chronic toxicity tests on effluent samples, at the Discharge IWC (0.42 percent effluent), in accordance with species and test methods in *Short-Term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine Estuarine Organisms* (EPA/600/R-95/136, 1995). Artificial sea salts or hypersaline brine shall be used to increase sample salinity if needed. In no case shall these species be substituted with another test species unless written authorization from the San Diego Water Board is received.

- a. A static renewal toxicity test with the topsmelt, *Atherinops affinis* (Larval Survival and Growth Test Method 1006.01).
- b. A static non-renewal toxicity test with the purple sea urchin, *Strongylocentrotus purpuratus*/sand dollar, *Dendraster excentricus* (Fertilization Test Method 1008.0); or a static non-renewal toxicity test with the red abalone, *Haliotis rufescens* (Larval Shell Development Test Method).
- c. A static non-renewal toxicity test with the giant kelp, *Macrocystis pyrifera* (Germination and Growth Test Method 1009.0).

4. Species Sensitivity Screening

Species sensitivity screening shall be conducted during this Order's first required sample collection, or within 24 months of most recent screening, whichever is later. The Discharger shall collect a single effluent sample to initiate and concurrently conduct three toxicity tests using the fish, an invertebrate, and the alga species previously referenced. This sample shall also be analyzed for the parameters required on a monthly frequency for the discharge, during that given month. As allowed under the test method for the *Atherinops affinis*, a second and third sample shall be collected for use as test solution renewal water as the seven-day toxicity test progresses. If the result of all three species is "Pass," then the species that exhibits the highest "Percent Effect" at the discharge IWC during species sensitivity screening shall be used for routine monitoring. If only one species fails, then that species shall be used for routine monitoring. Likewise, if two or more species result in "Fail," then the species that exhibits the highest "Percent Effect" at the discharge IWC during the suite of species sensitivity screening shall be used for routine monitoring.

Species sensitivity rescreening is required every 24 months. The Discharger shall rescreen with the marine vertebrate species, a marine invertebrate species, and the alga species previously referenced, and continue to monitor with the most sensitive species. If the first suite of rescreening tests demonstrates that the same species is the most sensitive, then the rescreening does not need to include more than one suite of tests. If a different species is the most sensitive or if there is ambiguity, then the Discharger may proceed with suites of screening tests for a minimum of three, but not to exceed five suites.

The species used during routine monitoring shall be the most sensitive species from the most recent species sensitivity screening.

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

5. Quality Assurance (QA) and Additional Requirements

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

- a. The discharge is subject to determination of "Pass" or "Fail" from a chronic toxicity test using the Test of Significant Toxicity (TST) statistical t-test approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833- R-10-003, 2010), Appendix A, Figure A-1 and Table A-1 and Appendix B, Table B-1. The null hypothesis (H_0) for the TST statistical approach is: Mean discharge IWC response $\leq 0.75 \times$ 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." This is a t-test (formally Student's t-test), a statistical analysis comparing two sets of replicate observations—in the case of WET, only two test concentrations (i.e., a control and IWC). The purpose of this statistical test is to determine if the means of the two sets of observations are different (i.e., if the IWC or receiving water concentration differs from the control (the test result is "Pass" or "Fail"). The Welch's t-test employed by the TST statistical approach is an adaptation of Student's t-test and is used with two samples having unequal variances. The relative "Percent Effect" at the discharge IWC is defined and reported as: $((\text{Mean control response} - \text{Mean discharge IWC response}) \div \text{Mean control response}) \times 100$.
- b. If the effluent toxicity test does not meet all test acceptability criteria (TAC) specified in the referenced test method, *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995), the test should be declared invalid, then the Discharger must resample and re-test within 14 days of test termination.
- c. Dilution water and control water, including brine controls, shall be 1- μm -filtered uncontaminated natural seawater, hypersaline brine prepared using uncontaminated natural seawater, or laboratory water prepared and used as specified in the test methods manual. If dilution water and control water is different from test organism culture water, then a second control using culture water shall also be used.
- d. Monthly reference toxicant testing is sufficient. All reference toxicant test results should be reviewed and reported using the effects concentration at 25 percent (EC25).
- e. The Discharger shall perform toxicity tests on final effluent samples. Chlorine and ammonia shall not be removed from the effluent sample prior to toxicity testing, unless explicitly authorized under this section of this MRP and the rationale is explained in the Fact Sheet (Attachment F).

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

The Discharger shall prepare and submit a copy of the Discharger's Initial Investigation TRE Work Plan to the San Diego Water Board for approval within 90 days of the effective date of this Order. If the San Diego Water Board does not disapprove the work plan within 60 days, the work plan shall become effective. The Discharger shall use USEPA manual, *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, 1989), or most current version, as guidance. At a minimum, the work plan must contain the provisions in Attachment I, *Generic Toxicity*

Reduction Evaluation (TRE) Work Plan. The Initial Investigation TRE Work Plan shall describe the steps that the Discharger intends to follow if toxicity is detected, and shall include, at a minimum:

- a. A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency;
- b. A description of the Facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in the operation of the Facility; and
- c. If a TIE is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor).

7. Accelerated Monitoring Schedule for Maximum Daily Single Result: "Fail"

The Maximum Daily single result shall be used to determine if accelerated testing needs to be conducted.

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

8. TRE Process

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

- a. Preparation and Implementation of Detailed TRE Work Plan. The Discharger shall immediately initiate a TRE using, according to the type of treatment facility, The Discharger shall use USEPA manual, *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, 1989) and, within 15 days of receiving validated results, submit to the San Diego Water Board a Detailed TRE Work Plan, which shall follow the 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 San Diego Water Board:
 - i. Further actions by the Discharger to investigate, identify, and correct the causes of toxicity;
 - ii. Actions the Discharger will take to mitigate the effects of the discharge and prevent the recurrence of toxicity; and

- iii. A schedule for these actions, progress reports, and the final report.
- b. TIE Implementation. The Discharger may initiate a TIE as part of a TRE to identify the causes of toxicity using the same species and test method and, as guidance, USEPA manuals: *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures* (EPA/600/6-91/003, 1991); *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080, 1993); *Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/081, 1993); and *Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document* (EPA/600/R-96-054, 1996). The TIE should be conducted on the species demonstrating the most sensitive toxicity response.
- c. Many recommended TRE elements parallel required or recommended efforts for source control, pollution prevention, and storm water control programs. Whenever possible, TRE efforts should be coordinated with such efforts. As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the sources and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with toxicity evaluation parameters.
- d. The Discharger shall continue to conduct the minimum effluent monitoring while the TRE and/or TIE process is taking place. Additional accelerated monitoring and TRE Work Plans are not required once a TRE is begun.
- e. The San Diego 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 routine monitoring finds there is no longer toxicity.
- f. The San Diego Water Board may consider the results of any TRE/TIE studies in an enforcement action.

9. Reporting

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

- a. The valid toxicity test results for the TST statistical approach, reported as "Pass" or "Fail" and "Percent Effect" at the chronic toxicity IWC for the discharge. All toxicity test results (whether identified as valid or otherwise) conducted during the monitoring period shall be reported on the SMR due date specified in Table E-4.
- b. Summary water quality measurements for each toxicity test (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, chlorine, ammonia).
- c. The statistical analysis used in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010) Appendix A, Figure A-1 and Table A-1, and Appendix B, Table B-1.
- d. TRE/TIE results. The San Diego Water Board shall be notified no later than 30 days from completion of each aspect of TRE/TIE analyses. Prior to the completion of the final TRE/TIE report, the Discharger shall provide status updates in the monthly SMRs, indicating which TRE/TIE steps are underway and which steps have been completed.

- e. Statistical program (e.g., TST calculator, CETIS, etc.) output results, including graphical plots, for each toxicity test.
- f. Graphical plots clearly showing the laboratory's performance for the reference toxicant for the previous 20 tests and the laboratory's performance for the control mean, control standard deviation, and control coefficient of variation for the previous 12-month period.
- g. Any additional quality assurance/quality control (QA/QC) documentation or any additional chronic toxicity-related information, upon written request from the San Diego Water Board.

D. Land Discharge Monitoring Requirements – Not Applicable

E. Recycling Monitoring Requirements – Not Applicable

IV. RECEIVING WATER MONITORING REQUIREMENTS

The City of Escondido and San Elijo Joint Powers Authority conduct receiving water monitoring for their individual discharges to the San Elijo Ocean Outfall¹. The receiving water monitoring is designed to measure the effects of the SEOO discharge on the receiving ocean waters, including effects on coastal water quality, seafloor sediments, and marine life. The receiving water monitoring data may be used, in conjunction with other pertinent technical information, to determine compliance with the receiving water limitations and other related provisions of this Order. The Discharger shall review the receiving water monitoring reports submitted by the City of Escondido and San Elijo Joint Powers Authority as they become available on the State Water Board website at <http://ciwqs.waterboards.ca.gov/ciwqs/readOnly/PublicReportEsmrAtGlanceServlet?inCommand=reset>.

V. REGIONAL MONITORING REQUIREMENTS

Regional ocean water monitoring provides information about the sources, fates, and effects of anthropogenic contaminants in the coastal marine environment necessary to make assessments over large areas. The large-scale assessments provided by regional monitoring describe and evaluate cumulative effects of all anthropogenic inputs and enable better decision making regarding protection of beneficial uses of ocean waters. Regional monitoring data assists in the interpretation of core monitoring studies by providing a more accurate and complete characterization of reference conditions and natural variability. Regional monitoring also leads to methods standardization and improved quality control through inter-calibration exercise. The coalitions implementing regional monitoring enable sharing of technical resources, trained personnel, and associated costs. Focusing these resources on regional issues and developing a broader understanding of pollutants effects in ocean waters enables the development of more rapid and effective response strategies. Based on all of these considerations the San Diego Water Board supports regional approaches to monitoring ocean waters.

The Discharger is encouraged to participate with other regulated entities, other interested parties, and the San Diego Water Board in development and implementation of new and improved

¹ Discharges from the City of Escondido's MFRO Facility and HARRF are regulated by separate WDRs, Order No. R9-2018-0002, NPDES No. CA0107981, *Waste Discharge Requirements for the City of Escondido, Hale Avenue Resource Recovery Facility and Membrane Filtration/Reverse Osmosis Facility Discharge to the Pacific Ocean through the San Elijo Ocean Outfall*.

Discharges from the San Elijo Joint Powers Authority, San Elijo Water Reclamation Facility are regulated by separate WDRs, Order No. R9-2018-0003, NPDES No. CA0107999, *Waste Discharge Requirements for the San Elijo Joint Powers Authority, San Elijo Water Reclamation Facility Discharge to the Pacific Ocean through the San Elijo Ocean Outfall*.

monitoring and assessment programs for ocean waters in the San Diego Region and discharges to those waters.

A. Kelp bed canopy monitoring requirements

Kelp consists of a number of species of brown algae. Along the central and southern California coast, giant kelp (*Macrocystis pyrifera*) is the largest species colonizing rocky, and in some cases sandy, subtidal habitats. Giant kelp is an important component of coastal and island communities in southern California, providing food and habitat for numerous animals. Monitoring of the kelp beds is necessary to answer the following questions:

- (1) What is the maximum areal extent of the coastal kelp bed canopies each year?
- (2) What is the variability of the coastal kelp bed canopy over time?
- (3) Are coastal kelp beds disappearing? If yes, what are factors that could contribute to the disappearance?
- (4) Are new coastal kelp beds forming?

The City of Escondido and San Elijo Joint Powers Authority participate, for their individual discharges to the San Elijo Ocean Outfall, in an ongoing regional survey of coastal kelp beds in the Southern California Bight. The intent of these surveys is to provide an indication of the health of these kelp beds, recognizing that the extent of kelp bed canopies may change due to variety of influences. Kelp bed canopy data obtained from the regional monitoring program may be used, in conjunction with other pertinent technical information, to determine compliance with the receiving water limitations and other related provisions of this Order. The Discharger shall review the findings and conclusions of each annual Status of the Kelp Beds Report as it becomes available on the Southern California Bight Regional Aerial Kelp Surveys website at <http://kelp.sccwrp.org/reports.html>.

B. Southern California Bight Monitoring Program Participation Requirements

The Discharger may be requested by the San Diego Water Board to participate in the Southern California Bight Regional Monitoring Program coordinated by the Southern California Coastal Water Research Project (SCCWRP), or any other coordinated regional monitoring effort named by the San Diego Water Board, pursuant to Water Code sections 13267 and 13383, and 40 CFR section 122.48. The intent of the Southern California Bight Regional Monitoring Program is to maximize the efforts of all monitoring partners using a more cost-effective monitoring design and to best utilize the pooled scientific resources of the Southern California Bight.

VI. SPECIAL STUDIES REQUIREMENTS – NOT APPLICABLE

VII. OTHER MONITORING REQUIREMENTS

A. Water Treatment Systems and Cooling Tower Additives Log

The Discharger is required to maintain a log at the Facility of all chemical analytes used in the water treatment systems and/or added for cooling tower maintenance that are eventually discharged from the Facility to the IBCS. The log shall include a list of the chemicals analytes used, the use of each analyte, the location of use of each analyte, and the approximate quantity of each analyte used over a given period of time. By March 1 of each year, the Discharger shall submit 1) the annual log of all chemical analytes used in the water treatment systems and/or added for cooling tower maintenance for the period covering the previous calendar year, 2) any changes to the list of chemical analytes that the Discharger plans to use in the water treatment systems and/or cooling tower maintenance for the period covering the current calendar year, and 3) the certification that no priority pollutant listed in Appendix A of

40 CFR part 423 had been used in the contents of chemical formulations added for cooling tower maintenance (i.e., The Facility is in compliance with Discharge Prohibition III.E.).

B. Anticipated Increase Production Notification

The Discharger shall notify the San Diego Water Board at least 2 business days prior to a month in which the Discharger expects to operate at an increased energy output production level which will result in cooling tower blowdown flow in excess of the reasonable measure of the actual production of the Facility described in section IV.B of the Fact Sheet. The notice shall specify the anticipated increased energy output production level, respective flows (not to exceed the measure of the maximum production capacity of 1.4 MGD) and the period during which the Discharger expects to operate at the alternate level. If the notice covers more than one month, the notice shall specify the reasons for the anticipated energy output production level increase. New notice of discharge at alternate levels is required to cover a period or production level not covered by prior notice or, if during two consecutive months otherwise covered by the notice, the production level at the facility does not in fact meet the higher level designated in the notice. The Discharger shall comply with the mass-based effluent limitations in Table 4 of this Order unless the Discharger has notified the San Diego Water Board of the increase in energy output production.

The Discharger shall submit, with the DMR and SMR, the level of energy output production that actually occurred during each month, respective flows (not to exceed the measure of the maximum production capacity of 1.4 MGD), and the respective mass-based effluent limitations applicable to that level of production and flows (with all calculations provided).

VIII. 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. The Discharger shall report all instances of noncompliance not reported under sections V.E, V.G, and V.H of the Standard Provisions (Attachment D) at the time monitoring reports are submitted. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

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 website at http://www.waterboards.ca.gov/water_issues/programs/ciwqs/. The CIWQS website will provide additional information for SMR submittal in the event there will be a planned or unplanned service interruption for electronic submittal. SMRs must be signed and certified as required by section V of the Standards Provisions (Attachment D). The Discharger shall maintain sufficient staffing and resources to ensure it submits SMRs that are complete and timely. This includes provision for training and supervision of individuals on how to prepare and submit SMRs.
2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IV. The Discharger shall submit SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. SMRs are to include all new monitoring results obtained

since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

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

Table E-4. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	First day of second calendar month following month of sampling.
Weekly	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	First day of second calendar month following month of sampling.
Monthly	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1 st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling.
Semiannually	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31	September 1 March 1

4. Section III.B of the Standard Provisions (Attachment D) includes the standard provisions for test procedures. USEPA published regulations for the Sufficiently Sensitive Methods Rule (SSM Rule) which became effective September 18, 2015. For the purposes of the NPDES program, when more than one test procedure is approved under 40 CFR part 136 for the analysis of a pollutant or pollutant parameter, the test procedure must be sufficiently sensitive as defined at 40 CFR sections 122.21(e)(3) and 122.44(i)(1)(iv). Both 40 CFR sections 122.21(e)(3) and 122.44(i)(1)(iv) apply to the selection of a sufficiently sensitive analytical method for the purposes of monitoring and reporting under NPDES permits, including review of permit applications. A USEPA-approved analytical method is sufficiently sensitive where:
 - a. The Minimum Level (reported ML, also known as the Reporting Level, or RL) is at or below both the level of the applicable water quality criterion/objective and this Order limitation for the measured pollutant or pollutant parameter; or
 - b. In permit applications, the ML is above the applicable water quality criterion/objective, but the amount of the pollutant or pollutant parameter in a facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or
 - c. The method has the lowest ML of the USEPA-approved analytical methods where none of the USEPA-approved analytical methods for a pollutant can achieve the MLs necessary to assess the need for effluent limitations or to monitor compliance with a permit limitation.
 - d. The MLs in Ocean Plan Appendix II and MLs in Appendix 4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP) remain applicable. However, there may be situations when analytical methods are published with MLs that are more sensitive than the MLs for analytical methods listed in the Ocean Plan. For instance, USEPA Method 1631E for mercury is not currently listed in Ocean Plan Appendix II, but it is

published with an ML of 0.5 nanograms per liter (ng/L) that makes it a sufficiently sensitive analytical method. Similarly, USEPA Method 245.7 for mercury is published with an ML of 5 ng/L.

5. **Reporting Protocols.** The Discharger shall report with each sample result the applicable reported ML (or RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR part 136.

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

- a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the reported ML, 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 (\pm a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
 - d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.
6. **Compliance Determination.** Compliance with effluent limitations for reportable pollutants shall be determined using sample reporting protocols defined above and in Attachment A of this Order. For purposes of reporting and administrative enforcement by the San Diego Water Board and State Water Board, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the reportable pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported ML.
7. **Multiple Sample Data.** When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of DNQ or ND, the 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.

8. The Discharger shall submit SMRs in accordance with the following requirements:
 - a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.
 - b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the waste discharge requirements; 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)

The DMRs are USEPA reporting requirements. The Discharger shall electronically certify and submit DMRs together with SMRs using Electronic Self-Monitoring Reports (eSMR) module eSMR 2.5 or any upgraded version. Electronic DMRs submittal shall be in addition to electronic SMR submittal. Information about electronic DMRs submittal is available at the DMR website at:

http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring.

D. Other Reports

The following reports are required under section VI of this Order and sections I, III, IV, V, VI, and VII of this MRP. The reports shall be submitted to the San Diego Water Board using the State Water Board’s CIWQS program website, unless stated otherwise. The reports must be signed and certified as required by section V of the Standards Provisions (Attachment D). The CIWQS website will provide additional information for SMR submittal in the event of a planned or unplanned service interruption for electronic submittal.

Table E-5. Other Reports

Report	Location of requirement	Due Date
Report of Waste Discharge (for reissuance)	Section VI.A.2.a	No later than 180 days before the Order expiration date ¹
DMR-QA Study	Section I.H of this MRP	Annually no later than December 31 ²
Initial Investigation TRE Work Plan	Section III.C.6 of this MRP	Within 90 days after adoption of this Order
Water Treatment Systems and Cooling Tower Additives Log	Section VII.A of this MRP	Annually no later than March 1

1. Submit in person or by mail to the San Diego Water Board office (2375 Northside Drive, Suite 100, San Diego, CA 92108) or by email at SanDiego@waterboards.ca.gov.
 2. See section I.H. of this MRP for instructions on how to submit the study.

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in section II.B of this Order, the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) incorporates this Fact Sheet as findings of the San Diego 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	9 000002388
Discharger	San Diego Gas and Electric Company
Name of Facility	Palomar Energy Center
Facility Address	2300 Harveson Place
	Escondido, CA 92029
	San Diego County
Facility Contact, Title and Phone	Carl S. LaPeter, Plant Manager, (760) 432-2503
Authorized Person to Sign and Submit Reports	Carl S. LaPeter, Plant Manager, (760) 432-2503
Mailing Address	Same as Facility Address
Billing Address	Same as Facility Address
Type of Facility	Natural Gas-Fired Combined Cycle Power Plant
Major or Minor Facility	Major
Threat to Water Quality	2
Complexity	A
Pretreatment Program	Not Applicable
Recycling Requirements	None
Facility Permitted Flow	1.4 million gallons per day (MGD)
Facility Design Flow	1.4 MGD
Watershed	Pacific Ocean
Receiving Water	Pacific Ocean
Receiving Water Type	Ocean waters

A. San Diego Gas and Electric Company (SDG&E or Discharger) is the owner and operator of the Palomar Energy Center (PEC or Facility). The Facility is a natural gas-fired combined cycle power plant located at 2300 Harveson Place, Escondido, CA 92029.

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 PEC discharges wastewater to the Pacific Ocean, a water of the United States (U.S.) The Discharger was previously regulated by Order No. R9-2012-0015, as amended by the Order No. R9-2017-0012, and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0109215 adopted on September 12, 2012 and expired on October 31, 2017. Attachment B

provides a map of the area around the PEC. Attachment C provides a flow schematic of the PEC.

- C. The Discharger filed a Report of Waste Discharge (ROWD) and submitted an application of reissuance for its waste discharge requirements (WDRs) and NPDES permit on April 25, 2017. The application proposed no changes in the PEC operational conditions or discharge flows. The application was deemed complete on May 23, 2017. A site visit was conducted on February 28, 2018 to observe operations and collect additional data to develop permit limitations and requirements for waste discharge.
- D. Regulations at title 40 of the Code of Federal Regulations (40 CFR) section 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, Table 3 of this Order limits the duration of the discharge authorization. However, pursuant to California Code of Regulations (CCR), title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all federal NPDES requirements for continuation of expired permits.

II. FACILITY DESCRIPTION

The PEC is a 550-megawatt (MW) natural gas-fired combined cycle power plant located on a 20-acre site within the Escondido Research and Technology Center (ERTC), an industrial park in the City of Escondido in San Diego County. The PEC, located within the Discharger's electric transmission system, is designed to meet local and regional electric power requirements. The PEC has also been deemed essential for maintaining the reliability of the California Independent System Operator (CAISO) controlled grid. As such, the PEC is designated as a Reliability-Must-Run (RMR) plant by the CAISO.

The power generating facilities at the PEC include two 165-MW General Electric 7FA combustion turbine generators (CTGs), a centralized chiller plant, and two multi-pressure heat recovery steam generators (HRSGs). The HRSGs are equipped with duct burners, two 110-foot tall HRSG exhaust stacks, and one reheat condensing 187-MW steam turbine-generator (STG). The cooling system includes a surface condenser, circulating water system, and a plume-abated wet cooling tower.

Ultra-filtration (UF) backwash, reverse osmosis (RO) brine backwash, electro-deionization (DEI) brine backwash, various low flow floor drains, and heat recovery steam generator blowdown (collectively referred to as "low volume waste sources") are pumped into the cooling tower along with recycled water from the City of Escondido's Hale Avenue Resource Recovery Facility (HARRF) and other feed water. The cooling tower blowdown is then discharged to the Industrial Brine Collection System (IBCS), which connects to the Escondido Land Outfall (ELO), the San Elijo Ocean Outfall (SEOO), and the Pacific Ocean.

The City of Escondido owns and operates the IBCS and issued Industrial User Discharge (IUD) Permit No. 11016A to SDG&E to discharge to the IBCS. The maximum discharge of the cooling tower blowdown to the IBCS is 1.4 MGD (based on maximum production capacity).

A. Description of Wastewater Treatment and Controls

Approximately 5.3 MGD of recycled water is continuously sent from the HARRF to the PEC. As shown in the flow schematic in Attachment C of this Order, the recycled water is used in the power plant's cooling tower and water purification systems (i.e., UF, RO, and DEI systems). The recycled water is also used in the Facility's fire suppression system (not shown in the schematic). The Discharger may augment feed water to the cooling tower with up to 25,000 gallons per year of the Facility's fire suppression system water and/or 0.375 MGD of retained storm water.

The PEC generates wastewater from the heat recovery steam generator blowdown, water collected in floor drains, and the backwash of the UF, RO, and DEI systems serving the steam generators. These wastewater streams are collectively referred to as low volume waste sources. The low volume waste sources contain salts, minerals, suspended solids, and oil and grease. The low volume waste sources are collected in the wastewater collection system and transfer sump. From there, the low volume waste sources are pumped into the cooling tower along with recycled water from the HARRF, and other feed water (including the Facility's fire suppression system water and/or retained storm water).

The cooling water circulates in the cooling tower and cools the captured steam from the steam turbine. As a result of evaporation, total dissolved solids (TDS) concentration in the cooling water increases. To minimize system fouling and corrosion, a portion of the cooling tower water is purged and replaced with "make up" water; 40% sodium tolyltriazole is used daily; and Aquapure 3691 polyphosphate is used once per year. To reduce scaling, Proprietary Chemtreat CL 3587 is used daily.¹ The purged water is referred to as "blowdown". The cooling water must be chlorinated to prevent biofouling and buildup of algae and to maintain the health of the cooling tower. The cooling tower blowdown therefore contains chlorine residuals and high TDS.

Most of the recycled water delivered to the PEC is lost to evaporation, and only a portion of the recycled water is returned to the IBCS as cooling tower blowdown.

Wastewater collected in floor drains located in chemical storage areas and wastewater from plant and equipment wash down which potentially contain oil and grease and suspended solids are collected and discharged to the City of Escondido's sanitary sewer system.

B. Discharge Points and Receiving Waters

Cooling tower blowdown from the PEC; brine wastewaters and cooling tower blowdown from Stone Brewing Co.², and brine wastewater from the City of Escondido's proposed Membrane Filtration/Reverse Osmosis (MFRO) Facility³ commingle in the IBCS. All flows in the IBCS are either conveyed directly into the ELO or directed to a 2-million-gallon storage pond at the HARRF for controlled release into the ELO at a later time. Treated wastewater from HARRF and wastes from the IBCS flows through the ELO approximately 14 miles in a southwesterly direction, generally following Escondido Creek, until it enters the SEOO.

The SEOO is co-owned by the San Elijo Joint Powers Authority and the City of Escondido, which own 21 percent and 79 percent of the capacity, respectively. The SEOO begins at a point approximately 2,200 feet south of the mouth of the San Elijo Lagoon, where treated wastewater from the HARRF and wastes from the IBCS merge with treated wastewater from the San Elijo Joint Powers Authority, San Elijo Water Reclamation Facility⁴. The SEOO extends into the Pacific Ocean, where the inshore end of a diffuser is located approximately 6,800 feet offshore at a depth of approximately 110 feet. The diffuser, which is collinear with the outfall, is approximately 1,200 feet in length and extends to a depth of approximately 148

¹ By email dated August 6, 2018, the Discharger provided a list of the chemicals used at the Facility.

² Discharges from Liquid Stone Holding, LLC, DBA Stone Brewing Co. are regulated by separate WDRs, Order No. R9-2018-0063, NPDES No. CA0109258, *Waste Discharge Requirements for Liquid Stone Holding, LLC, DBA Stone Brewing Co. Discharge to the Pacific Ocean through the San Elijo Ocean Outfall.*

³ Discharges from the City of Escondido's MFRO Facility and HARRF are regulated by separate WDRs, Order No. R9-2018-0002, NPDES No. CA0107981, *Waste Discharge Requirements for the City of Escondido, Hale Avenue Resource Recovery Facility and Membrane Filtration/Reverse Osmosis Facility Discharge to the Pacific Ocean through the San Elijo Ocean Outfall.*

⁴ Discharges from the San Elijo Joint Powers Authority, San Elijo Water Reclamation Facility are regulated by separate WDRs, Order No. R9-2018-0003, NPDES No. CA0107999, *Waste Discharge Requirements for the San Elijo Joint Powers Authority, San Elijo Water Reclamation Facility Discharge to the Pacific Ocean through the San Elijo Ocean Outfall.*

feet. The terminus of the diffuser (i.e., Discharge Point No. 001) is located at Latitude 33° 00' 21" North and Longitude 117° 18' 09" West.

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

Effluent limitations contained in Order No. R9-2012-0015 for discharges from Discharge Point Nos. I-001 and 001, and representative monitoring data from the term of Order No. R9-2012-0015 are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data - Discharge Point No. I-001¹

Parameter	Units ¹	Effluent Limitations			Monitoring Data (From November 2012 to May 2018)		
		Average Monthly	Maximum Daily	Instantaneous Maximum	Highest Average Monthly Discharge	Highest Maximum Daily Discharge	Highest Instantaneous Maximum Discharge
Total Suspended Solids (TSS)	milligram per liter (mg/L)	30	100	--	--	24	--
	pounds per day (lbs/day)	80 ²	267 ²	--	--	78.8	--
pH	standard units (SU)	--	--	6.0-9.0 ³	--	--	3.1-8.9 ³
Oil and Grease	mg/L	15	20	--	9	18	--
	lbs/day	40 ²	53 ²	--	28.5	57.0	--

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
2. The mass emission rate (MER) limitations, in lbs/day, were calculated based on the following equation: MER (lbs/day) = 8.34 x Q x C, where Q is the maximum flow rate for the low volume waste sources (0.32 MGD) and C is the concentration (mg/L).
3. Minimum and maximum value.

Table F-3. Historic Effluent Limitations and Monitoring Data for Discharge Point No. 001¹

Parameter	Units ¹	Effluent Limitations				Monitoring Data (From November 2012 to May 2018)			
						Highest Discharge			
		6-Month Median	Average Monthly	Maximum Daily	Instantaneous Maximum	6-Month Median	Average Monthly	Maximum Daily	Instantaneous Maximum
pH	SU	--	--	--	6.0-9.0 ²	--	--	--	7.2-8.1 ²
Free Available Chlorine	microgram per liter (µg/L)	--	--	--	500 ³	--	--	--	110
	lbs/day	--	--	--	4.6	--	--	--	1
Total Residual Chlorine	µg/L	476	--	1,904	14,280	60	--	--	1200
	lbs/day	4.4	--	17.5	131	0.37	--	2.4	2.37
Chromium, Total Recoverable	mg/L	--	0.2	0.2	--	--	Not Detected (ND)	0.0012	--
	lbs/day	--	1.8	1.8	--	--	ND	0.008	--
Zinc, Total Recoverable ⁴	mg/L	--	1.0	1.0	--	--	0.1	0.14	--
	lbs/day	--	9.2	9.2	--	--	0.7	1.2	--

Parameter	Units ¹	Effluent Limitations				Monitoring Data (From November 2012 to May 2018)			
						Highest Discharge			
		6- Month Median	Average Monthly	Maximum Daily	Instanta- neous Maximum	6- Month Median	Average Monthly	Maximum Daily	Instanta- neous Maximum
Acenaphthene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	Not Reported (NR)	--	NR
Acrolein ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<2.5	--	<2.5
Acrylonitrile ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<3.5	--	<35
Benzene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<2.5	--	<2.5
Benzidine ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<1.7	--	<1.7
Carbon Tetrachloride (Tetrachloromethane) ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<2.5	--	<2.5
Chlorobenzene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<2.5	--	<2.5
1,2,4-trichlorobenzene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
Hexachlorobenzene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.18	--	<0.18
1,2-dichloroethane ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<2.5	--	<2.5
1,1,1-trichloroethane ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
Hexachloroethane ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<2.8	--	<2.8
1,1-dichloroethane ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
1,1,2-trichloroethane ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<2.5	--	<2.5
1,1,2,2-tetrachloroethane ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<2.5	--	<2.5
Chloroethane ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
Bis(2-chloroethyl) Ether ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.092	--	<0.092
2-chloroethyl Vinyl Ether (mixed) ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
2-chloronaphthalene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
2,4,6-trichlorophenol ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.14	--	<0.14
Parachlorometacresol ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
Chloroform (Trichloromethane) ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<2.5	--	<2.5
2-chlorophenol ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
1,2-dichlorobenzene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
1,3-dichlorobenzene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
1,4-dichlorobenzene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.25	--	<0.25
3,3-dichlorobenzidine ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.97	--	<0.97
1,1-dichloroethylene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.25	--	<0.25
1,2-trans-dichloroethylene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
2,4-dichlorophenol ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
1,2-dichloropropane ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
1,2-dichloropropylene (1,3-dichloropropene) ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
2,4-dimethylphenol ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
2,4-dinitrotoluene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.14	--	<0.14
2,6-dinitrotoluene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
1,2-diphenylhydrazine ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.77	--	<0.77
Ethylbenzene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.25	--	<0.25
Fluoranthene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.095	--	<0.095

Parameter	Units ¹	Effluent Limitations				Monitoring Data (From November 2012 to May 2018)			
						Highest Discharge			
		6- Month Median	Average Monthly	Maximum Daily	Instanta- neous Maximum	6- Month Median	Average Monthly	Maximum Daily	Instanta- neous Maximum
4-chlorophenyl Phenyl Ether ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
4-bromophenyl Phenyl Ether ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
Bis(2-chloroisopropyl) Ether ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.49	--	<0.49
Bis(2-chloroethoxy) Methane ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.69	--	<0.69
Methylene Chloride (dichloromethane) ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.78	--	<0.78
Methyl Chloride (dichloromethane) ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
Methyl Bromide (bromomethane) ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
Bromoform (Tribromomethane) ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
Dichlorobromomethane ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.26	--	<0.26
Chlorodibromomethane ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	0.66	--	0.66
Hexachlorobutadiene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.32	--	<0.32
Hexachloromyclopentadiene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
Isophorone ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.14	--	<0.14
Naphthalene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
Nitrobenzene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.23	--	<0.23
2-nitrophenol ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
4-nitrophenol ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
2,4-dinitrophenol ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<1.2	--	<1.2
4,6-dinitro-o-cresol ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
N-nitrosodimethylamine ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.13	--	<0.13
N-nitrosodiphenylamine ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.14	--	<0.14
N-nitrosodi-n-propylamin ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.64	--	<0.64
Pentachlorophenol ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
Phenol ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.13	--	<0.13
Bis(2-ethylhexyl) Phthalate ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.71	--	<0.71
Butyl Benzyl Phthalate ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
Di-n-butyl Phthalate ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.56	--	<0.56
Di-n-octyl Phthalate ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
Diethyl Phthalate ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.77	--	<0.77
Dimethyl Phthalate ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.071	--	<0.071
1,2-benzanthracene (benzo(a)anthracene) ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
Benzo(a)pyrene (3,4-benzo-pyrene) ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
3,4-Benzofluoranthene (benzo(b)fluoranthene) ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
11,12-benzofluoranthene (benzo(b)fluoranthene) ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR

Parameter	Units ¹	Effluent Limitations				Monitoring Data (From November 2012 to May 2018)			
						Highest Discharge			
		6- Month Median	Average Monthly	Maximum Daily	Instanta- neous Maximum	6- Month Median	Average Monthly	Maximum Daily	Instanta- neous Maximum
Chrysene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
Acenaphthylene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
Anthracene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
1,12-benzoperylene (benzo(ghi)perylene) ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
Fluorene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
Phenanthrene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
1,2,5,6-dibenzanthracene (dibenzo(h)anthracene) ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
Indeno (1,2,3-cd) Pyrene (2,3-opheynylene Pyrene) ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
Pyrene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
Tetrachloroethylene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
Toluene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.25	--	<0.25
Trichloroethylene ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
Vinyl Chloride (Chloroethylene) ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.23	--	<0.23
Aldrin ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.0015	--	<0.0015
Dieldrin ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.002	--	<0.002
Chlordane (technical mixture and metabolites) ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.014	--	<0.014
4,4-DDT ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.0039	--	<0.0039
4,4-DDE (p,p-DDX) ⁴	µg/L	--	ND ⁵	--	ND ⁵				
4,4-DDD (p,p-TDE) ⁴	µg/L	--	ND ⁵	--	ND ⁵				
Alpha-endosulfan ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.003	--	<0.003
Beta-endosulfan ⁴	µg/L	--	ND ⁵	--	ND ⁵				
Endosulfan Sulfate ⁴	µg/L	--	ND ⁵	--	ND ⁵				
Endrin ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.002	--	<0.002
Endrin Aldehyde ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
Heptachlor ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.0029	--	<0.0029
Heptachlor Epoxide (BHC- hexachlorocyclohexane) ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.0017	--	<0.0017
Alpha-BHC ⁴	µg/L	--	ND ⁵	--	ND ⁵				
Beta-BHC ⁴	µg/L	--	ND ⁵	--	ND ⁵				
Gamma-BHC (lindane) ⁴	µg/L	--	ND ⁵	--	ND ⁵				
Delta-BHC (polychlorinated biphenyls (PCBs)) ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.25	--	<0.25
PCB-1242 (Arochlor 1242) ⁴	µg/L	--	ND ⁵	--	ND ⁵				
PCB-1254 (Arochlor 1254) ⁴	µg/L	--	ND ⁵	--	ND ⁵				
PCB-1221 (Arochlor 1221) ⁴	µg/L	--	ND ⁵	--	ND ⁵				
PCB-1232 (Arochlor 1232) ⁴	µg/L	--	ND ⁵	--	ND ⁵				
PCB-1248 (Arochlor 1248) ⁴	µg/L	--	ND ⁵	--	ND ⁵				
PCB-1260 (Arochlor 1260) ⁴	µg/L	--	ND ⁵	--	ND ⁵				
PCB-1016 (Arochlor 1016) ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.25	--	<0.25
Toxaphene ⁴	µg/L	--	ND ⁵	--	ND ⁵				

Parameter	Units ¹	Effluent Limitations				Monitoring Data (From November 2012 to May 2018)			
						Highest Discharge			
		6- Month Median	Average Monthly	Maximum Daily	Instanta- neous Maximum	6- Month Median	Average Monthly	Maximum Daily	Instanta- neous Maximum
Antimony ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	4.5	--	4.5
Arsenic ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	12	--	12
Asbestos ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	NR	--	NR
Beryllium ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	0.22	--	0.22
Cadmium ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.05	--	<0.05
Copper ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	6.7	--	6.7
Total Cyanide ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	20	--	20
Lead ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	0.42	--	0.42
Mercury ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.0001	--	<0.0001
Nickel ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	19	--	19
Selenium ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	44	--	44
Silver ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	<0.06	--	<0.06
Thallium ⁴	µg/L	--	ND ⁵	--	ND ⁵	--	0.29	--	0.29
2,3,7,8-tetrachloro-dibenzo- p-dioxin (TCDD) ⁴	pg/L	--	ND ⁵	--	ND ⁵	--	<0.17	--	<0.17

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
2. Minimum and maximum value.
3. The ELGs establish an effluent limitation of 0.2 mg/L as an "Average Concentration". The ELGs at 40 CFR 423.11(k) define the Average Concentration as the average of analyses made over a single period of chlorine release which does not exceed two hours.
4. Effluent limitations for total chromium, total zinc, and the remaining priority pollutants were only applicable for priority pollutants added for cooling tower maintenance.
5. Detectable amounts of priority pollutants listed in Attachment H of Order No. R9-2012-0015 in the cooling tower blowdown effluent are prohibited.

D. Compliance Summary

As of May 2018, the Discharger has reported the following violations of Order No. R9-2012-0015.

1. On June 5, 2013, the pH was below the instantaneous minimum limitation of 6.0 SU with a reported value of 3.1 SU at Monitoring Location I-001. The Discharger reported that the likely cause of the low pH was the chemical cleaning for the water purification plant conducted automatically every 600 minutes. The Discharger reported that it will adjust the automatic water purification plant chemical cleaning cycle to prevent a low or high pH in the sump. The San Diego Water Board issued a staff enforcement letter for this violation on August 9, 2013.
2. On February 8, 2015, the oil and grease daily discharge limitation of 53 lbs/day was exceeded with a reported value of 57.05 lbs/day. Due to issues with the sample quality assurance/quality control, the Discharger does not believe that this data is representative of the effluent. The San Diego Water Board issued a staff enforcement letter for this violation on July 10, 2015.
3. The May 2015 monthly monitoring report was late. It was due on July 1, 2015 and was submitted on July 17, 2015. At that time, the Facility was understaffed. The Discharger has since hired additional staff to accommodate the workload for the Facility. The San

Diego Water Board issued a staff enforcement letter for this violation on September 30, 2015.

4. Order No. R9-2012-0015, Attachment E, section X.B.4 states that the Discharger shall not use a minimum level (ML) that is greater than that specified in Appendix II of the Ocean Plan. In the 2015 annual self-monitoring report, the Discharger repeatedly reported a method detection limit (MDL) that is greater than the MLs specified in Appendix II of the Ocean Plan. The ML, as defined, is a value that is greater than the MDL; therefore, if a MDL is greater than the ML specified in the Appendix II of the Ocean Plan, then the Ocean Plans MLs were not met by the laboratory. The San Diego Water Board issued a staff enforcement letter for this violation on August 11, 2016. The Discharger performed a laboratory quality assurance study following receipt of the staff enforcement letter and now conducts annual laboratory quality assurance studies.

E. Planned Changes

No planned changes were indicated in the application submitted by the Discharger.

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 (Water Code, commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit authorizing the Discharger to discharge into waters of the U.S. at the discharge location described in Table 2 of this Order subject to the WDRs in this Order.

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 San Diego Water Board adopted a *Water Quality Control Plan for the San Diego Basin* (Basin Plan) on September 8, 1994 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for the Pacific Ocean and other receiving waters addressed through the plan. Subsequent revisions to the Basin Plan have also been adopted by the San Diego Water Board and approved by the State Water Resources Control Board (State Water Board). Beneficial uses applicable to the Pacific Ocean specified in the Basin Plan are summarized in Table F-5:

Table F-4. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	Industrial service supply (IND); navigation (NAV); water contact recreation (REC-1); non-contact recreation (REC-2); commercial and sport fishing (COMM); preservation of biological habitats of special significance (BIOL); wildlife habitat (WILD); rare, threatened, or endangered species (RARE); marine habitat (MAR); aquaculture (AQUA); migration of aquatic organisms (MIGR); spawning, reproduction, and/or early development (SPWN); and shellfish harvesting (SHELL).

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

2. **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, 2012, and 2015. The State Water Board adopted the latest amendment on May 6, 2015, and it became effective on January 28, 2016. 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 in Table F-6:

Table F-5. Ocean Plan Beneficial Uses

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

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.

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 May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. Requirements of this Order implement the Thermal Plan.
4. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised State and tribal water quality standards (WQS) become effective for CWA purposes (40 CFR section 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.
5. **Antidegradation Policy.** Federal regulation at 40 CFR 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 Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 CFR section 131.12 and State Water Board Resolution 68-16.

6. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 CFR 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.
7. **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, sections 2050 to 2097) or the Federal Endangered Species Act (16 United States Code (U.S.C.) sections 1531 to 1544). This Order requires compliance with effluent limitations, 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.

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

In July 2015, USEPA approved the list of impaired water bodies, prepared by the State Water Board pursuant to CWA section 303(d), which are not expected to meet applicable water quality standards after implementation of technology-based effluent limitations (TBELs) for point sources. The CWA section 303(d) list includes 0.49 miles of the Pacific Ocean shoreline within the San Elijo Hydrologic Subarea (HAS), at Cardiff State Beach and San Elijo State Beach, and San Elijo Lagoon as impaired for indicator bacteria. The 303(d) list also includes the Pacific Ocean Shoreline, San Elijo HSA, at Cardiff State Beach at the parking lot entrance as impaired for trash. The CWA section 303(d) list also includes the San Elijo Lagoon as impaired for eutrophic conditions and sedimentation/siltation.

Several total maximum daily loads (TMDLs) for bacteria indicators have been adopted and approved within San Diego Region; however, these TMDLs did not contain applicable wasteload allocations for the discharges from the SEOO. Nonetheless, this Order implements receiving water objectives for bacterial indicators.

E. Other Plans, Policies and Regulations – Not Applicable

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the U.S. 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 CFR section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR section 122.44(d) requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

A. Discharge Prohibitions

This Order retains the discharge prohibitions from Order No. R9-2012-0015 as described below. Discharges from the Facility to surface waters in violation of prohibitions contained in

this Order are violations of the CWA and therefore are subject to third party lawsuits. Discharges from the Facility to land in violation of prohibitions contained in this Order are violations of the Water Code and are not subject to third party lawsuits under the CWA because the Water Code does not contain provisions allowing third party lawsuits.

1. Prohibition III.A of Order No. R9-2012-0015 has been carried over to this Order as Prohibition III.A, clearly defining what types of discharges are prohibited.
2. Prohibition III.B of Order No. R9-2012-0015 has been carried over to this Order as Prohibition III.B prohibiting the discharge of PCB compounds and is based on New Source Performance Standards (NSPS) outlined in 40 CFR section 423.15(a)(2).
3. Prohibitions III.C and III.D of Order No. R9-2012-0015 have been carried over to this Order as Prohibitions III.C and III.D, to include discharge prohibitions of the Basin Plan and Ocean Plan, respectively.
4. Prohibition III.E of Order No. R9-2012-0015 has been included as a flow effluent limitation (1.4 MGD) in Table 4 of this Order.
5. This Order adds Prohibition III.E, prohibiting the use of any priority pollutant listed in Appendix A of title 40 of the Code of Federal Regulations (40 CFR) part 423, in the contents of chemical formulations added for cooling tower maintenance.

B. Technology-Based Effluent Limitations (TBELs)

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at 40 CFR 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 CWA requires that TBELs 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. 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 CFR section 125.3 authorize the use of best professional judgment (BPJ) to derive TBELs 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 San Diego Water Board must consider specific factors outlined in 40 CFR section 125.3. The discharge authorized by this Order must meet minimum federal technology-based requirements based on *Effluent Limitations Guidelines for the Steam Electric Power Generating Point Source Category* established by USEPA at 40 CFR part 423.

Pursuant to 40 CFR section 122.2, a new source is defined as any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced after promulgation of standards of performance under section 306 of the CWA which are applicable to such source. Part 423 of 40 CFR, *Effluent Limitations Guidelines for the Steam Electric Power Generating Point Source Category*, became effective on November 19, 1982. The PEC was constructed in 2005 and is therefore a new source subject to NSPS for the steam electric power generating point source category ELGs specified in 40 CFR section 423.15.

The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. Therefore, the discharge of wastewater to the Pacific Ocean at Discharge Point No. 001 is subject to the Ocean Plan. The Ocean Plan establishes water quality objectives, general requirements for management of waste discharged to the ocean, effluent quality requirements for waste discharges, discharge prohibitions, and general provisions. Further, Table 2 of the Ocean Plan establishes TBELs for industrial discharges for which ELGs have not been established. As noted above, ELGs have been established for the Facility.

Section 122.21(k)(4) of 40 CFR states, "If a new source performance standard promulgated under section 306 of CWA or an effluent limitation guideline applies to the applicant and is expressed in terms of production (or other measure of operation), a reasonable measure of the applicant's expected actual production reported in the units used in the applicable effluent guideline or new source performance standard as required by section 122.45(b)(2) for each of the first three years. Alternative estimates may also be submitted if production is likely to vary."

Section 122.45(b)(2)(i) of 40 CFR states, "calculation of any permit limitations, standards, or prohibitions which are based on production (or other measure of operation) shall be based not upon the designed production capacity but rather upon a reasonable measure of actual production of the facility. . . The time period of the measure of production shall correspond to the time period of the calculated permit limitations; for example, monthly production shall be used to calculate average monthly discharge limitations."

Sections 423.15(a)(3) and 423.15(a)(10)(i) of 40 CFR provides the effluent limitations for the low volume waste sources and cooling tower blowdown, respectively, based on the product of the flow (reasonable measure of actual operation) and the pollutant concentrations provided in these sections.

Section 122.45(d) of 40 CFR states, "For continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall unless impracticable be stated as: (1) Maximum daily and average monthly discharge limitations for all dischargers other than publicly owned treatment works." In accordance with 40 CFR section 122.45(d)(1), this Order applies maximum daily effluent limitations for the NSPS maximum for any one day and average

monthly effluent limitations for the NSPS average of daily values for 30 consecutive days.

2. Applicable TBELs

a. Federal Regulations.

Low Volume Waste Sources

According to 40 CFR section 423.11(b), low volume waste sources are defined as wastewater from all sources except those for which specific limitations or standards are otherwise established in 40 CFR part 423. For the Facility, the low volume waste sources include heat recovery steam generator blowdown, water collected in floor drains, and backwash water from the UF, RO, and DEI systems. An internal discharge point for the low volume waste sources has been established downstream of the wastewater collection and transfer sump as Discharge Point No. I-001.

Pursuant to 40 CFR section 423.15(a)(1), the pH of all discharges shall be within the range of 6.0 to 9.0 SU. For low volume waste sources, 40 CFR section 423.15(a)(3) establishes NSPS maximum for any one day and average of daily values for 30 consecutive days for TSS and oil and grease.

Order No. R9-2012-0015 based all the mass-based limitations for the low volume waste sources (average monthly and maximum daily) on the “maximum discharge flow rate of 0.32 MGD.” In compliance with 40 CFR section 122.45(b)(2)(i), the average monthly and maximum daily mass-based limitations in this Order for low volume waste sources are based on the maximum average monthly flow (0.46 MGD for April 2016) and the maximum daily flow (0.89 MGD on March 30, 2018), respectively, for the Facility between November 2012 to May 2018.

Low volume waste sources NSPS effluent limitations at Discharge Point I-001 are summarized in Table F-7.

Table F-6. TBELs for Low Volume Waste Sources at Discharge Point No. I-001¹

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	SU	--	--	6.0	9.0
Total Suspended Solids (TSS)	mg/L	30	100	--	--
	lbs/day	115 ²	742 ³	--	--
Oil and Grease	mg/L	15	20	--	--
	lbs/day	58 ²	148 ³	--	--

¹ See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

² The MER limitations, in lbs/day, were calculated based on the following equation: MER (lbs/day) = 8.34 x Q x C, where Q is the reasonable measure of the actual production of the Facility (maximum average monthly of 0.46 MGD) and C is the concentration (mg/L).

³ The MER limitations, in lbs/day, were calculated based on the following equation: MER (lbs/day) = 8.34 x Q x C, where Q is the reasonable measure of the actual production of the Facility (maximum daily of 0.89 MGD) and C is the concentration (mg/L).

Cooling Tower Blowdown

Pursuant to 40 CFR section 423.15(a)(1), the pH of all discharges shall be within the range of 6.0 to 9.0 SU. For cooling tower blowdown, 40 CFR section 423.15(a)(10)(i) establishes NSPS maximum and average concentrations for free available chlorine, and NSPS maximum for any one day and average of daily values

for 30 consecutive days for the 126 priority pollutants listed in Appendix A of 40 CFR part 423, including total chromium and total zinc.

Order No. R9-2012-0015, applies the NSPS maximum concentration for free available chlorine from 40 CFR section 423.15(a)(10)(i) as a two-hour average limitation and does not apply the NSPS average concentration for free available chlorine. However, 40 CFR section 423.11(k) states, "The term *average concentration* as it relates to chlorine discharge means the average of analyses made over a single period of chlorine release which does not exceed two hours." Given this definition, this Order applies the NSPS average concentration (instead of the NSPS maximum concentration) from 40 CFR section 423.15(a)(10)(i) as a two-hour average limitation and applies the NSPS maximum concentration from 40 CFR section 423.15(a)(10)(i) as an instantaneous maximum limitation.

Section 423.15(a)(10)(i) of 40 CFR contains NSPS effluent limitations for priority pollutants, listed in Appendix A of 40 CFR part 423, that are only applicable for priority pollutants added for cooling tower maintenance. The Discharger indicated in the ROWD that, according to the review of Safety Data Sheets (SDS) provided by vendors, no chemicals containing priority pollutants, listed in Appendix A of 40 CFR part 423, are added for maintenance of the Facility's cooling tower. Therefore, the NSPS effluent limitations for the priority pollutants are not applicable to the discharge from the Facility and a prohibition on adding priority pollutants for cooling tower maintenance is included (see section IV.A.5 of this Fact Sheet).

Order No. R9-2012-0015 based all of the mass-based limitations for the cooling tower blowdown on the highest observed 30-day average flow of the Facility between January 2008 and September 2011 (1.1 MGD). Consistent with 40 CFR section 122.45(b)(2)(i), this Order uses the highest reported daily flow from the Facility between November 2012 to May 2018 (1.38 MGD on October 11, 2015) to calculate the mass-based effluent limitations for maximum daily and instantaneous maximum effluent limitations.

Consistent with 40 CFR section 122.45(b)(2)(ii), this Order allows the San Diego Water Board to modify mass-based effluent limitations if the Discharger increases production (not to exceed the maximum production capacity of 1.4 MGD). (See Attachment E section VII.B, *Anticipated Increase Production Notification*.)

Consistent with 40 CFR section 423.15(a)(10)(ii), the California Energy Commission (CEC) requirements, and title 22 CCR section 60306(c), this Order allows the Discharger to continuously chlorinate the cooling tower water. The CEC set, as a condition of certification, a requirement for the Facility to develop and implement a cooling tower *Biocide Use, Biofilm Prevention, and Legionella Monitoring Program* consistent with the title 22 CCR and with the recommendations of the Cooling Technology Institute's February 2000 Guidelines for Legionella Control. Section 60306(c) of title 22 CCR requires that chlorine or another biocide be used to treat cooling system recirculating water to minimize the growth of Legionella and other microorganisms whenever a cooling system using recycled water in conjunction with an air conditioning facility, as is done at the Facility.

Cooling tower blowdown NSPS effluent limitations at Discharge Point 001 are summarized in Table F-8.

Table F-7. TBELs for Cooling Tower Blowdown Based at Discharge Point No. 001¹

Parameter	Units	Effluent Limitations		
		Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Free Available Chlorine ¹	microgram per liter (µg/L)	200 ²	--	500
	pounds per day (lbs/day)	2.3 ^{2,3}	--	5.8 ³
pH	standard units (SU)	--	6.0	9.0

¹ See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

² Applied as a two-hour average.

³ The mass emission rate (MER) limitations, in lbs/day, were calculated based on the following equation: MER (lbs/day) = 8.34 x Q x C, where Q is the reasonable measure of the actual production of the Facility (maximum daily flow of 1.38 MGD) and C is the concentration (mg/L).

- b. **Flow.** Order No. R9-2012-0015 contained a discharge prohibition for the discharge of cooling tower blowdown in excess of a daily maximum of 1.4 MGD. This Order replaces this prohibition with a maximum daily effluent limitation.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and 40 CFR 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 CFR requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed State criterion or policy interpreting the State’s narrative criterion, supplemented with other relevant information, as provided in 40 CFR section 122.44(d)(1)(vi).

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

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Basin Plan and Ocean Plan designate beneficial uses, establish water quality objectives, and contain implementation programs and policies to achieve those objectives for ocean waters.

- a. **Basin Plan.** The beneficial uses specified in the Basin Plan applicable to the Pacific Ocean are summarized in section III.C.1 of this Fact Sheet.

The Basin Plan water quality objective for dissolved oxygen applicable to ocean waters is stated as follows: “The dissolved oxygen concentration in ocean waters 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.”

The Basin Plan states, “The pH value shall not be changed at any time more than 0.2 pH units from that which occurs naturally.”

- b. **Ocean Plan.** The beneficial uses specified in the Ocean Plan for the Pacific Ocean are summarized in section III.C.2 of this Fact Sheet. The Ocean Plan also includes water quality objectives for the ocean receiving water for bacterial characteristics, physical characteristics, chemical characteristics, biological characteristics, and radioactivity.

Table 1 of the Ocean Plan includes the following water quality objectives for toxic pollutants and whole effluent toxicity:

- i. 6-month median, daily maximum, and instantaneous maximum objectives for 21 chemicals and chemical characteristics, including total residual chlorine and chronic toxicity, for the protection of marine aquatic life.
- ii. 30-day average objectives for 20 non-carcinogenic chemicals for the protection of human health. These have been applied as average monthly performance goals.⁵
- iii. 30-day average objectives for 42 carcinogenic chemicals for the protection of human health. These have been applied as average monthly performance goals.⁵
- iv. Daily maximum objectives for acute and chronic toxicity.

3. Determining the Need for WQBELS

The San Diego Water Board evaluated the need for effluent limitations for non-conventional and toxic pollutant parameters, based on water quality objectives in Table 1 of the Ocean Plan. The evaluation was performed in accordance with 40 CFR section 122.44(d) and guidance for statistically determining the “reasonable potential” for a discharged pollutant to exceed an objective, as outlined in the revised *Technical Support Document for Water Quality-based Toxics Control* (TSD; EPA/505/2-90-001, 1991) and the 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 probably initial dilution) can then be compared to the appropriate objective to determine potential for an exceedance of that objective and need for an effluent limitation.

According to the Ocean Plan amendment, the RPA can yield three endpoints: 1) Endpoint 1, an effluent limitation is required and monitoring is required; 2) Endpoint 2, an effluent limitation is not required and the San Diego Water Board may require monitoring; and 3) Endpoint 3, the RPA is inconclusive, monitoring is required, and an existing

⁵ Section 122.45(d) of 40 CFR states, “For continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall unless impracticable be stated as: (1) Maximum daily and average monthly discharge limitations for all dischargers other than publicly owned treatment works.”

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. Endpoint 3 is typically the result when there are fewer than 16 data points and all are censored data (i.e., below quantitation or method detection levels for an analytical procedure).

The implementation provisions for Table 1 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.

In 2005, the San Diego Water Board, with assistance from the State Water Board, had determined the minimum initial dilution factor (Dm) for the SEOO to be 237 parts seawater to 1 part wastewater (237:1), using the USEPA approved computer modeling application Visual Plumes with the USEPA Modeling Application Visual Plumes (UM3) model. The Dm of 237:1 was used in Order No. R9-2012-0015. The NPDES Orders for the City of Escondido and the San Elijo Joint Powers Authority contains special study requirements for plume tracking.⁶ This information will be useful for evaluating whether the dilution credit established in 2005 is still applicable and appropriate. The San Diego Water Board may re-assess the dilution credit if the discharges to the SEOO changes effluent quality discharged at Discharge Point No. 001. Until this information is available and evaluated, the San Diego Water Board is retaining the Dm of 237:1 from Order No. R9-2012-0015, which has been applied to WQBELs established herein.

Conventional pollutants were not considered as part of the RPA. TBELs for these pollutants are included in this Order as described in section IV.B of this Fact Sheet.

Using the RPhcalc 2.0 software tool developed by the State Water Board for conducting reasonable potential analyses, the San Diego Water Board has conducted the RPA for the parameters listed in Table F-9. For parameters that do not display reasonable potential, this Order includes desirable maximum effluent concentrations which were derived using effluent limitation determination procedures described below and are referred to in this Order as “performance goals”. A narrative limit statement to comply with all Ocean Plan objectives requirements is provided for those parameters not displaying reasonable potential. The Discharger is required to monitor for these parameters as stated in the Monitoring and Reporting Program (MRP, Attachment E) in order to gather data for use in reasonable potential analyses for future permit reissuances.

Effluent data provided in the Discharger's monitoring reports for the Facility from March 2012 through April 2018 were used in the RPA. A minimum probable initial dilution of 237:1 was considered in this evaluation.

A summary of the RPA results is provided in Table F-9:

⁶ See pages E-30 through E-33, Attachment E of Order No. R9-2018-0002, NPDES No. CA0107981, Waste Discharge Requirements for the City of Escondido, Hale Avenue Resource Recovery Facility and Membrane Filtration/Reverse Osmosis Facility Discharge to the Pacific Ocean through the San Elijo Ocean Outfall. https://www.waterboards.ca.gov/sandiego/board_decisions/adopted_orders/2018/R9-2018-0002.pdf
See pages E-28 through E-30, Attachment E of Order No. R9-2018-0003, NPDES No. CA0107999, Waste Discharge Requirements for the San Elijo Joint Powers Authority, San Elijo Water Reclamation Facility Discharge to the Pacific Ocean through the San Elijo Ocean Outfall. https://www.waterboards.ca.gov/sandiego/board_decisions/adopted_orders/2018/R9-2018-0003.pdf

Table F-8. RPA Results Summary¹

Parameter	Units	n ²	MEC ^{3,4}	Most Stringent Criteria	Background	RPA Endpoint ⁵
Arsenic, Total Recoverable	µg/L	5	12	8 ⁶	3 ⁷	3
Cadmium, Total Recoverable	µg/L	5	<0.05	1 ⁶	0	3
Chromium (VI), Total Recoverable	µg/L	17	1.2	2 ⁶	0	2
Copper, Total Recoverable	µg/L	5	6.7	3 ⁶	2 ⁷	3
Lead, Total Recoverable	µg/L	5	0.42	2 ⁶	0	3
Mercury, Total Recoverable	µg/L	5	<0.0001	0.04 ⁶	0.0005 ⁷	3
Nickel, Total Recoverable	µg/L	5	19	5 ⁶	0	3
Selenium, Total Recoverable	µg/L	5	44	15 ⁶	0	3
Silver, Total Recoverable	µg/L	5	<0.06	0.7 ⁶	0.16 ⁷	3
Zinc, Total Recoverable	µg/L	16	140	20 ⁶	8 ⁷	2
Cyanide, Total	µg/L	5	20	1 ⁶	0	2
Total Residual Chlorine	µg/L	250	1200	2 ⁶	0	1
Ammonia	µg/L	5	2900	600 ⁶	0	2
Acute Toxicity ⁸	TUa	--	--	0.3 ⁹	0	--
Chronic Toxicity ¹	TUc	15	100	1 ⁹	0	3
Phenolic Compounds ¹	µg/L	5	<0.22	30 ⁶	0	3
Chlorinated Phenolics ¹	µg/L	5	<0.13	1 ⁶	0	3
Endosulfan ¹	µg/L	5	<0.003	0.009 ⁶	0	3
Endrin	µg/L	5	<0.002	0.002 ⁶	0	3
HCH ¹	µg/L	5	<0.0017	0.004 ⁶	0	3
Radioactivity	pci/L	--	--	10	0	3
Acrolein	µg/L	5	<0.92	220 ¹¹	0	3
Antimony, Total Recoverable	µg/L	5	4.5	1,200 ¹¹	0	3
Bis(2-chloroethoxy)methane	µg/L	5	<0.64	4.4 ¹¹	0	3
Bis(2-chloroisopropyl)ether	µg/L	5	<0.49	1,200 ¹¹	0	3
Chlorobenzene	µg/L	5	<0.25	570 ¹¹	0	3
Chromium (III), Total Recoverable	µg/L	5	1.3	190,000 ¹¹	0	3
Di-n-butyl phthalate	µg/L	5	<0.56	3,500 ¹¹	0	3
Dichlorobenzenes ¹	µg/L	5	<0.25	5,100 ¹¹	0	3
Diethyl phthalate	µg/L	5	<0.77	33,000 ¹¹	0	3
Dimethyl phthalate	µg/L	5	<0.0071	820,000 ¹¹	0	3
4,6-Dinitro-2-methylphenol	µg/L	5	<1.1	220 ¹¹	0	3
2,4-Dinitrophenol	µg/L	5	<1.2	4.0 ¹¹	0	3
Ethylbenzene	µg/L	5	<0.25	4,100 ¹¹	0	3
Fluoranthene	µg/L	5	<0.095	15 ¹¹	0	3
Hexachlorocyclopentadiene	µg/L	5	<0.15	58 ¹¹	0	3
Nitrobenzene	µg/L	5	<0.23	4.9 ¹¹	0	3
Thallium, Total Recoverable	µg/L	5	0.29	2 ¹¹	0	3
Toluene	µg/L	5	<0.25	85,000 ¹¹	0	3
Tributyltin	µg/L	6	<0.004	0.0014 ¹¹	0	3
1,1,1-Trichloroethane	µg/L	5	<0.25	540,000 ¹¹	0	3
Acrylonitrile	µg/L	5	<0.35	0.10 ¹¹	0	3
Aldrin	µg/L	5	<0.0015	0.000022 ¹¹	0	3
Benzene	µg/L	5	<0.25	5.9 ¹¹	0	3
Benzidine	µg/L	5	<1.7	0.000069 ¹¹	0	3
Beryllium, Total Recoverable	µg/L	5	0.22	0.033 ¹¹	0	3
Bis(2-chloroethyl) ether	µg/L	5	<0.092	0.045 ¹¹	0	3
Bis(2-ethylhexyl) phthalate	µg/L	5	<0.71	3.5 ¹¹	0	3
Carbon tetrachloride	µg/L	5	<0.25	0.90 ¹¹	0	3
Chlordane ¹	µg/L	5	<0.014	0.000023 ¹¹	0	3
Chlorodibromomethane	µg/L	5	0.66	8.6 ¹¹	0	3
Chloroform	µg/L	5	<0.25	130 ¹¹	0	3
DDT ¹	µg/L	5	<0.0039	0.00017 ¹¹	0	3
1,4-Dichlorobenzene	µg/L	5	<0.25	18 ¹¹	0	3
3,3-Dichlorobenzidine	µg/L	5	<0.97	0.0081 ¹¹	0	3
1,2-Dichloroethane	µg/L	5	<0.25	28 ¹¹	0	3

Parameter	Units	n ²	MEC ^{3,4}	Most Stringent Criteria	Background	RPA Endpoint ⁵
1,1-Dichloroethylene	µg/L	5	<0.25	0.9 ¹¹	0	3
Dichlorobromomethane	µg/L	5	<0.25	6.2 ¹¹	0	3
Dichloromethane (Methylene Chloride)	µg/L	5	<0.78	450 ¹¹	0	3
1,3-Dichloropropene	µg/L	5	<0.25	8.9 ¹¹	0	3
Dieldrin	µg/L	5	<0.002	0.00004 ¹¹	0	3
2,4-Dinitrotoluene	µg/L	5	<0.14	2.6 ¹¹	0	3
1,2-Diphenylhydrazine	µg/L	5	<0.77	0.16 ¹¹	0	3
Halomethanes ¹	µg/L	5	8.6	130 ¹¹	0	3
Heptachlor	µg/L	5	<0.0029	0.00005 ¹¹	0	3
Heptachlor Epoxide	µg/L	5	<0.0024	0.00002 ¹¹	0	3
Hexachlorobenzene	µg/L	5	<0.18	0.00021 ¹¹	0	3
Hexachlorobutadiene	µg/L	5	<0.32	14 ¹¹	0	3
Hexachloroethane	µg/L	5	<0.28	2.5 ¹¹	0	3
Isophorone	µg/L	5	<0.14	730 ¹¹	0	3
N-nitrosodimethylamine	µg/L	5	<0.13	7.3 ¹¹	0	3
N-nitrosodi-N-propylamine	µg/L	5	<0.64	0.38 ¹¹	0	3
N-nitrosodiphenylamine	µg/L	5	<0.14	2.5 ¹¹	0	3
polycyclic aromatic hydrocarbons (PAHs) ¹	µg/L	5	<0.16	0.0088 ¹¹	0	3
PCBs ¹	µg/L	--	--	--	--	-- ¹²
TCDD equivalents ¹	pg/L	6	<0.17	0.0039 ¹¹	0	3
1,1,2,2-Tetrachloroethane	µg/L	5	<0.25	2.3 ¹¹	0	3
Tetrachloroethylene (Tetrachloroethene)	µg/L	5	<0.25	2.0 ¹¹	0	3
Toxaphene	µg/L	5	<0.25	0.00021 ¹¹	0	3
Trichloroethylene (trichloroethene)	µg/L	5	<0.25	27 ¹¹	0	3
1,1,2-Trichloroethane	µg/L	5	<0.25	9.4 ¹¹	0	3
2,4,6-Trichlorophenol	µg/L	5	<0.14	0.29 ¹¹	0	3
Vinyl Chloride	µg/L	5	<0.23	36 ¹¹	0	3

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
2. Number of data points available for the RPA.
3. If there is a detected value, the highest reported value is summarized in the table. If there are no detected values, the lowest method detection limit (MDL) is summarized in the table.
4. Note that the reported maximum effluent concentration (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 a RP (i.e., Endpoint 2).
5. End Point 1 – RP determined, limitation required, monitoring required.
 End Point 2 – Discharger determined not to have RP, monitoring may be established.
 End Point 3 – RPA was inconclusive, carry over previous limitations if applicable, and establish monitoring.
6. Based on the 6-Month Median in the Table 1 of the Ocean Plan.
7. Background concentrations contained in Table 3 of the Ocean Plan.
8. Order Nos. R9-2005-0139 and R9-2012-0015 did not include effluent limitations or monitoring requirements for acute toxicity.
9. Based on the Daily Maximum in Table 1 of the Ocean Plan.
10. Not to exceed limits specified in title 17, division 1, chapter 5, subchapter 4, group 3, article 3, section 30253 of the CCR. Levels of radioactivity that exceed the applicable criteria are not expected in the discharge.
11. Based on the 30-day average in the Table 1 of the Ocean Plan
12. A reasonable potential analysis for PCBs is not included. As stated in section IV.A.2 of this Fact Sheet, PCBs are prohibited based on NSPS outlined in 40 CFR section 423.15(a)(2). This prohibition is more stringent than effluent limitations or performance goals. Thus, a reasonable potential for PCBs is not necessary.

Parameters for which Endpoint 2 was concluded are determined not to have reasonable potential, thus it is inappropriate to retain or establish effluent limitations for these parameters. Parameters for which Endpoint 3 was concluded, reasonable potential was

inconclusive. If previous effluent limitations had not been established, performance goals have been retained. If previous effluent limitations had been established, effluent limitations have been retained (not applicable to this Order).

Reasonable potential to cause or contribute to an exceedance of water quality objectives contained within the Ocean Plan (i.e., Endpoint 1) was determined for total residual chlorine, thus effluent limitations for total residual chlorine have been retained from Order No. R9-2012-0015 in this Order based on the initial dilution of 237:1, as discussed below.

The MRP (Attachment E) is designed to obtain additional information for the parameters in Table F-9 to determine if reasonable potential exists for these parameters in future permit renewals and/or updates.

4. WQBEL Calculations

- a. From the Table 1 water quality objectives of the Ocean Plan, effluent limitations and performance goals are calculated according to the following equation for all pollutants, except for acute toxicity (if applicable) and radioactivity:

$$C_e = C_o + D_m (C_o - C_s) \text{ where,}$$

C_e = the effluent limitation (microgram per liter, $\mu\text{g/L}$)

C_o = the water quality objective to be met at the completion of initial dilution (microgram, $\mu\text{g/L}$)

C_s = background seawater concentration

D_m = minimum probable initial dilution expressed as parts seawater per part wastewater

- b. As discussed in section IV.C.3 above, the D_m has been determined to be 237:1 by the San Diego Water Board.
- c. Table 3 of the Ocean Plan establishes background concentrations for some pollutants to be used when determining reasonable potential (represented as " C_s "). In accordance with Table 1 implementing procedures, C_s equals zero for all pollutants not established in Table 3. The background concentrations provided in Table 3 of the Ocean Plan are in Table F-10:

Table F-9. Pollutants Having Background Concentrations¹

Pollutant	Background Seawater Concentration
Arsenic, Total Recoverable	3 $\mu\text{g/L}$
Copper, Total Recoverable	2 $\mu\text{g/L}$
Mercury, Total Recoverable	0.0005 $\mu\text{g/L}$
Silver, Total Recoverable	0.16 $\mu\text{g/L}$
Zinc, Total Recoverable	8 $\mu\text{g/L}$

¹ See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

- d. As an example, effluent limitations for total residual chlorine were determined as follows:

Water quality objectives from the Ocean Plan for total residual chlorine are:

Table F-10. Example Parameter Water Quality Objectives¹

Parameter	Units	6-Month Median	Maximum Daily	Instantaneous Maximum
Total Residual Chlorine	$\mu\text{g/L}$	2	8	60

¹ See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

Using the equation, $C_e = C_o + D_m (C_o - C_s)$, effluent limitations are calculated as follows.

total residual chlorine:

$$C_e = 1 + 237 (2 - 0) = 476 \text{ (6-Month Median)}$$

$$C_e = 4 + 237 (8 - 0) = 1,904 \text{ (Daily Maximum)}$$

$$C_e = 10 + 237 (60 - 0) = 14,280 \text{ (Instantaneous Maximum)}$$

Based on the implementing procedures described above, effluent limitations and performance goals have been calculated for all parameters in Table 1 of the Ocean Plan and incorporated into this Order.

- e. Section 122.45(f)(1) of 40 CFR requires effluent limitations be expressed in terms of mass, with some exceptions, and 40 CFR section 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. However, section III.C.4.j of the Ocean Plan requires that mass-based limitations be established for all parameters in Table 1 of the Ocean Plan. This Order includes effluent limitations expressed in terms of mass and concentration. In addition, pursuant to the exceptions to mass-based limitations provided in 40 CFR section 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH and temperature, and when the applicable standards are expressed in terms of concentration (e.g., CTR criteria and MCLs) and mass-based limitations are not necessary to protect the beneficial uses of the receiving water.

Mass-based effluent limitations were calculated using the following equation:
 $\text{lbs/day} = \text{permitted flow (MGD)} \times \text{pollutant concentration (mg/L)} \times 8.34$

Table F-11. WQBELs for Discharge Point No. 001 (Monitoring Location EFF-001)¹

Parameter	Unit	Effluent Limitations ²		
		6-Month Median	Maximum Daily	Instantaneous Maximum
Total Chlorine Residual	µg/L	476	1,900	14,300
	lbs/day	5.6	22	167

¹. See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

². The MER limitations, in lbs/day, were calculated based on the following equation: $\text{MER (lbs/day)} = 8.34 \times Q \times C$, where Q is the permitted flow for the Facility (1.4 MGD) and C is the concentration (mg/L).

- f. A summary of the performance goals is provided in Table F-13.

Table F-12. Performance Goals¹ for Discharge Point No. 001 (Monitoring Location EFF-001)

Parameter	Unit	Performance Goals ^{2,3}			
		6-Month Median	Average Monthly	Maximum Daily	Instantaneous Maximum
OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE					
Arsenic, Total Recoverable	µg/L	1.19E+03	--	6.91E+03	1.83E+04
	lbs/day	1.09E+01	--	6.33E+01	1.68E+02
Cadmium, Total Recoverable	µg/L	2.38E+02	--	9.52E+02	2.38E+03
	lbs/day	2.18E+00	--	8.73E+00	2.18E+01

Parameter	Unit	Performance Goals ^{2,3}			
		6-Month Median	Average Monthly	Maximum Daily	Instantaneous Maximum
Chromium (VI), Total Recoverable ⁴	µg/L	4.76E+02	--	1.90E+03	4.76E+03
	lbs/day	4.37E+00	--	1.75E+01	4.37E+01
Copper, Total Recoverable	µg/L	2.40E+02	--	2.38E+03	6.67E+03
	lbs/day	2.20E+00	--	2.19E+01	6.12E+01
Lead, Total Recoverable	µg/L	4.76E+02	--	1.90E+03	4.76E+03
	lbs/day	4.37E+00	--	1.75E+01	4.37E+01
Mercury, Total Recoverable	µg/L	9.40E+00	--	3.80E+01	9.51E+01
	lbs/day	8.62E-02	--	3.48E-01	8.72E-01
Nickel, Total Recoverable	µg/L	1.19E+03	--	4.76E+03	1.19E+04
	lbs/day	1.09E+01	--	4.37E+01	1.09E+02
Selenium, Total Recoverable	µg/L	3.57E+03	--	1.43E+04	3.57E+04
	lbs/day	3.28E+01	--	1.31E+02	3.28E+02
Silver, Total Recoverable	µg/L	1.29E+02	--	6.28E+02	1.63E+03
	lbs/day	1.18E+00	--	5.77E+00	1.49E+01
Zinc, Total Recoverable	µg/L	2.86E+03	--	1.71E+04	4.57E+04
	lbs/day	2.63E+01	--	1.57E+02	4.19E+02
Cyanide, Total	µg/L	2.38E+02	--	9.52E+02	2.38E+03
	lbs/day	2.18E+00	--	8.73E+00	2.18E+01
Ammonia (expressed as nitrogen)	µg/L	1.43E+05	--	5.71E+05	1.43E+06
	lbs/day	1.31E+03	--	5.24E+03	1.31E+04
Chronic Toxicity (Test of Significant Toxicity) ^{5,6}	"Pass"/"Fail"	--	--	"Pass"	--
Phenolic Compounds (non-chlorinated) ¹	µg/L	7.14E+03	--	2.86E+04	7.14E+04
	lbs/day	6.55E+01	--	2.62E+02	6.55E+02
Chlorinated Phenolics ¹	µg/L	2.38E+02	--	9.52E+02	2.38E+03
	lbs/day	2.18E+00	--	8.73E+00	2.18E+01
Endosulfan ¹	µg/L	2.14E+00	--	4.28E+00	6.43E+00
	lbs/day	1.97E-02	--	3.93E-02	5.90E-02
Endrin	µg/L	4.76E-01	--	9.52E-01	1.43E+00
	lbs/day	4.37E-03	--	8.73E-03	1.31E-02
HCH (BHC) ¹	µg/L	9.52E-01	--	1.90E+00	2.86E+00
	lbs/day	8.73E-03	--	1.75E-02	2.62E-02
Radioactivity	pCi/L	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 – NONCARCINOGENS					
Acrolein	µg/L	--	5.24E+04	--	--
	lbs/day	--	4.80E+02	--	--

Parameter	Unit	Performance Goals ^{2,3}			
		6-Month Median	Average Monthly	Maximum Daily	Instantaneous Maximum
Antimony, Total Recoverable	µg/L	--	2.86E+05	--	--
	lbs/day	--	2.62E+03	--	--
Bis(2-chloroethoxy) Methane	µg/L	--	1.05E+03	--	--
	lbs/day	--	9.61E+00	--	--
Bis(2-chloroisopropyl) Ether	µg/L	--	2.86E+05	--	--
	lbs/day	--	2.62E+03	--	--
Chlorobenzene	µg/L	--	1.36E+05	--	--
	lbs/day	--	1.24E+03	--	--
Chromium (III), Total Recoverable ⁴	µg/L	--	4.52E+07	--	--
	lbs/day	--	4.15E+05	--	--
Di-n-butyl Phthalate	µg/L	--	8.33E+05	--	--
	lbs/day	--	7.64E+03	--	--
Dichlorobenzenes ¹	µg/L	--	1.21E+06	--	--
	lbs/day	--	1.11E+04	--	--
Diethyl Phthalate	µg/L	--	7.85E+06	--	--
	lbs/day	--	7.21E+04	--	--
Dimethyl Phthalate	µg/L	--	1.95E+08	--	--
	lbs/day	--	1.79E+06	--	--
4,6-dinitro-2-methylphenol	µg/L	--	5.24E+04	--	--
	lbs/day	--	4.80E+02	--	--
2,4-dinitrophenol	µg/L	--	9.52E+02	--	--
	lbs/day	--	8.73E+00	--	--
Ethylbenzene	µg/L	--	9.76E+05	--	--
	lbs/day	--	8.95E+03	--	--
Fluoranthene	µg/L	--	3.57E+03	--	--
	lbs/day	--	3.28E+01	--	--
Hexachlorocyclopentadiene	µg/L	--	1.38E+04	--	--
	lbs/day	--	1.27E+02	--	--
Nitrobenzene	µg/L	--	1.17E+03	--	--
	lbs/day	--	1.07E+01	--	--
Thallium, Total Recoverable	µg/L	--	4.76E+02	--	--
	lbs/day	--	4.37E+00	--	--
Toluene	µg/L	--	2.02E+07	--	--
	lbs/day	--	1.86E+05	--	--
Tributyltin	µg/L	--	3.33E-01	--	--
	lbs/day	--	3.06E-03	--	--
1,1,1-trichloroethane	µg/L	--	1.29E+08	--	--
	lbs/day	--	1.18E+06	--	--

Parameter	Unit	Performance Goals ^{2,3}			
		6-Month Median	Average Monthly	Maximum Daily	Instantaneous Maximum
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS					
Acrylonitrile	µg/L	--	2.4E+01	--	--
	lbs/day	--	2.2E-01	--	--
Aldrin	µg/L	--	5.2E-03	--	--
	lbs/day	--	4.8E-05	--	--
Benzene	µg/L	--	1.4E+03	--	--
	lbs/day	--	1.3E+01	--	--
Benzidine	µg/L	--	1.6E-02	--	--
	lbs/day	--	1.5E-04	--	--
Beryllium, Total Recoverable	µg/L	--	7.9E+00	--	--
	lbs/day	--	7.2E-02	--	--
Bis(2-chloroethyl) Ether	µg/L	--	1.1E+01	--	--
	lbs/day	--	9.8E-02	--	--
Bis(2-ethylhexyl) Phthalate	µg/L	--	8.3E+02	--	--
	lbs/day	--	7.6E+00	--	--
Carbon Tetrachloride	µg/L	--	2.1E+02	--	--
	lbs/day	--	2.0E+00	--	--
Chlordane ¹	µg/L	--	5.5E-03	--	--
	lbs/day	--	5.0E-05	--	--
Chlorodibromomethane	µg/L	--	2.0E+03	--	--
	lbs/day	--	1.9E+01	--	--
Chloroform	µg/L	--	3.1E+04	--	--
	lbs/day	--	2.8E+02	--	--
Dichlorodiphenyltrichloroethane (DDT) ¹	µg/L	--	4.0E-02	--	--
	lbs/day	--	3.7E-04	--	--
1,4-dichlorobenzene	µg/L	--	4.3E+03	--	--
	lbs/day	--	3.9E+01	--	--
3,3'-dichlorobenzidine	µg/L	--	1.9E+00	--	--
	lbs/day	--	1.8E-02	--	--
1,2-dichloroethane	µg/L	--	6.7E+03	--	--
	lbs/day	--	6.1E+01	--	--
1,1-dichloroethylene	µg/L	--	2.1E+02	--	--
	lbs/day	--	2.0E+00	--	--
Dichlorobromomethane	µg/L	--	1.5E+03	--	--
	lbs/day	--	1.4E+01	--	--
Dichloromethane	µg/L	--	1.1E+05	--	--
	lbs/day	--	9.8E+02	--	--

Parameter	Unit	Performance Goals ^{2,3}			
		6-Month Median	Average Monthly	Maximum Daily	Instantaneous Maximum
1,3-dichloropropene	µg/L	--	2.1E+03	--	--
	lbs/day	--	1.9E+01	--	--
Dieldrin	µg/L	--	9.5E-03	--	--
	lbs/day	--	8.7E-05	--	--
2,4-dinitrotoluene	µg/L	--	6.2E+02	--	--
	lbs/day	--	5.7E+00	--	--
1,2-diphenylhydrazine	µg/L	--	3.8E+01	--	--
	lbs/day	--	3.5E-01	--	--
Halomethanes ¹	µg/L	--	3.1E+04	--	--
	lbs/day	--	2.8E+02	--	--
Heptachlor	µg/L	--	1.2E-02	--	--
	lbs/day	--	1.1E-04	--	--
Heptachlor Epoxide	µg/L	--	4.8E-03	--	--
	lbs/day	--	4.4E-05	--	--
Hexachlorobenzene	µg/L	--	5.0E-02	--	--
	lbs/day	--	4.6E-04	--	--
Hexachlorobutadiene	µg/L	--	3.3E+03	--	--
	lbs/day	--	3.1E+01	--	--
Hexachloroethane	µg/L	--	6.0E+02	--	--
	lbs/day	--	5.5E+00	--	--
Isophorone	µg/L	--	1.7E+05	--	--
	lbs/day	--	1.6E+03	--	--
N-nitrosodimethylamine	µg/L	--	1.7E+03	--	--
	lbs/day	--	1.6E+01	--	--
N-nitrosodi-N-propylamine	µg/L	--	9.0E+01	--	--
	lbs/day	--	8.3E-01	--	--
N-nitrosodiphenylamine	µg/L	--	6.0E+02	--	--
	lbs/day	--	5.5E+00	--	--
PAHs ¹	µg/L	--	2.1E+00	--	--
	lbs/day	--	1.9E-02	--	--
PCBs ¹	µg/L	--	4.5E-03	--	--
	lbs/day	--	4.1E-05	--	--
TCDD Equivalents ¹	µg/L	--	9.3E-07	--	--
	lbs/day	--	8.5E-09	--	--
1,1,2,2-tetrachloroethane	µg/L	--	5.5E+02	--	--
	lbs/day	--	5.0E+00	--	--

Parameter	Unit	Performance Goals ^{2,3}			
		6-Month Median	Average Monthly	Maximum Daily	Instantaneous Maximum
Tetrachloroethylene (Tetrachloroethene)	µg/L	--	4.8E+02	--	--
	lbs/day	--	4.4E+00	--	--
Toxaphene	µg/L	--	5.0E-02	--	--
	lbs/day	--	4.6E-04	--	--
Trichloroethylene	µg/L	--	6.4E+03	--	--
	lbs/day	--	5.9E+01	--	--
1,1,2-trichloroethane	µg/L	--	2.2E+03	--	--
	lbs/day	--	2.1E+01	--	--
2,4,6-trichlorophenol	µg/L	--	6.9E+01	--	--
	lbs/day	--	6.3E-01	--	--
Vinyl Chloride	µg/L	--	8.6E+03	--	--
	lbs/day	--	7.9E+01	--	--

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
2. Scientific “E” notation is used to express certain values. In scientific “E” notation, the number following the “E” indicates that position of the decimal point in the value. Negative numbers after the “E” indicate that the value is less than 1, and positive numbers after the “E” indicate that the value is greater than 1. In this notation, a value of 6.1E-02 represents 6.1 x 10⁻² or 0.061, 6.1E+02 represents 6.1 x 10² or 610, and 6.1E+00 represents 6.1 x 10⁰ or 6.1.
3. The MER limitations, in lbs/day, were calculated based on the following equation: MER (lbs/day) = 8.34 x Q x C, where Q is the permitted flow for the Facility (1.4 MGD) and C is the concentration (mg/L).
4. The Discharger may, at their option, apply this performance goal as a total chromium performance goal.
5. Applicable to chronic toxicity as specified in section VII.K of this Order and section III.C of the MRP (Attachment E).
6. The chronic toxicity effluent limitation is protective of both the numeric acute and chronic toxicity 2015 Ocean Plan water quality objectives. The effluent limitation will be implemented using *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995), current USEPA guidance in the *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, June 2010) (https://www3.epa.gov/npdes/pubs/wet_final_tst_implementation2010.pdf), and USEPA Regions 8, 9, and 10, Toxicity Training Tool (January 2010).

5. Whole Effluent Toxicity (WET)

- a. The WET testing protects receiving waters from the aggregate toxic effect of a mixture of pollutants in the effluent. Ocean Plan section III.C.4.c.(3) requires chronic toxicity monitoring for ocean waste discharges with a minimum initial dilution from 100:1 to 350:1.
- b. For chronic toxicity, Order No. R9-2012-0015 established a performance goal of 238 TUC and annual monitoring. During the term of Order No. R9-2012-0015, the maximum reported effluent chronic toxicity value was 100 TUC. Using the RPA procedures from the Ocean Plan, the effluent does not have reasonable potential to cause an exceedance of the narrative water quality objective for chronic toxicity. This Order increases monitoring for the chronic toxicity from annually to semiannually to ensure a sufficient dataset for performing a more statistically-sound RPA for the reissuance of this Order.

For this Order, chronic toxicity in the discharge is evaluated using USEPA’s 2010 Test of Significant Toxicity (TST) hypothesis testing approach at the discharge “in-

stream” waste concentration (IWC), as described in section VII.K of this Order and section III.C of the MRP (Attachment E). The TST statistical approach is described in the *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 TST null hypothesis shall be “mean discharge IWC response $\leq 0.75 \times$ mean control response.” A test that rejects this null hypothesis shall be reported as “Pass.” A test that does not reject this null hypothesis shall be reported as “Fail.” The chronic toxicity performance goal is expressed as “Pass” for each maximum daily individual result. The Discharger shall also report the “Percent Effect” as part of chronic toxicity result.

This Order contains a reopener to require the San Diego Water Board to modify the toxicity requirements, if necessary, to make it consistent with any new policy, law, or regulation.

- c. For acute toxicity, Order No. R9-2012-0015 did not establish any effluent limitations, performance goals, or monitoring requirements. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a short or a longer period of time and may measure mortality, reproduction, and growth. A chemical at a low concentration could have chronic effects but no acute effects until the chemical is at a higher concentration. Thus, chronic toxicity is a more stringent requirement than acute toxicity. To ensure the aggregated impacts of pollutants present within the Discharger’s effluent does not result in the presence of toxicity within the receiving water, this Order contains a performance goal for chronic toxicity.
- d. Section III.F of the 2015 Ocean Plan provides for more stringent requirements if necessary to protect the designated beneficial uses of ocean waters. Diamond et al. (2013) examined the side-by-side comparison of no-observed-effect-concentration (NOEC) and TST results using California chronic toxicity test data (including data from POTWs) for the West Coast marine methods and test species required under this Order. See Table 1 (method types 1 through 5) on page 1103 in Diamond D., Denton D., Roberts J., Zheng L. 2013. *Evaluation of the Test of Significant Toxicity for Determining the Toxicity of Effluents and Ambient Water Samples*. Environ Toxicol Chem 32:1101-1108. This comparison shows that while the TST and NOEC statistical approaches perform similarly most of the time, the TST performs better in identifying toxic and nontoxic samples, a desirable characteristic for chronic toxicity testing conducted under this Order. This examination also signals that the test methods’ false positive rate (β no higher than 0.05 at a mean effect of 10%) and false negative rate (α no higher than 0.05 (0.25 for topsmelt) at a mean effect of 25%) are indeed low. This highlights that using the TST in this Order - in conjunction with other Ocean Plan requirements (West Coast WET method/test species for monitoring and limiting chronic toxicity, the IWC representing the critical condition for water quality protection, the initial dilution procedure, and a single test for compliance)—provides increased assurance that statistical error rates are more directly addressed and accounted for in decisions regarding chronic toxicity in the discharge. As a result and in accordance with Ocean Plan section III.F, the San Diego Water Board is exercising its discretion to use the TST statistical approach for this discharge.

In June 2010, USEPA published a guidance document titled, *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, June 2010), in which they recommend the following:

“Permitting authorities should consider adding the TST approach to their implementation procedures for analyzing valid WET data for their current NPDES WET Program.” The TST approach is another statistical option for analyzing valid WET test data. Use of the TST approach does not result in any changes to USEPA’s WET test methods. Section 9.4.1.2 of USEPA’s *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995), recognizes that, “the statistical methods in this manual are not the only possible methods of statistical analysis.” The TST approach can be applied to acute (survival) and chronic (sublethal) endpoints and is appropriate to use for both freshwater and marine USEPA WET test methods.

The USEPA’s WET testing program and acute and chronic WET methods rely on the measurement result for a specific test endpoint, not upon achievement of specified concentration-response patterns to determine toxicity. USEPA’s WET methods do not require achievement of specified effluent or ambient concentration-response patterns prior to determining that toxicity is present.⁷ Nevertheless, USEPA’s acute and chronic WET methods require that effluent and ambient concentration-response patterns generated for multi-concentration acute and chronic toxicity tests be reviewed—as a component of test review following statistical analysis—to ensure that the calculated measurement result for the toxicity test is interpreted appropriately. (EPA-821-R-02-012, section 12.2.6.2; EPA-821-R-02-013, section 10.2.6.2). In 2000, USEPA provided guidance for such reviews to ensure that test endpoints for determining toxicity based on the statistical approaches utilized at the time the guidance was written, NOEC, percent waste giving 50 percent survival of test organisms (lethal concentration 50, LC 50), and effects concentration at 25 percent (EC25), were calculated appropriately (EPA 821-B-00-004)).

USEPA designed its 2000 guidance as a standardized step-by step review process that investigates the causes for ten commonly observed concentration-response patterns and provides for the proper interpretation of the test endpoints derived from these patterns for NOECs, LC 50, and EC25, thereby reducing the number of misclassified test results. The guidance provides one of three determinations based on the review steps: that calculated effect concentrations are reliable and should be reported, that calculated effect concentrations are anomalous and should be explained, or that the test was inconclusive and should be repeated with a newly collected sample. The standardized review of the effluent and receiving water concentration-response patterns provided by USEPA’s 2000 guidance decreased discrepancies in data interpretation for NOEC, LC 50, and EC25 test results, thereby lowering the chance that a truly nontoxic sample would be misclassified and reported as toxic.

Appropriate interpretation of the measurement result from USEPA’s TST statistical approach (“Pass”/“Fail”) for effluent and receiving water samples is, by design, independent from the concentration-response patterns of the toxicity tests for those samples. Therefore, when using the TST statistical approach, application of USEPA’s 2000 guidance on effluent and receiving waters concentration-response patterns will not improve the appropriate interpretation of TST results as long as all Test Acceptability Criteria (TAC) and other test review procedures—including those

⁷ See, Supplementary Information in support of the Final Rule establishing WET test methods at 67 Fed. Reg. 69952, 69963, Nov. 19, 2002.

related to quality assurance for effluent and receiving water toxicity tests, reference toxicity tests, and control performance (mean, standard deviation, and coefficient of variation)—described by the WET test methods manual and TST guidance, are followed. The 2000 guidance may be used to identify reliable, anomalous, or inconclusive concentration-response patterns and associated statistical results to the extent that the guidance recommends review of test procedures and laboratory performance already recommended in the WET test methods manual. The guidance does not apply to single-concentration (IWC) and control statistical t-tests and does not apply to the statistical assumptions on which the TST is based. The San Diego Water Board will not consider a concentration-response pattern as sufficient basis to determine that a TST t- test result for a toxicity test is anything other than valid, absent other evidence. In a toxicity laboratory, unexpected concentration-response patterns should not occur with any regular frequency and consistent reports of anomalous or inconclusive concentration-response patterns or test results that are not valid will require an investigation of laboratory practices.

Any Data Quality Objectives or Standard Operating Procedure used by the toxicity testing laboratory to identify and report valid, invalid, anomalous, or inconclusive effluent or receiving water toxicity test measurement results from the TST statistical approach which include a consideration of concentration-response patterns and/or Percent Minimum Significant Differences (PMSDs) must be submitted for review by the San Diego Water Board, in consultation with USEPA and the State Water Board's Quality Assurance Officer and Environmental Laboratory Accreditation Program (ELAP) (40 CFR section 122.44(h)). As described in the bioassay laboratory audit directives to the San Jose Creek Water Quality Laboratory from the State Water Board dated August 7, 2014, and from the USEPA dated December 24, 2013, the PMSD criteria only apply to compliance for NOEC and the sublethal endpoints of the NOEC, and therefore are not used to interpret TST results.

D. Final Effluent Limitations Considerations

1. Satisfaction of Anti-Backsliding Requirements

NPDES permits must conform with Anti-backsliding requirements discussed in section III.C.7 of this Fact Sheet. 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. This Order complies with all applicable federal and State Anti-backsliding regulations. In accordance with 40 CFR section 122.44(l)(2)(i)(B)(2), some effluent limitations are not as stringent as those in Order No. R9-2012-0015 due to new information (new production levels/flow rates) as detailed in section IV.B of this Fact Sheet.

2. Satisfaction of Antidegradation Policies

The WDRs for the Discharger must conform with antidegradation requirements discussed in section III.C.6 of this Fact Sheet. The antidegradation policies require that beneficial uses and the water quality necessary to maintain those beneficial uses in the receiving waters of the discharge shall be maintained and protected, and, if existing water quality is better than the quality required to maintain beneficial uses, the existing water quality shall be maintained and protected unless allowing a lowering of water quality is necessary to accommodate important economic and social development or consistent with maximum benefit to the people of California. When a significant lowering of water quality is allowed by the San Diego Water Board, an antidegradation analysis is required in accordance with the State Water Board's Administrative Procedures Update (July 2, 1990), *Antidegradation Policy Implementation for NPDES Permitting*.

This Order complies with the antidegradation provision of 40 CFR section 131.12 and State Water Board Resolution No. 68-16. In accordance with 40 CFR section 122.44(l)(2)(i)(B)(2), some effluent limitations are not as stringent as those in Order No. R9-2012-0015 due to new information (new production levels/flow rates) as detailed in section IV.B of this Fact Sheet. No degradation of the receiving water is expected.

3. Stringency of Requirements for Individual Pollutants

This Order contains TBELs for individual pollutants. The TBELs consist of restrictions on TSS, pH, oil and grease, and free available chlorine which are discussed in section IV.B of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. These limitations are not more stringent than required by the CWA.

WQBELs for total chlorine residual 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 WQBELs are based on the Ocean Plan, which was approved by USEPA on January 28, 2016. 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. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR section 131.21(c)(1).

Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

E. Interim Effluent Limitations – Not Applicable

F. Land Discharge Specifications – Not Applicable

G. Recycling Specifications – Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

Receiving water limitations of this Order are derived from the water quality objectives for ocean waters established by the Basin Plan and the Ocean Plan.

Prior to 2009, the San Diego Water Board interpreted the Bacterial Characteristics Water-contact Standards of the Ocean Plan to apply only in the zone bounded by the shoreline and a distance 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and within kelp beds. The Ocean Plan provides that these Bacteriological Standards also apply in

designated areas outside this zone used for water contact sports, as determined by the Regional Water Boards (i.e., all waters designated with the contact water recreation (REC-1) beneficial use). These designated areas must be specifically defined in the Basin Plan. Because the San Diego Water Board has designated the ocean waters with the REC-1 beneficial use in the Basin Plan, the Ocean Plan Bacterial Standards apply throughout State of California territorial marine waters in the San Diego Region, which extend from surface to bottom, out to three nautical miles from the shoreline. This interpretation has been confirmed by USEPA.

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR section 122.42, are provided in the Standard Provisions (Attachment D).

Sections 122.41(a)(1) and (b) through (n) of 40 CFR establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) of 40 CFR allows the State to omit or modify conditions to impose more stringent requirements. In accordance with 40 CFR section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR 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

This Order may be re-opened and modified, revoked and reissued, or terminated for cause in accordance with the provisions of 40 CFR parts 122, 123, 124, and 125. The San Diego Water Board may reopen the permit to modify permit conditions and requirements. Causes for modification include, but are not limited to, revisions to effluent limitations, receiving water requirements, monitoring and reporting requirements; participation in the Southern California Coastal Water Research Project (SCCWRP) monitoring program or other regional or water body monitoring coalition as determined by the San Diego Water Board; revisions to sludge use or disposal practices; or adoption of new or revised regulations, water quality control plans or policies by the State Water Board or the San Diego Water Board, including revisions to the Basin Plan or Ocean Plan.

2. Special Studies and Additional Monitoring Requirements – Not Applicable

3. Best Management Practices and Pollution Prevention – Not Applicable

4. Construction, Operation, and Maintenance Specifications

The Facility shall be protected against 100-year storm event as defined by the San Diego County Flood Control District (FCD). The Facility shall be protected against erosion, overland runoff, and other impacts resulting from a 100-year, 24-hour storm event as defined by the San Diego County FCD.

5. Special Provisions for Publicly-Owned Treatment Works (POTWs) – Not Applicable

6. Other Special Provisions – Not Applicable

7. Compliance Schedules – Not Applicable

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

CWA section 308 and 40 CFR sections 122.41(h), (j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the San Diego Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The MRP (Attachment E) establishes monitoring, reporting, and recordkeeping requirements that implement State and federal requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP (Attachment E).

A. Core Monitoring Requirements

1. Influent Monitoring – Not Applicable

2. Effluent Monitoring

Effluent monitoring is required to determine compliance with the conditions of this Order, to identify operational problems, to improve plant performance, and to conduct reasonable potential analyses for subsequent orders. Effluent monitoring also provides information on wastewater characteristics for use in interpreting water quality and biological data.

a. Monitoring Location EFF-001

Effluent monitoring is required to determine compliance with the conditions of this Order, to identify operational problems, to improve plant performance, and to conduct reasonable potential analyses for subsequent orders. Effluent monitoring also provides information on wastewater characteristics for use in interpreting water quality and biological data.

This Order increases monitoring for temperature from semiannually to monthly to determine compliance with the receiving water limitation from Thermal Plan (section V.A.6 of this Order).

This Order increases monitoring for total dissolved solids from semiannually to monthly to evaluate whether the dilution credit established in 2005 is still applicable and appropriate and to re-assess the dilution credit if the brine discharges from the Facility changes effluent quality discharged at Discharge Point No. 001.⁸

This Order increases monitoring for pH from semiannually to monthly to determine compliance with the effluent limitations.

This Order increases monitoring for the Ocean Plan Table 1 parameters from annually to semiannually to ensure a sufficient dataset for performing a more statistically-sound RPA for the reissuance of this Order.

For this Order, the Discharger may apply the performance goal for both chromium (VI) and chromium (III) as a total chromium performance goal. The Ocean Plan allows dischargers to meet the objective for chromium (VI) as a total chromium objective (footnote a, of Table 1 of the Ocean Plan). Total chromium includes both chromium (VI) and chromium (III) and the Clean Water Act has no analytical method

⁸ Order Nos. R9-2018-0003 and R9-2018-0002, Attachment E, section VI.B requires the San Elijo Joint Powers Authority and City of Escondido, respectively, to conduct a study to re-evaluate the minimum initial dilution factor (Dm) for SEOO established in 200.

for chromium (III)⁹. Thus, this Order allows the Discharger to also meet the objective for chromium (III) as a total chromium objective. If the Discharger only monitors for total chromium to meet the requirements for both chromium (VI) and chromium (III), the total chromium data will be used to determine if reasonable potential exists for both chromium (VI) and chromium (III) in future permit reissuances and/or updates.

Refer to section III.B.1 of the MRP (Attachment E).

b. Monitoring Location I-001

Effluent monitoring requirements for Monitoring Location I-001 have been carried over from Order No. R9-2012-0012 to this Order.

Refer to section III.B.2 of the MRP (Attachment E).

3. Whole Effluent Toxicity Testing Requirements

This Order contains a performance goal for chronic toxicity as described in section IV.C.5 of this Fact Sheet. This Order increases monitoring for the chronic toxicity from annually to semiannually to ensure a sufficient dataset for performing a more statistically-sound RPA for the reissuance of this Order.

Consistent with the requirements of the Ocean Plan, section III.C.5 of the MRP (Attachment E) requires the Discharger to develop an Initial Investigation Toxicity Reduction Evaluation (TRE) Work Plan and submit the Initial Investigation TRE Work Plan within 90 days of the effective date of this Order. The Initial Investigation TRE Work Plan must describe steps the Discharger intends to follow if the performance goal for chronic toxicity is exceeded.

To determine if the discharge consistently exceeds the toxicity performance goal, this Order requires the Discharger to notify the San Diego Water Board and to accelerate toxicity testing if the performance goal for chronic toxicity is exceeded in any one test. If any of the additional tests demonstrate toxicity, consistent with section III.C.10 of the Ocean Plan, the Discharger is required to submit a Detailed TRE Work Plan in accordance with the its submitted Initial Investigation TRE Work Plan and USEPA guidance¹⁰ which shall include: further steps taken by the Discharger to investigate, identify, and correct the causes of toxicity; actions the Discharger will take to mitigate the effects of the discharge and prevent the recurrence of toxicity; and a schedule for these actions. The Discharger must also implement a Toxicity Identification Evaluation (TIE), as necessary, based upon the magnitude and persistence of toxicity performance goal exceedances. Once the source of toxicity is identified, the Discharger must take all reasonable steps to reduce the toxicity to meet the chronic toxicity performance goal identified in section IV.A of this Order.

The above accelerated monitoring (a minimum of four succeeding tests performed at 14-day intervals) is based on the probability of encountering at least one toxicity exceedance assuming a true, but unknown level of occurrence.

Within 30 days of completion of the TRE, the Discharger must submit the results of the TRE, including a summary of the findings, data generated, a list of corrective actions

⁹ In order to obtain a value for chromium (III), two separate methods must be used: one for total chromium determination and one for chromium (VI) determination. The value for chromium (III) is obtained by subtracting the chromium (VI) value from the total chromium value.

¹⁰ See (a) Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (EPA/600/2-88/070, 1989); Toxicity Identification Evaluation, Phase I (EPA/600/6-91/005F); (c) Methods for Aquatic Toxicity Identification Evaluations, Phase II (EPA/600/R-92/080); (d) Methods for Aquatic Toxicity Identification Evaluations, Phase III (EPA/600/R-92/081); and (e) Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document (EPA/600/R-96-054, 1996).

taken or planned to achieve consistent compliance with the toxicity performance goal of this Order and prevent recurrence of exceedances of the performance goal, and a time schedule for implementation of any planned corrective actions. The Discharger must implement any planned corrective actions in the TRE Final Report in accordance with the specified time schedule, unless otherwise directed in writing by the San Diego Water Board. The corrective actions and time schedule must be modified at the direction of the San Diego Water Board.

Refer to section III.C of the MRP (Attachment E).

4. Land Discharge Monitoring Requirements – Not Applicable

5. Recycling Monitoring Requirements – Not Applicable

B. Receiving Water Monitoring Requirements

The City of Escondido and San Elijo Joint Powers Authority conduct receiving water monitoring for their individual discharges to the San Elijo Ocean Outfall¹¹. The receiving water monitoring is designed to measure the effects of the SEOO discharge on the receiving ocean waters, including effects on coastal water quality, seafloor sediments, and marine life. The receiving water monitoring data may be used, in conjunction with other pertinent technical information, to determine compliance with the receiving water limitations and other related provisions of this Order. The Discharger shall review the receiving water monitoring reports submitted by the City of Escondido and San Elijo Joint Powers Authority as they become available on the State Water Board website at

<http://ciwqs.waterboards.ca.gov/ciwqs/readOnly/PublicReportEsmrAtGlanceServlet?inCommand=reset>.

C. Regional Monitoring Requirements

Regional ocean water monitoring provides information about the sources, fates, and effects of anthropogenic contaminants in the coastal marine environment necessary to make assessments over large areas. The large-scale assessments provided by regional monitoring describe and evaluate cumulative effects of all anthropogenic inputs and enable better decision making regarding protection of beneficial uses of ocean waters. Regional monitoring data assists in the interpretation of core monitoring studies by providing a more accurate and complete characterization of reference conditions and natural variability. Regional monitoring also leads to methods standardization and improved quality control through inter-calibration exercise. The coalitions implementing regional monitoring enable sharing of technical resources, trained personnel, and associated costs. Focusing these resources on regional issues and developing a broader understanding of pollutants effects in ocean waters enables the development of more rapid and effective response strategies. Based on all of these considerations the San Diego Water Board supports regional approaches to monitoring ocean waters.

The Discharger is encouraged to participate with other regulated entities, other interested parties, and the San Diego Water Board in development and implementation of new and

¹¹ Discharges from the City of Escondido's MFRO Facility and HARRF are regulated by separate WDRs, Order No. R9-2018-0002, NPDES No. CA0107981, *Waste Discharge Requirements for the City of Escondido, Hale Avenue Resource Recovery Facility and Membrane Filtration/Reverse Osmosis Facility Discharge to the Pacific Ocean through the San Elijo Ocean Outfall*.

Discharges from the San Elijo Joint Powers Authority, San Elijo Water Reclamation Facility are regulated by separate WDRs, Order No. R9-2018-0003, NPDES No. CA0107999, *Waste Discharge Requirements for the San Elijo Joint Powers Authority, San Elijo Water Reclamation Facility Discharge to the Pacific Ocean through the San Elijo Ocean Outfall*.

improved monitoring and assessment programs for ocean waters in the San Diego Region and discharges to those waters.

Refer to section V of the MRP (Attachment E).

1. Kelp Bed Canopy Monitoring Requirements

Kelp consists of a number of species of brown algae. Along the central and southern California coast, giant kelp (*Macrocystis pyrifera*) is the largest species colonizing rocky, and in some cases sandy, subtidal habitats. Giant kelp is an important component of coastal and island communities in southern California, providing food and habitat for numerous animals.

The City of Escondido and San Elijo Joint Powers Authority participate, for their individual discharges to the San Elijo Ocean Outfall, in an ongoing regional survey of coastal kelp beds in the Southern California Bight. The intent of these surveys is to provide an indication of the health of these kelp beds, recognizing that the extent of kelp bed canopies may change due to variety of influences. Kelp bed canopy data obtained from the regional monitoring program may be used, in conjunction with other pertinent technical information, to determine compliance with the receiving water limitations and other related provisions of this Order. The Discharger shall review the findings and conclusions of each annual Status of the Kelp Beds Report as it becomes available on the Southern California Bight Regional Aerial Kelp Surveys website at <http://kelp.sccwrp.org/reports.html>.

Refer to section V.A of the MRP (Attachment E).

2. Southern California Bight Regional Monitoring Program Participation Requirements

The Southern California Bight (Bight), defined as the concave bend of the shoreline extending from Point Conception to Punta Colonet in Mexico, is host to unique, biologically diverse marine ecosystems that have long been vulnerable to the impacts of human activity. The coastal zone of the Bight hosts nearly 22 million U.S. residents that engage in a wide variety of industrial, military, and recreational activities. Approximately 5,600 miles of watersheds, half of which is highly developed, drain into the Bight. The Southern California Bight Regional Monitoring Program brings together researchers and water-quality managers to pool their resources and work together to investigate the condition of marine ecosystems both spatially and temporally, and extend greater protections to the Bight's diverse habitats and natural resources.

The Discharger may be requested by the San Diego Water Board to participate in the Southern California Bight Regional Monitoring Program coordinated by the SCCWRP, or any other coordinated regional monitoring effort named by the San Diego Water Board, pursuant to Water Code sections 13267 and 13383, and 40 CFR section 122.48. The intent of the Southern California Bight Regional Monitoring Program is to maximize the efforts of all monitoring partners using a more cost-effective monitoring design and to best utilize the pooled scientific resources of the Southern California Bight.

Refer to section V.B of the MRP (Attachment E).

D. Special Studies Requirements – Not Applicable

E. Other Monitoring Requirements

1. Water Treatment Systems and Cooling Tower Additives Log

The Discharger is required to maintain a log of all chemical analytes used in the water treatment systems and/or cooling tower maintenance that are eventually discharged from the Facility to the IBCS and report these chemical analytes to the San Diego Water Board. The requirement to record and report analytes is necessary to ensure compliance with the prohibition on the use of any priority pollutant listed in Appendix A of 40 CFR part 423, in the contents of chemical formulations added for cooling tower maintenance (see section IV.A.5 of this Fact Sheet and section III.E of this Order).

Refer to section VII.A of the MRP (Attachment E).

2. Discharge Monitoring Report-Quality Assurance (DMR-QA) Study Program.

Under the authority of section 308 of the CWA (33 U.S.C. section 1318), USEPA requires major and selected minor permittees under the NPDES Program to participate in the annual DMR-QA Study Program. The DMR-QA Study evaluates the analytical ability of laboratories that routinely perform or support self-monitoring analyses required by NPDES permits. There are two options to satisfy the requirements of the DMR-QA Study Program: (1) The Discharger can obtain and analyze a DMR-QA sample as part of the DMR-QA Study; or (2) Per the waiver issued by USEPA to the State Water Board, the Discharger can submit the results of the most recent Water Pollution Performance Evaluation Study from its own laboratories or its contract laboratories. A Water Pollution Performance Evaluation Study is similar to the DMR-QA Study. Thus, it also evaluates a laboratory's ability to analyze wastewater samples to produce quality data that ensure the integrity of the NPDES Program. The Discharger shall ensure that the results of the DMR-QA Study or the results of the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Board. The State Water Board's Quality Assurance Program Officer will send the DMR-QA Study results or the results of the most recent Water Pollution Performance Evaluation Study to USEPA's DMR-QA Coordinator and Quality Assurance Manager.

Refer to section I.H of the MRP (Attachment E)

VIII. PUBLIC PARTICIPATION

The San Diego Water Board has considered the issuance of WDRs that will serve as an NPDES permit for the Facility. As a step in the WDR adoption process, the San Diego Water Board staff has developed tentative WDRs and has encouraged public participation in the WDR adoption process by providing a period of a minimum of 30 days for public review and comment on the Tentative Order.

A. Notification of Interested Parties

The San Diego 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 in the North County Union Tribune on August 10, 2018. The Tentative Order was also posted on the San Diego Water Board website and emailed to the Discharger and all known interested parties on August 10, 2018.

The public also had access to the meeting agenda including all supporting documents and any changes in meeting dates and locations through the San Diego Water Board's website at: <http://www.waterboards.ca.gov/sandiego/>.

B. Written Comments

Interested persons were invited to submit written comments concerning tentative WDRs as provided through the notification process. Comments were due either in person or by mail to the Executive Office at the San Diego Water Board at 2375 Northside Drive, Suite 100, San Diego, CA 92108.

To be fully responded to by staff and considered by the San Diego Water Board, the written comments were due at the San Diego Water Board office by 5:00 p.m. on September 10, 2018.

C. Public Hearing

The San Diego 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: Wednesday, October 10, 2018
Time: 9:00 AM
Location: San Diego Water Board
Board Meeting Room
2375 Northside Drive, Suite 108
San Diego, California 92108

Interested persons were invited to attend. At the public hearing, the San Diego 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 San Diego Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and CCR, title 23, sections 2050. The State Water Board must receive the petition by 5:00 p.m., within 30 calendar days of the date of adoption of this Order at the following address, 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. Petitions may be sent in as follows:

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

In Person:
State Water Resources Control Board
Office of Chief Counsel
1001 I Street
Sacramento, California 95814

By email:
waterqualitypetitions@waterboards.ca.gov

By fax:
(916) 341-5199

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

E. Information and Copying

The ROWD, other supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the San Diego Water Board by calling (619) 516-1990.

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 San Diego Water Board, reference the 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 Joann Lim by email at Joann.Lim@waterboards.ca.gov or by phone at (619) 521-3362.

ATTACHMENT G – DISCHARGE PROHIBITIONS CONTAINED IN THE OCEAN PLAN AND BASIN PLAN

A. Ocean Plan Discharge Prohibitions

1. The Discharge of any radiological chemical, or biological warfare agent or high-level radioactive waste into the ocean is prohibited.
2. Waste shall not be discharged to designated Areas of Special Biological Significance except as provided in Chapter III.E. of the Ocean Plan.
3. Pipeline discharge of sludge to the ocean is prohibited by federal law; the discharge of municipal and industrial waste sludge directly to the ocean, or into a waste stream that discharges to the ocean, is prohibited. The discharge of sludge digester supernatant directly to the ocean, or to a waste stream that discharges to the ocean without further treatment, is prohibited.
4. It is the policy of the State Water Resources Control Board (State Water Board) that the treatment, use and disposal of sewage sludge shall be carried out in the manner found to have the least adverse impact on the total natural and human environment. Therefore, if federal law is amended to permit such discharge, which could affect California waters, the State Water Board may consider requests for exceptions to this section under Chapter III. J of this Plan, provided further that an Environmental Impact Report on the proposed project shows clearly that any available alternative disposal method will have a greater adverse environmental impact than the proposed project.
5. The by-passing of untreated wastes containing concentrations of pollutants in excess of those of Table 1 or Table 2 [of the Ocean Plan] is prohibited.
6. 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. Compliance with this prohibition of discharge shall be achieved as follows:
 - a. Dischargers with NPDES permits that contain specific requirements for the control of Trash that are consistent with these Trash Provisions shall be determined to be in compliance with this prohibition if the dischargers are in full compliance with such requirements.
 - b. Dischargers with non-NPDES waste discharge requirements (WDRs) or waivers of WDRs that contain specific requirements for the control of Trash shall be determined to be in compliance with this prohibition if the dischargers are in full compliance with such requirements.
 - c. Dischargers with NPDES permits, WDRs, or waivers of WDRs that do not contain specific requirements for the control of Trash are exempt from these Trash Provisions.
 - d. Dischargers without NPDES permits, WDRs, or waivers of WDRs must comply with this prohibition of discharge.
 - e. Chapter III.I.6.b and Chapter III.L.3 notwithstanding, this prohibition of discharge applies to the discharge of preproduction plastic by manufacturers of preproduction plastics, transporters of preproduction plastics, and manufacturers that use preproduction plastics in the manufacture of other products to surface waters of the State, or the deposition of preproduction plastic where it may be discharged into

surface waters of the State, unless the discharger is subject to a NPDES permit for discharges of storm water associated with industrial activity.

B. Basin Plan Discharge Prohibitions

1. The discharge of waste to waters of the State in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in Water Code section 13050, is prohibited.
2. The discharge of waste to land, except as authorized by WDRs of the terms described in Water Code section 13264 is prohibited.
3. The discharge of pollutants or dredged or fill material to waters of the United States (U.S.) except as authorized by an NPDES permit or a dredged or fill material permit (subject to the exemption described in Water Code section 13376) is prohibited.
4. Discharges of recycled water to lakes or reservoirs used for municipal water supply or to inland surface water tributaries thereto are prohibited, unless this San Diego Water Board issues an NPDES permit authorizing such a discharge; the proposed discharge has been approved by the State Water Board, Division of Drinking Water (DDW) and the operating agency of the impacted reservoir; and the discharger has an approved fail-safe long-term disposal alternative.
5. The discharge of waste to inland surface waters, except in cases where the quality of the discharge complies with applicable receiving water quality objectives, is prohibited. Allowances for dilution may be made at the discretion of the San Diego Water Board. Consideration would include streamflow data, the degree of treatment provided and safety measures to ensure reliability of facility performance. As an example, discharge of secondary effluent would probably be permitted if streamflow provided 100:1 dilution capability.
6. The discharge of waste in a manner causing flow, ponding, or surfacing on lands not owned or under the control of the discharger is prohibited, unless the discharge is authorized by the San Diego Water Board.
7. The dumping, deposition, or discharge of waste directly into waters of the State, or adjacent to such waters in any manner which may permit its being transported into the waters, is prohibited unless authorized by the San Diego Water Board.
8. Any discharge to a storm water conveyance system that is not composed entirely of storm water is prohibited unless authorized by the San Diego Water Board. [The federal regulations, 40 CFR section 122.26(b)(13), define storm water as storm water runoff, snow melt runoff, and surface runoff and drainage. 40 CFR section 122.26(b)(2) defines an illicit discharge as any discharge to a storm water conveyance system that is not composed entirely of storm water except discharges pursuant to an NPDES permit and discharges resulting from fire fighting activities.] [Section 122.26 amended at 56 FR 56553, November 5, 1991; 57 FR 11412, April 2, 1992].
9. The unauthorized discharge of treated or untreated sewage to waters of the State or to a storm water conveyance system is prohibited.
10. The discharge of industrial wastes to conventional septic tank/ subsurface disposal systems, except as authorized by the terms described in Water Code section 13264, is prohibited.

11. The discharge of radioactive wastes amenable to alternative methods of disposal into the waters of the State is prohibited.
12. The discharge of any radiological, chemical, or biological warfare agent into waters of the State is prohibited.
13. The discharge of waste into a natural or excavated site below historic water levels is prohibited unless the discharge is authorized by the San Diego Water Board.
14. The discharge of sand, silt, clay, or other earthen materials from any activity, including land grading and construction, in quantities which cause deleterious bottom deposits, turbidity or discoloration in waters of the State or which unreasonably affect, or threaten to affect, beneficial uses of such waters is prohibited.
15. The discharge of treated or untreated sewage from vessels to Mission Bay, Oceanside Harbor, Dana Point Harbor, or other small boat harbors is prohibited.