

California Regional Water Quality Control Board, San Diego Region

**ORDER NO. R9-2012-0015
AS AMENDED BY ORDER NO. R9-2017-0012
NPDES NO. CA0109215**

**WASTE DISCHARGE REQUIREMENTS FOR
SAN DIEGO GAS AND ELECTRIC COMPANY
PALOMAR ENERGY CENTER**

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

Table 1. Discharger Information

Discharger	San Diego Gas and Electric
Name of Facility	Palomar Energy Center
Facility Address	2300 Harveson Place Escondido, CA 92029
The United States Environmental Protection Agency and the Regional Water Quality Control Board, San Diego Region have classified this discharge as a major discharge.	

The discharge by the Discharger described in Table 1 above from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
I-001	Palomar Energy Center (PEC) Wastewater Collection and Transfer Sump for Low Volume Wastes	--	--	Internal Discharge Location
001 (previously I-002)	PEC Cooling Tower Blowdown	--	--	Pacific Ocean

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board, San Diego Region on:	September 12, 2012
This Order shall become effective on:	November 1, 2012
This Order shall expire on:	October 31, 2017
The Discharger shall file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of the Order expiration date as application for issuance of new waste discharge requirements.	

I, James G. Smith, Acting Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on September 12, 2012 and as amended by Order No. R9-2017-0012 on March 15, 2017.

James G. Smith
Acting Executive Officer

Table 2. Discharge Locations

Discharge Point	Discharge Description	Discharge Point Location	Receiving Water
101	Palomar Energy Center (PEC) Wastewater Treatment and Reuse Plant for the 101	Palomar Energy Center	Internal Discharge Location
102	PEC Cooling Tower Discharge	Palomar Energy Center	Local Ocean

Table 3. Administrative Information

Order Number	Order Date	Order Description
R9-2012-0012	September 12, 2012	Initial Order
R9-2017-0012	March 15, 2017	Amendment

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I. FACILITY INFORMATION

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

Table 4. Facility Information – Palomar Energy Center

Discharger	San Diego Gas and Electric
Name of Facility	Palomar Energy Center
Facility Address	2300 Harveson Place
	Escondido, CA 92029
	San Diego County
Facility Contact, Title, and Phone	Daniel Baerman, Director Electric Generation, (760) 432-2501
Mailing Address	Same as Facility Address
Type of Facility	Power Plant
Facility Flow Rate	1.4 million gallons per day

II. FINDINGS

The California Regional Water Quality Control Board, San Diego Region (hereinafter San Diego Water Board), finds:

A. Background. San Diego Gas and Electric (SDG&E), hereinafter Discharger, submitted a Report of Waste Discharge (ROWD), dated December 15, 2011, and applied for a National Pollutant Discharge Elimination System (NPDES) permit authorization to discharge up to 1.4 million gallons per day (MGD) of cooling tower blowdown and low volume waste to the City of Escondido Industrial Brine Collection System (IBCS). The IBCS discharges through the Escondido Land Outfall and the San Elijo Ocean Outfall to the Pacific Ocean. The ROWD was deemed complete on January 13, 2012.

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. Facility Description. The Palomar Energy Center (PEC) is a 550-megawatt natural gas combined cycle power plant located in Escondido, CA. The maximum combined discharge of cooling tower blowdown and low-volume waste to the IBCS is 1.4 MGD. Effluent from the IBCS is discharged to the Escondido Land Outfall (ELO) and then the San Elijo Ocean Outfall (SEOO), where it commingles with discharges from the Hale Avenue Resource Recovery Facility (HARRF) and the San Elijo Water Reclamation Facility (SEWRF) and enters the Pacific Ocean, a water of the United States, at Discharge Point No. 001 (see Table 2). Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

The City of Escondido (City) owns and operates the IBCS and allows industrial dischargers that meet City requirements to discharge industrial brine wastewater into the IBCS. As owner of the IBCS, the City of Escondido allocates capacity within the

IBCS prior to allowing a new discharge and enters into an agreement with the prospective discharger to authorize the new connection. The agreement specifies volume and flow restrictions to the system and may also include additional requirements on the discharge.

- C. Legal Authorities.** This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as WDRs pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).
- D. Background and Rationale for Requirements.** The San Diego Water Board developed the requirements in this Order based on information submitted as part of the ROWD, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and supporting rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E and G are also incorporated into this Order.
- E. California Environmental Quality Act (CEQA).** Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177.
- F. Technology-Based Effluent Limitations.** Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations (40 CFR 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. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).
- G. Water Quality-Based Effluent Limitations.** Section 301(b) of the CWA and 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

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

policy interpreting the state’s narrative criterion, supplemented with other relevant information, as provided in 40 CFR 122.44(d)(1)(vi).

H. Water Quality Control Plans and Policies. The requirements of this Order implement the following applicable water quality control plans

1. Basin Plan. The San Diego Water Board adopted a *Water Quality Control Plan for the San Diego Region* (hereinafter 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 Board). In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to the Pacific Ocean specified in the Basin Plan are as follows:

Table 5. Basin Plan Beneficial Uses of the Pacific Ocean

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	Industrial service supply; navigation; contact water recreation; non-contact water recreation; commercial and sport fishing; preservation of biological habitats of special significance; wildlife habitat; rare, threatened, or endangered species; marine habitat; aquaculture; migration of aquatic organisms; spawning, reproduction, and/or early development; and shellfish harvesting.

2. Thermal Plan. The State Water Board adopted the *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for coastal waters.

3. 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, and 2009. The State Water Board adopted the latest amendment on September 15, 2009 and it became effective on March 10, 2010. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the State to be protected as summarized below:

Table 6. Ocean Plan Beneficial Uses of the Pacific Ocean

Discharge Point	Receiving Water Name	Beneficial Use
001	Pacific Ocean	Industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; marine habitat; 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.

- I. **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 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.
- J. **Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on free available pH, chlorine, chromium, and zinc. Restrictions on these pollutants are discussed in section IV.B of the Fact Sheet (Attachment F). 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 have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. The scientific procedures for calculating the individual WQBELs are based on the Ocean Plan, which was approved by USEPA on February 14, 2006. 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 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.

- K. **Antidegradation Policy.** 40 CFR 131.12 requires that 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 No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where

the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The San Diego Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies.

- L. Anti-Backsliding Requirements.** Sections 303(d)(4) and 402(o)(2) of the CWA and federal regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. Some effluent limitations in this Order are less stringent than those in the previous Order. As discussed in detail in the Fact Sheet (Attachment F), this relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.
- M. Endangered Species Act.** 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 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the State. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.
- N. Monitoring and Reporting.** 40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the San Diego Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement federal and State requirements. This MRP is provided in Attachment E.
- O. Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D. The San Diego Water Board has also included in this Order special provisions applicable to the Discharger. The supporting rationale for the special provisions contained in this Order is provided in the attached Fact Sheet (Attachment F).
- P. Provisions and Requirements Implementing State Law.** Some of the provisions and requirements in subsections IV.C of this Order are included to implement State law only. These provisions and requirements are not required or authorized under the federal CWA; consequently, violations of these provisions and requirements are not subject to the enforcement remedies that are available for NPDES violations.
- Q. 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.

- R. Notification of Interested Parties.** The San Diego Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet (Attachment F) of this Order.

- S. 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) of this Order.

THEREFORE, IT IS HEREBY ORDERED, that Order No. R9-2005-0139 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

- A.** The discharge of low volume waste and cooling tower blowdown in a manner or to a location which has not been specifically authorized by this Order and for which valid waste discharge requirements are not in force is prohibited.
- B.** The discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid at Discharge Point Nos. 001 and I-001 is prohibited.
- C.** The discharge of low volume waste and cooling tower blowdown not in compliance with Discharge Prohibitions contained in the Basin Plan, incorporated in this Order as if fully set forth herein and included in Attachment G, is prohibited.
- D.** The discharge of low volume waste and cooling tower blowdown not in compliance with Discharge Prohibitions contained in the Ocean Plan, , incorporated in this Order as if fully set forth herein and included in Attachment G is prohibited.
- E.** The discharge of cooling tower blowdown in excess of a daily maximum flow of 1.4 MGD is prohibited unless the discharger obtains revised waste discharge requirements for the proposed increase in flow.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations and Performance Goals for the PEC Cooling Tower Blowdown– Discharge Point No. 001

1. Final Effluent Limitations

- a. The Discharger shall maintain compliance with the following effluent limitations for the cooling tower blowdown at Discharge Point No. 001, with compliance measured at Monitoring Location EFF-001 as described in the attached MRP:

Table 7. Effluent Limitations for Wastewaters at Discharge Point No. 001

Parameter	Units	Effluent Limitations				
		6-Month Median	Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
TECHNOLOGY BASED EFFLUENT LIMITATIONS FOR COOLING TOWER BLOWDOWN						
pH		--	--	--	6.0	9.0
Free Available Chlorine	mg/l	--	--	--	--	0.5 ²
	lbs/day ¹	--	--	--	--	4.6
Chromium, Total	mg/l	--	0.2	0.2	--	--
Recoverable	lbs/day ¹	--	1.8	1.8	--	--
Zinc, Total	mg/l	--	1.0	1.0	--	--
Recoverable ³	lbs/day ¹	--	9.2	9.2	--	--
Remaining Priority Pollutants ³	µg/l	--	ND ⁴	--	--	ND ⁴
WATER QUALITY BASED EFFLUENT LIMITATIONS (TABLE B OF THE OCEAN PLAN)						
Total Residual Chlorine	µg/L	476	--	1,904	--	14,280
	lbs/day ¹	4.4	--	17.5	--	131

¹ Based on the highest reported average monthly flow of 1.1 MGD. Mass-based effluent limitations may be adjusted for an increased flow rate of up to 1.4 MGD in accordance with the provisions of 40 CFR 122.45(b)(2)(ii) by the San Diego Water Board upon receipt of the Anticipated Increase Production Notification specified under Attachment E, Section IX.B of this Order.

² Applied as a two-hour average. Free available chlorine shall mean the value obtained using the amperometric titration method for free available chlorine described in *Standard Methods for Examination of Water and Wastewater*.

³ Effluent limitations for total chromium, total zinc, and the remaining priority pollutants are only applicable for priority pollutants added for cooling tower maintenance.

⁴ Detectable amounts of priority pollutants listed in Attachment H in the cooling tower blowdown effluent are prohibited.

- b. The Discharger shall maintain compliance with the following effluent limitations at Internal Discharge Point No. I-001 for low volume waste discharged from PEC to the IBCS, with compliance measured at Monitoring Location No. I-001 as described in the attached MRP:

Table 8. Technology Based Effluent Limitations for Low Volume Waste (Discharge Point No. I-001)

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	s.u.	--	--	6.0	9.0

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Total Suspended Solids (TSS)	mg/L	30	100	--	--
	lbs/day ¹	80	267	--	--
Oil and Grease	mg/L	15	20	--	--
	lbs/day ¹	40	53	--	--

¹ Based on a maximum effluent flow of 0.32 MGD.

2. Performance Goals

- a. Constituents 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 constituents and are assigned the performance goals listed in the following table. Performance goals are applicable to the cooling tower blowdown, thus shall be monitored at Discharge Point 001.

Table 9. Performance Goals

Parameter	Unit	Performance Goals ¹			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE					
Arsenic, Total Recoverable	µg/L	1.19E+03	6.91E+03	1.83E+04	--
	lbs/day ²	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	2.18E+00	8.73E+00	2.18E+01	--
Chromium (VI), Total Recoverable ³	µg/L	4.76E+02	1.90E+03	4.76E+03	--
	lbs/day ²	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	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 ²	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 ²	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 ²	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 ²	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 ²	1.18E+00	5.77E+00	1.49E+01	--

Parameter	Unit	Performance Goals ¹			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Zinc, Total Recoverable	µg/L	2.86E+03	1.71E+04	4.57E+04	--
	lbs/day ²	2.63E+01	1.57E+02	4.19E+02	--
Cyanide, Total (as CN) ⁴	µg/L	2.38E+02	9.52E+02	2.38E+03	--
	lbs/day ²	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 ²	1.31E+03	5.24E+03	1.31E+04	--
Chronic Toxicity ⁵	TUc	--	2.38E+02	--	--
Phenolic Compounds (non-chlorinated) ⁶	µg/L	7.14E+03	2.86E+04	7.14E+04	--
	lbs/day ²	6.55E+01	2.62E+02	6.55E+02	--
Chlorinated Phenolics ⁷	µg/L	2.38E+02	9.52E+02	2.38E+03	--
	lbs/day ²	2.18E+00	8.73E+00	2.18E+01	--
Endosulfan ⁸	µg/L	2.14E+00	4.28E+00	6.43E+00	--
	lbs/day ²	1.97E-02	3.93E-02	5.90E-02	--
Endrin	µg/L	4.76E-01	9.52E-01	1.43E+00	--
	lbs/day ²	4.37E-03	8.73E-03	1.31E-02	--
HCH ⁹	µg/L	9.52E-01	1.90E+00	2.86E+00	--
	lbs/day ²	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 ²	--	--	--	4.80E+02
Antimony	µg/L	--	--	--	2.86E+05
	lbs/day ²	--	--	--	2.62E+03
Bis(2-chloroethoxy) Methane	µg/L	--	--	--	1.05E+03
	lbs/day ²	--	--	--	9.61E+00
Bis(2-chloroisopropyl) Ether	µg/L	--	--	--	2.86E+05
	lbs/day ²	--	--	--	2.62E+03
Chlorobenzene	µg/L	--	--	--	1.36E+05
	lbs/day ²	--	--	--	1.24E+03
Chromium (III), Total Recoverable	µg/L	--	--	--	4.52E+07
	lbs/day ²	--	--	--	4.15E+05
Di-n-butyl Phthalate	µg/L	--	--	--	8.33E+05
	lbs/day ²	--	--	--	7.64E+03
Dichlorobenzenes ¹⁰	µg/L	--	--	--	1.21E+06
	lbs/day ²	--	--	--	1.11E+04

Parameter	Unit	Performance Goals ¹			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Diethyl Phthalate	µg/L	--	--	--	7.85E+06
	lbs/day ²	--	--	--	7.21E+04
Dimethyl Phthalate	µg/L	--	--	--	1.95E+08
	lbs/day ²	--	--	--	1.79E+06
4,6-dinitro-2-methylphenol	µg/L	--	--	--	5.24E+04
	lbs/day ²	--	--	--	4.80E+02
2,4-dinitrophenol	µg/L	--	--	--	9.52E+02
	lbs/day ²	--	--	--	8.73E+00
Ethylbenzene	µg/L	--	--	--	9.76E+05
	lbs/day ²	--	--	--	8.95E+03
Fluoranthene	µg/L	--	--	--	3.57E+03
	lbs/day ²	--	--	--	3.28E+01
Hexachlorocyclopentadiene	µg/L	--	--	--	1.38E+04
	lbs/day ²	--	--	--	1.27E+02
Nitrobenzene	µg/L	--	--	--	1.17E+03
	lbs/day ²	--	--	--	1.07E+01
Thallium, Total Recoverable	µg/L	--	--	--	4.76E+02
	lbs/day ²	--	--	--	4.37E+00
Toluene	µg/L	--	--	--	2.02E+07
	lbs/day ²	--	--	--	1.86E+05
Tributyltin	µg/L	--	--	--	3.33E-01
	lbs/day ²	--	--	--	3.06E-03
1,1,1-trichloroethane	µg/L	--	--	--	1.29E+08
	lbs/day ²	--	--	--	1.18E+06
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS					
Acrylonitrile	µg/L	--	--	--	2.38E+01
	lbs/day ²	--	--	--	2.18E-01
Aldrin	µg/L	--	--	--	5.24E-03
	lbs/day ²	--	--	--	4.80E-05
Benzene	µg/L	--	--	--	1.40E+03
	lbs/day ²	--	--	--	1.29E+01
Benzidine	µg/L	--	--	--	1.64E-02
	lbs/day ²	--	--	--	1.51E-04
Beryllium	µg/L	--	--	--	7.85E+00
	lbs/day ²	--	--	--	7.21E-02
Bis(2-chloroethyl) Ether	µg/L	--	--	--	1.07E+01
	lbs/day ²	--	--	--	9.83E-02

Parameter	Unit	Performance Goals ¹			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Bis(2-ethylhexyl) Phthalate	µg/L	--	--	--	8.33E+02
	lbs/day ²	--	--	--	7.64E+00
Carbon Tetrachloride	µg/L	--	--	--	2.14E+02
	lbs/day ²	--	--	--	1.97E+00
Chlordane	µg/L	--	--	--	5.47E-03
	lbs/day ²	--	--	--	5.02E-05
Chlorodibromomethane	µg/L	--	--	--	2.05E+03
	lbs/day ²	--	--	--	1.88E+01
Chloroform	µg/L	--	--	--	3.09E+04
	lbs/day ²	--	--	--	2.84E+02
DDT ¹¹	µg/L	--	--	--	4.05E-02
	lbs/day ²	--	--	--	3.71E-04
1,4-dichlorobenzene	µg/L	--	--	--	4.28E+03
	lbs/day ²	--	--	--	3.93E+01
3,3'-dichlorobenzidine	µg/L	--	--	--	1.93E+00
	lbs/day ²	--	--	--	1.77E-02
1,2-dichloroethane	µg/L	--	--	--	6.66E+03
	lbs/day ²	--	--	--	6.11E+01
1,1-dichloroethylene	µg/L	--	--	--	2.14E+02
	lbs/day ²	--	--	--	1.97E+00
Dichlorobromomethane	µg/L	--	--	--	1.48E+03
	lbs/day ²	--	--	--	1.35E+01
Dichloromethane	µg/L	--	--	--	1.07E+05
	lbs/day ²	--	--	--	9.83E+02
1,3-dichloropropene	µg/L	--	--	--	2.12E+03
	lbs/day ²	--	--	--	1.94E+01
Dieldrin	µg/L	--	--	--	9.52E-03
	lbs/day ²	--	--	--	8.73E-05
2,4-dinitrotoluene	µg/L	--	--	--	6.19E+02
	lbs/day ²	--	--	--	5.68E+00
1,2-diphenylhydrazine	µg/L	--	--	--	3.81E+01
	lbs/day ²	--	--	--	3.49E-01
Halomethanes ¹²	µg/L	--	--	--	3.09E+04
	lbs/day ²	--	--	--	2.84E+02
Heptachlor	µg/L	--	--	--	1.19E-02
	lbs/day ²	--	--	--	1.09E-04
Heptachlor Epoxide	µg/L	--	--	--	4.76E-03
	lbs/day ²	--	--	--	4.37E-05

Parameter	Unit	Performance Goals ¹			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Hexachlorobenzene	µg/L	--	--	--	5.00E-02
	lbs/day ²	--	--	--	4.59E-04
Hexachlorobutadiene	µg/L	--	--	--	3.33E+03
	lbs/day ²	--	--	--	3.06E+01
Hexachloroethane	µg/L	--	--	--	5.95E+02
	lbs/day ²	--	--	--	5.46E+00
Isophorone	µg/L	--	--	--	1.74E+05
	lbs/day ²	--	--	--	1.59E+03
N-nitrosodimethylamine	µg/L	--	--	--	1.74E+03
	lbs/day ²	--	--	--	1.59E+01
N-nitrosodi-N-propylamine	µg/L	--	--	--	9.04E+01
	lbs/day ²	--	--	--	8.30E-01
N-nitrosodiphenylamine	µg/L	--	--	--	5.95E+02
	lbs/day ²	--	--	--	5.46E+00
PAH	µg/L	--	--	--	2.09E+00
	lbs/day ²	--	--	--	1.92E-02
PCBs ¹³	µg/L	--	--	--	4.52E-03
	lbs/day ²	--	--	--	4.15E-05
TCDD equivalents ¹⁴	µg/L	--	--	--	9.28E-07
	lbs/day ²	--	--	--	8.52E-09
1,1,2,2-tetrachloroethane	µg/L	--	--	--	5.47E+02
	lbs/day ²	--	--	--	5.02E+00
Tetrachloroethylene	µg/L	--	--	--	4.76E+02
	lbs/day ²	--	--	--	4.37E+00
Toxaphene	µg/L	--	--	--	5.00E-02
	lbs/day ²	--	--	--	4.59E-04
Trichloroethylene	µg/L	--	--	--	6.43E+03
	lbs/day ²	--	--	--	5.90E+01
1,1,2-trichloroethane	µg/L	--	--	--	2.24E+03
	lbs/day ²	--	--	--	2.05E+01
2,4,6-trichlorophenol	µg/L	--	--	--	6.90E+01
	lbs/day ²	--	--	--	6.33E-01
Vinyl Chloride	µg/L	--	--	--	8.57E+03
	lbs/day ²	--	--	--	7.86E+01

¹ 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 represent 6.1 x 10² or 610, and 6.1E+00 represent 6.1 x 10⁰ or 6.1.

- 2 Based on the highest observed 30-day average flow of 1.1 MGD.
 3 Dischargers may, at their option, apply this performance goal as a total chromium performance goal.
 4 If the 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.
 5 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. Chronic toxicity is expressed as Chronic Toxicity Units (TUc) = 100/NOEL, where NOEL (No Observed Effect Level) is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism.
 6 Non-chlorinated phenolic compounds represent the sum of 2,4-dimethylphenol, 4,6-Dinitro-2-methylphenol, 2,4-dinitrophenol, 2-methylphenol, 4-methylphenol, 2-Nitrophenol, 4-nitrophenol, and phenol.
 7 Chlorinated phenolic compounds represent the sum of 4-chloro-3-methylphenol, 2-chlorophenol, pentachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol.
 8 Endosulfan represents the sum of alpha-endosulfan, beta-endosulfan, and endosulfan sulfate.
 9 HCH (hexachlorocyclohexane) represents the sum of the alpha, beta, gamma (Lindane), and delta isomers of hexachlorocyclohexane.
 10 Dichlorobenzenes represent the sum of 1,2- and 1,3-dichlorobenzene.
 11 DDT represents the sum of 4,4'DDT; 2,4'DDT; 4,4'DDE; 2,4'DDE; 4,4'DDD; and 2,4'DDD.
 12 Halomethanes represent the sum of bromoform, bromomethane (methyl bromide), and chloromethane (methyl chloride).
 13 PCBs (polychlorinated biphenyls) represent 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.
 14 TCDD equivalents represent the sum of 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 by the table below. USEPA Method 8280 may be used to analyze TCDD equivalents.

Isomer Group	Toxicity Equivalence Factor
2,3,7,8 – tetra CDD	1.0
2,3,7,8 – penta CDD	0.5
2,3,7,8 – hexa CDD	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

3. Interim Effluent Limitations – Not Applicable

B. Land Discharge Specifications – Not Applicable

C. Reclamation Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

The receiving water limitations set forth below for ocean waters are based on water quality objectives or other requirements contained in the Basin Plan, Thermal Plan and the Ocean Plan and are a required part of this Order. Unless specified by this Order, the discharge, by itself or jointly with any other discharge(s), shall not cause violation of the following receiving water limitations. Compliance with these limitations shall be determined by samples collected at stations representative of the area within the waste field where initial dilution is completed.

A. Surface Water Limitations

1. Bacterial Characteristics

- a. Within a zone bounded by the shoreline and a distance of 3 nautical miles from the shoreline, including all kelp beds, the following bacterial objectives shall be maintained throughout the water column.

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

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

Single Sample Maximum:

- iv. Total coliform density shall not exceed 10,000 per 100 ml;
 - v. Fecal coliform density shall not exceed 400 per 100 ml;
 - vi. Enterococcus density shall not exceed 104 per 100 ml; and
 - vii. Total coliform density shall not exceed 1,000 per 100 ml when the fecal coliform/total coliform ratio exceeds 0.1.
- b. The Initial Dilution Zone for any wastewater outfall shall be excluded from designation as kelp beds for purposes of bacterial standards. Adventitious assemblages of kelp plants on waste discharge structures (e.g., outfall pipes and diffusers) do not constitute kelp beds for purposes of bacterial standards.
 - 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 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 initial dilution zone 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.

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 B 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.

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

- a. 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 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 discharge of elevated temperature wastes shall not result in increases in the natural water temperature exceeding 4°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.

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:
 - a. All waste treatment, containment, and disposal facilities shall be protected against 100-year peak stream flows as defined by the San Diego County flood control agency.
 - b. All waste treatment, containment, and disposal facilities shall be protected against erosion, overland runoff, and other impacts resulting from a 100-year, 24-hour storm event.
 - c. This Order expires on October 31, 2017, after which, the terms and conditions of this permit are automatically continued pending issuance of a new permit, provided that all requirements of USEPA's NPDES regulations at 40 CFR 122.6 and the State's regulations at CCR Title 23, section 2235.4 regarding the continuation of expired permits and waste discharge requirements are met.
 - d. A copy of this Order shall be posted at a prominent location at or near the treatment and disposal facilities and shall be available to operating personnel at all times.

B. Monitoring and Reporting Program (MRP) Requirements

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

C. Special Provisions

1. Reopener Provisions

- a. 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 an Ocean Plan Table B water quality objective. (40 CFR. § 122.44(d)(1))
- b. This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following;
 - i. Violation of any terms or conditions of this Order. (Water Code, § 13381(a))
 - ii. Obtaining this Order by misrepresentation or failure to disclose fully all relevant fact. (Water Code, § 13381(b))

- iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge. (Water Code, § 1338(c))
- c. 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. § 122.41(f))
- d. If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under section 307 (a) of the CWA 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 the Order to conform to the toxic effluent standard or prohibition. (40 CFR. § 122.4(b)(1))
- e. This Order may be re-opened and modified, to incorporate in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include requirements for the implementation of the watershed management approach.
- f. This Order may be reopened and modified, in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include new Minimum Levels (MLs).
- g. This Order may be re-opened and modified to revise effluent limitations as a result of future Basin Plan Amendments, or the adoption of a total maximum daily load (TMDL) for the receiving water. (40 CFR. § 122.62(a)(2))
- h. This Order may be re-opened upon submission by the Discharger of adequate information, as determined by this San Diego Water Board, to provide for dilution credits or a mixing zone, as may be appropriate. (40 CFR. § 122.62(a)(2))
- i. This Order may be re-opened and modified to revise the toxicity language once that language becomes standardized.
- j. This Order may also be re-opened and modified, revoked and, reissued or terminated in accordance with the provisions of 40 CFR 122.44, 122.62 to 122.64, 125.62, and 125.62. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this Order and permit, and endangerment to human health or the environment resulting from the permitted activity.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Toxicity Reduction Requirements

If the performance goal for chronic toxicity is exceeded in any one test, then within 15 days of the exceedance, the Discharger shall begin conducting six additional tests, bi-weekly, over a 12 week period.

If the toxicity performance goal is exceeded in any of these six additional tests, then the Discharger shall notify the San Diego Water Board. If the San Diego Water Board determines that the discharge consistently exceeds a toxicity performance goal, then the Discharger shall initiate a toxicity reduction evaluation (TRE) in accordance with section VI.C.2.b. below. Once the source of toxicity is identified, the Discharger shall take all reasonable steps to reduce the toxicity to meet the toxicity effluent limitation or performance goal identified in section IV.A.2 of this Order.

Within 30 days of completion of the TRE, the Discharger shall submit the results of the TRE, including a summary of the findings, data generated, a list of corrective actions necessary to achieve consistent compliance with all the toxicity effluent limitations or performance goals of this Order and prevent recurrence of exceedances of those limitations or performance goals, and a time schedule for implementation of such corrective actions. The corrective actions and time schedule shall be modified at the direction of the San Diego Water Board.

If no toxicity is detected in any of these additional six tests, then the Discharger may return to the testing frequency specified in the MRP.

b. Toxicity Reduction Evaluation (TRE)

The Discharger shall develop (or revise as necessary) a TRE workplan in accordance with TRE procedures established by USEPA in the following guidance manuals.

- i. *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070).
- ii. *Toxicity Identification Evaluation, Phase I* (EPA/600/6-91/005F).
- iii. *Methods for Aquatic Toxicity Identification Evaluations, Phase II* (EPA/600/R-92/080).
- iv. *Methods for Aquatic Toxicity Identification Evaluations, Phase III* (EPA/600/R-92/081).

The Discharger shall submit the TRE workplan to the San Diego Water Board within 180 days of the adoption of this Order. The TRE workplan shall be subject to the approval of the San Diego Water Board and shall be modified as directed by the San Diego Water Board.

- 3. Best Management Practices and Pollution Prevention – Not Applicable**
- 4. Construction, Operation and Maintenance Specifications – Not applicable**
- 5. Special Provisions for Wastewater Facilities (POTWs Only) – Not Applicable**
- 6. Other Special Provisions – Not Applicable**
- 7. Compliance Schedules – Not Applicable**

VII. COMPLIANCE DETERMINATION

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

A. 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 the 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.

B. Compliance with Maximum Daily Effluent Limitation (MDEL)

The MDEL shall apply to flow weighted 24-hour composite samples. 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.

C. Compliance with Instantaneous Minimum Effluent Limitation

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

D. Compliance with Instantaneous Maximum Effluent Limitation

The instantaneous maximum effluent concentration 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, a violation will be flagged and the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of noncompliance with the instantaneous maximum effluent limitation).

E. 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, 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 limitation.

F. Mass and Concentration Limitations

Compliance with mass and concentration 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 “Detectable but not quantifiable” (DNQ), the corresponding mass emission rate (MER) determined from that sample concentration shall also be reported as “ND” or “DNQ”.

G. Ocean Plan Provisions for Table B Constituents

1. Sampling Reporting Protocols

- a. The Discharger must report with each sample result the reported Minimum Level (ML) and the laboratory’s current Method Detection Limit (MDL).
- b. The Discharger must also report results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:
 - i. Sample results greater than or equal to the reported ML must be reported “as measured” by the laboratory (i.e., the measured chemical concentration in the sample).
 - ii. Sample results less than the reported ML, but greater than or equal to the laboratory’s MDL, must be reported as “Detected, but Not Quantified”, or DNQ. The laboratory must write the estimated chemical concentration of the sample next to DNQ as well as the words “Estimated Concentration” (may be shorted to Est. Conc.”).
 - iii. Sample results less than the laboratory’s MDL must be reported as “Not Detected”, or ND.

2. Compliance Determination

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

a. 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 ML.

b. 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.

c. 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.

d. Mass Emission Rate

The mass emission rate (MER), in pounds per day, shall be obtained from the following calculation for any calendar day:

$$\text{Mass Emission Rate (lb/day)} = 8.34 \times Q \times C$$

In which Q and C are the flow rate in million gallons per day and the constituent concentration in mg/L, respectively, and 8.34 is a conversion factor (lb/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.

e. Bacterial Standards and Analysis

- i. 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.

- ii. For all bacterial analyses, sample dilutions should be performed so the range of values extends from 2 to 16,000 CFU (colony-forming units). 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.

f. Single Operational Upset

A single operational upset (SOU) that leads to simultaneous violations or more than one pollutant parameter shall be treated as a single violation and limits the Discharger's liability in accordance with the following conditions:

- i. A SOU is broadly defined as a single unusual event that temporarily disrupts the usually satisfactory operation of a system in such a way that it results in violation of multiple pollutant parameters.
- ii. A Discharger may assert SOU to limit liability only for those violations which the Discharger submitted notice of the upset as required in Provision H of Attachment D.
- iii. For purposes outside of Water Code section 13385(h) and (i), determination of compliance and civil liability (including any more specific definition of SOU), the requirements for Dischargers to assert the SOU limitation of liability, and the manner of counting violations, shall be in accordance with the USEPA Memorandum "Issuance of Guidance Interpreting Single Operational Upset" (September 27, 1989).
- iv. For purposes of Water Code section 13385(h) and (i), determination of compliance and civil liability (including any more specific definition of SOU), the requirements for Dischargers to assert the SOU limitation of liability, and the manner of counting violations shall be in accordance with Water Code section 13385(f)(2).

H. Chronic Toxicity

Chronic toxicity is used to measure the acceptability of waters for supporting a healthy marine biota until approved methods are developed to evaluate biological response. Compliance with the chronic toxicity performance goal established in section IV.B.2 of this Order for Discharge Point No. 001 shall be determined

using critical life stage toxicity tests in accordance with procedures prescribed by the Ocean Plan (2005) and restated in the MRP (Attachment E). Chronic toxicity shall be expressed as Toxic Units Chronic (TU_c), where:

$$TU_c = 100 / NOEL$$

Where NOEL is the No Observed Effect Level and is expressed as the maximum percent of effluent that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test.

ATTACHMENT A – DEFINITIONS

Acute Toxicity

- a. Acute Toxicity (TUa)
Expressed in Toxic Units Acute (TUa)

$$TUa = \frac{100}{\frac{96\text{-hr LC}}{50\%}}$$

- b. Lethal Concentration 50% (LC 50)

LC 50 (percent waste giving 50% survival of test organisms) shall be determined by static or continuous flow bioassay techniques using standard marine test species as specified in Ocean Plan Appendix III. If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the marine environment, but not as a result of dilution, the LC 50 may be determined after the test samples are adjusted to remove the influence of those substances.

When it is not possible to measure the 96-hour LC 50 due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$TUa = \frac{\log(100 - S)}{1.7}$$

where:

S = percentage survival in 100% waste. If S > 99, TUa shall be reported as zero.

Anti-Backsliding

Provisions in the Clean Water Act (CWA) and USEPA regulations [CWA 303 (d) (4); CWA 402 (c); CFR 122.44 (1)] that require a reissued permit to be as stringent as the previous permit with some exceptions.

Antidegradation.

Policies which ensure protection of water quality for a particular body where the water quality exceeds levels necessary to protect fish and wildlife propagation and recreation on and in the water. This also includes special protection of waters designated as outstanding natural resource waters. Antidegradation plans are adopted by the State to minimize adverse effects on water.

Applicable Standards and Limitations

All State, interstate, and federal standards and limitations to which a discharge, a sewage sludge use or disposal practice, or a related activity is subject under the CWA, including effluent limitations, water quality standards, standards of performance, toxic effluent standards or prohibitions, best management practices, pretreatment standards, and standards for

sewage sludge use or disposal under sections 301, 302, 303, 304, 306, 307, 308, 403, and 405 of CWA.

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 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 Beneficial Uses of waters of the State may be protected against quality degradation 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.

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 United States. 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.

Best Professional Judgment (BPJ)

The method used by permit writers to develop technology-based NPDES permit conditions on a case-by-case basis using all reasonably available and relevant data.

Bioaccumulative Pollutants

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

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

Sewage sludge that is used or disposed through land application, surface disposal, incineration, or disposal in a municipal solid waste landfill. Sewage sludge is defined as solid, semi-solid, or liquid untreated residue generated during the treatment of domestic sewage in a treatment facility.

Certifying Official

All applications, including NOIs, must be signed as follows:

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

For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. 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.

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.

Composite Sample

Sample composed of two or more discrete samples of at least 100 milliliters collected at periodic intervals during the operating hours of a facility over a 24-hour period. The aggregate sample will reflect the average water quality covering the compositing or sample 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 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.

Conventional Pollutants

Pollutants typical of municipal sewage, and for which municipal secondary treatment plants are typically designed; defined at 40 CFR 401.16 as BOD, TSS, fecal coliform bacteria, oil and grease, and pH.

Daily Discharge

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

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

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

Daily Maximum Limit

The maximum allowable daily discharge of pollutant. Where daily maximum limitations are expressed in units of mass, the daily discharge is the total mass discharged over the course of the 24-hour period. Where daily maximum limitations are expressed in terms of a concentration, the daily discharge is the arithmetic average measurement of the pollutant concentration derived from all measurements taken that 24-hour period.

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.

Degrade (Degradation)

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.

Detected, but Not Quantified (DNQ)

Sample results that are less than the reported Minimum Level, but greater than or equal to the laboratory's MDL.

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.

Dilution Ratio T

The critical low flow of the upstream receiving water divided by the flow of the effluent discharged.

Dichlorobenzenes

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

Discharge

When used without qualification means the discharge of a pollutant. Discharge of a pollutant means:

1. Any addition of any pollutant or combination of pollutants to waters of the United States from any point source, or
2. 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 that 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 channeled 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 Report (DMR)

Means the USEPA uniform 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 USEPA. The USEPA will supply DMRs to any approved state

upon request. The USEPA national forms may be modified to substitute the state agency name, address, logo, and other similar information, as appropriate, in place of USEPA's.

Downstream Ocean Waters

Waters downstream with respect to ocean currents.

Dredged Material

Any material excavated or dredged from the navigable waters of the United States, including material otherwise referred to as "spoils".

Effluent Limitation

Any restriction imposed by an Order on quantities, discharge rates, and concentrations of pollutants that are discharged from point sources into waters of the United States, the waters of the contiguous zone, or the ocean.

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

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.

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

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

HCH

Shall mean the sum of the alpha, beta, gamma (Lindane) and delta isomers of hexachlorocyclohexane.

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).

Kelp Beds

For purposes of the bacteriological standards of the Ocean Plan, 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.

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 United States. 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 measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in Title 40 of the Code of Federal Regulations, Part 136, Attachment B.

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.

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.

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.

Pollutant Minimization Program (PMP)

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

Reported Minimum Level

The ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the 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.

Shellfish

Organisms identified by the State of California Department of Public Health 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.

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 Resolution Nos. 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.

Technology-Based Effluent Limit

A permit limit for a pollutant that is based on the capability of a treatment method to reduce the pollutant to a certain concentration.

Toxic Pollutant

Pollutants or combinations of pollutants, including disease-causing agents, which after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will, on the basis of information available to the Administrator of USEPA, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions, (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring. Toxic pollutants also include those pollutants listed by the Administrator under CWA section 307(a)(1) or any pollutant listed under section 405 (d) which relates to sludge management.

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

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 Plan

Consists of a designation or establishment for the waters within a specified area of all of the following:

1. Beneficial uses to be protected.
2. Water quality objectives.
3. A program of implementation needed for achieving water quality objectives.

Water Quality Objectives

The limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area.

Whole Effluent Toxicity (WET)

The total toxic effect of an effluent measured directly with a toxicity test.

ATTACHMENT B – MAP

Diagram B.1 IBCS Discharger Locations

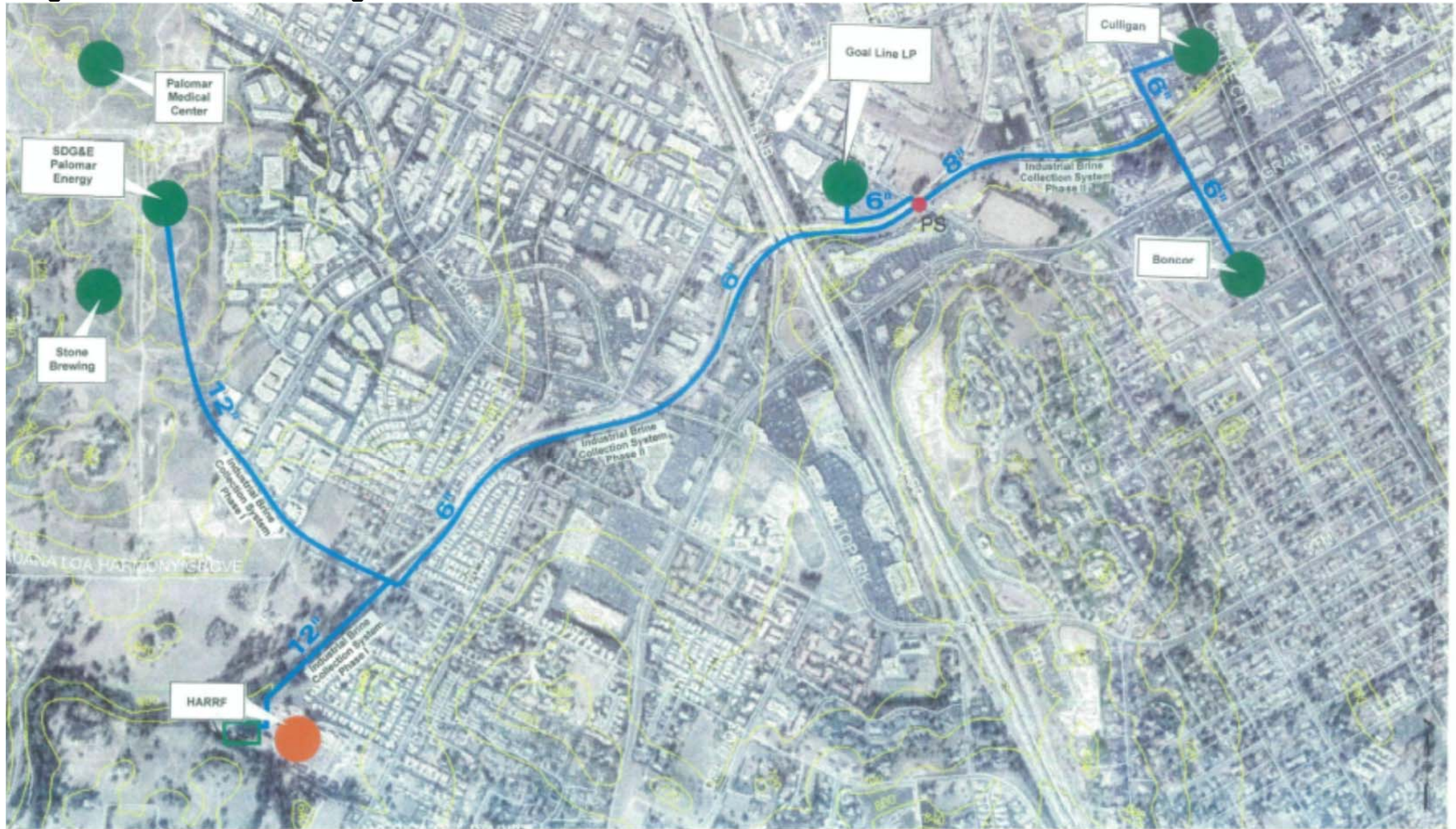


Figure 1
INDUSTRIAL BRINE COLLECTION SYSTEM
Phase I and II
WATER 3 ENGINEERING, INC.
WATER WASTEWATER RECYCLED WATER

ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 CFR. § 122.41(a).)
2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 CFR. § 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. § 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. § 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. § 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 CFR. § 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. § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the San Diego Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 CFR. § 122.41(i); Water Code, § 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 (40 CFR. § 122.41(i)(1));
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 CFR. § 122.41(i)(2));
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 CFR. § 122.41(i)(3)); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 CFR. § 122.41(i)(4).)

G. Bypass

1. Definitions
 - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR. § 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. § 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. § 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. § 122.41(m)(4)(i)):
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR. § 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. § 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. § 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. § 122.41(m)(4)(ii).)
5. Notice
 - a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 CFR. § 122.41(m)(3)(i).)
 - b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 CFR. § 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. § 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. § 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. § 122.41(n)(3)):
 - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 CFR. § 122.41(n)(3)(i));
 - b. The permitted facility was, at the time, being properly operated (40 CFR. § 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. § 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. § 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. § 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. § 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. § 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. § 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. § 122.41(j)(1).)
- B. Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 CFR. § 122.41(j)(4); § 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

- A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the San Diego Water Board at any time. (40 CFR. § 122.41(j)(2).)
- B. **Records of monitoring information shall include:**
 - 1. The date, exact place, and time of sampling or measurements (40 CFR. § 122.41(j)(3)(i));
 - 2. The individual(s) who performed the sampling or measurements (40 CFR. § 122.41(j)(3)(ii));
 - 3. The date(s) analyses were performed (40 CFR. § 122.41(j)(3)(iii));
 - 4. The individual(s) who performed the analyses (40 CFR. § 122.41(j)(3)(iv));
 - 5. The analytical techniques or methods used (40 CFR. § 122.41(j)(3)(v)); and
 - 6. The results of such analyses. (40 CFR. § 122.41(j)(3)(vi).)
- C. **Claims of confidentiality for the following information will be denied (40 CFR. § 122.7(b)):**
 - 1. The name and address of any permit applicant or Discharger (40 CFR. § 122.7(b)(1)); and
 - 2. Permit applications and attachments, permits and effluent data. (40 CFR. § 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. § 122.41(h); Water Code, § 13267.)

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, and V.B.5 below. (40 CFR. § 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. § 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. § 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. § 122.22(b)(2)); and
 - c. The written authorization is submitted to the San Diego Water Board and State Water Board. (40 CFR. § 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. § 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. § 122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 CFR. § 122.22(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 results of monitoring of sludge use or disposal practices. (40 CFR. § 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the San Diego Water Board. (40 CFR. § 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. § 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. § 122.41(l)(5).)

E. Twenty-four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall

also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 CFR. § 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 CFR. § 122.41(l)(6)(ii)):
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 CFR. § 122.41(l)(6)(ii)(A).)
 - b. Any upset that exceeds any effluent limitation in this Order. (40 CFR. § 122.41(l)(6)(ii)(B).)
3. The San Diego Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 CFR. § 122.41(l)(6)(iii).)

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

G. Anticipated Noncompliance

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

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 CFR. § 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. § 122.41(l)(8).)

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 13385, 13386, and 13387

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

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. § 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. § 122.42(a)(1)):
 - a. 100 micrograms per liter ($\mu\text{g/L}$) (40 CFR. § 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. § 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. § 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. § 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. § 122.42(a)(2)):
 - a. 500 micrograms per liter ($\mu\text{g/L}$) (40 CFR. § 122.42(a)(2)(i));

- b.** 1 milligram per liter (mg/L) for antimony (40 CFR. § 122.42(a)(2)(ii));
- c.** Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 CFR. § 122.42(a)(2)(iii)); or
- d.** The level established by the San Diego Water Board in accordance with section 122.44(f). (40 CFR. § 122.42(a)(2)(iv).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

Regulations at section 122.48, title 40 of the Code of Federal Regulations (40 CFR 122.48) require that all National Pollutant Discharge Elimination System (NPDES) permits specify monitoring and reporting requirements. California Water Code sections 13267 and 13383 also authorize the Regional Water Quality Control Board (San Diego Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and State regulations.

I. GENERAL MONITORING PROVISIONS

- A.** Samples and measurements taken as required herein shall be representative of the volume and nature of the monitoring discharge. All samples shall be taken at the monitoring points specified below 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. Samples shall be collected at times representative of “worst case” conditions with respect to compliance with the requirement of this Order.
- 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 United States Environmental Protection Agency (USEPA) test procedures approved at 40 CFR Part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act* as amended, or unless other test procedures are specified in this Order and/or in this MRP and/or by the San Diego Water Board.
- D.** All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Public Health (DPH) or a laboratory approved by the San Diego Water Board.
- 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.
- 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. When requested by USEPA or the San Diego Water Board, the Discharger will participate in the NPDES discharge monitoring report QA performance study. The Discharger should have a success rate equal or greater than 80 percent.

- H. Analysis for toxic pollutants, including acute and chronic toxicity, with performance goals based on water quality objectives of the Ocean Plan shall be conducted in accordance with procedures described in the Ocean Plan and restated in this MRP.

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
I-001	I-001 (Previously MI-001)	PEC low volume waste streams, at the wastewater collection and transfer sump.
001 (Previously I-002)	EFF-001 (Previously MI-002)	PEC cooling tower blowdown, prior to combining with wastewaters in the IBCS.

III. INFLUENT MONITORING REQUIREMENTS – NOT APPLICABLE

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Locations for Cooling Tower Blowdown at EFF-001

1. The Discharger shall monitor the effluent at EFF-001 as follows. If more than one analytical test method is listed for a given parameter, the Discharger shall select from the listed methods and corresponding minimum level:

Table E-2. Effluent Monitoring at EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow ¹	MGD	Continuous	Continuous	--
Free Available Chlorine	µg/L	Grab	1/Month	2
	lbs/day ³	Calculated		
Total Residual Chlorine	µg/L	Grab	Weekly	2
	lbs/day ³	Calculated		
Temperature	°F	Grab	2/Year	2
Total Suspended Solids	mg/l	24-hr composite	1/Month	2
Total Dissolved Solids (TDS)	mg/l	24-hr composite	2/Year	2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	units	Grab	2/Year	2
Chromium, Total Recoverable	mg/L	24-hour composite	2/Year	2
	lbs/day ³	Calculated		
Zinc, Total Recoverable	mg/L	24-hour composite	2/Year	2
	lbs/day ³	Calculated		
Remaining Priority Pollutants ⁴	µg/L	Grab	1/Year	2
Ocean Plan Table B Priority Pollutants ⁵	µg/L	Grab	1/Year	2

¹ Flow shall be monitored prior to discharge into the IBCS.

² Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136; for priority pollutants the methods must meet the lowest MLs specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this San Diego Water Board or the State Water Board. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level.

³ The mass emissions rate is based on an effluent flow and is calculated as follows: Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day.

⁴ The Discharger shall monitor only for priority pollutants that are used for cooling tower maintenance. Priority pollutants are defined in Appendix A of 40 CFR 423.15, and included in Attachment H to the Order.

⁵ The Discharger does not need to conduct duplicate sampling for parameters listed on both Appendix A of 40 CFR 423.15 and the Ocean Plan.

2. In addition to the monitoring specified in Table E-2, the Discharger shall once per year take a grab sample of effluent at EFF-001 when using retained storm water in the cooling towers. This sample shall be analyzed for the parameters in Table E-2.

B. Internal Monitoring Locations for Low Volume Wastes at I-001

1. The Discharger shall monitor effluent at internal monitoring location I-001 as specified in Table E-3.

Table E-3. Effluent Monitoring Requirements for Low Volume Wastes.

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

¹ Flow shall be monitored prior to combining with any other waste stream.

² Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136; for priority pollutants the methods must meet the lowest MLs specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this San Diego Water Board or the State Water Board. If more than one analytical test

method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level.

- ³ The mass emissions rate is based on an effluent flow and is calculated as follows: Flow (GPD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

The Discharger shall conduct chronic toxicity testing on effluent samples collected at Monitoring Location EFF-001 in accordance with the following schedule and requirements:

Table E-4. Whole Effluent Toxicity Testing

Test	Unit	Sample Type	Minimum Test Frequency
Chronic Toxicity	TU _c	24-hr Composite	1/Year

Critical life stage toxicity tests shall be performed to measure chronic toxicity. Testing shall be performed using methods outlined in *Short-Term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine Estuarine Organisms* (Chapman, G.A., D.L. Denton, and J.M. Lazorchak, 1995) or *Procedures Manual for Conducting Toxicity Tests Developed by the Marine Bioassay Project* (State Water Board, 1996).

A minimum of three test species with approved test protocols shall be used to measure compliance with the toxicity objective. The test species shall include a fish, an invertebrate, and an aquatic plant. Control and dilution water should be receiving water or lab water as appropriate. If the dilution water is different from the culture water, then culture water should be used in a second control. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay test and reported with test results.

If the performance goal for chronic toxicity is exceeded, then within 15 days of the exceedance, the Discharger shall begin conducting six additional tests, bi-weekly, over a 12 week period. If the chronic toxicity performance goal is exceeded in any of these six additional tests, then the Discharger shall notify the Executive Officer and Director. If the Executive Officer and Director determine that the discharge consistently exceeds the chronic toxicity performance goal, then the Discharger shall initiate a TRE in accordance with the TRE workplan, *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* (USEPA 833-B-99-002, 1999) or *USEPA Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070) Once the source of toxicity is identified, the Discharger shall take all reasonable steps to reduce the toxicity to meet the chronic toxicity performance goal identified in section IV.A.2 of this Order.

Within 30 days of completion of the TRE, the Discharger shall submit the results of the TRE, including a summary of the findings, data generated, a list of corrective actions necessary to achieve consistent compliance with all toxicity effluent limitations or performance goals of this Order and prevent recurrence of exceedances of those effluent limitations or performance goals, and a time schedule for implementation of such corrective

actions. The corrective actions and time schedule shall be modified at the direction of the San Diego Water Board.

If no toxicity is detected in any of these additional six tests, then the Discharger may return to the testing frequency specified in the MRP.

Table E-5. Approved Test for Chronic Toxicity

Species	Test	Tier ¹	Reference ₂
giant kelp, <i>Macrocystis pyrifera</i>	percent germination; germ tube length	1	a, c
red abalone, <i>Haliotis rufescens</i>	abnormal shell development	1	a, c
oyster, <i>Crassostrea gigas</i> ; mussels, <i>Mytilus spp.</i>	abnormal shell development; percent survival	1	a, c
urchin, <i>Strongylocentrotus purpuratus</i> ; sand dollar, <i>Dendraster excentricus</i>	percent normal development	1	a, c
urchin, <i>Strongylocentrotus purpuratus</i> ; sand dollar, <i>Dendraster excentricus</i>	percent fertilization	1	a, c
shrimp, <i>Homesimysis costata</i>	percent survival; growth	1	a, c
shrimp, <i>Mysidopsis bahia</i>	percent survival; fecundity	2	b, d
topsmelt, <i>Atherinops affinis</i>	larval growth rate; percent survival	1	a, c
Silversides, <i>Menidia beryllina</i>	larval growth rate; percent survival	2	b, d

¹ First tier methods are preferred for compliance monitoring. If first tier organisms are not available, the Discharger can use a second tier test method following approval by the San Diego Water Board.

² Protocol References:

- a. Chapman, G.A., D.L. Denton, and J.M. Lazorchak. 1995. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms. USEPA Report No. EPA/600/R-95/136.
- b. Klemm, D.J., G.E. Morrison, T.J. Norberg-King, W.J. Peltier, and M.A. Heber. 1994. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Marine and Estuarine Organisms. USEPA Report No. EPA-600-4-91-003.
- c. SWRCB 1996. Procedures Manual for Conducting Toxicity Tests Developed by the Marine Bioassay Project. 96-1WQ.
- d. Weber, C.I., W.B. Horning, I.I., D.J. Klemm, T.W. Nieheisel, P.A. Lewis, E.L. Robinson, J. Menkedick and F. Kessler (eds). 1998. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. EPA/600/4-87/028. National Information Service, Springfield, VA.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECLAMATION MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER

The Discharger shall periodically review the receiving water monitoring reports submitted by the City of Escondido and San Elijo Joint Powers Authority for their individual wastewater discharges through the San Elijo Ocean Outfall pursuant to NPDES No.’s CA0107981 and CA0107999. Receiving water monitoring data obtained from the City of Escondido and San Elijo Joint Powers Authority will be used to

determine compliance with the receiving water limitations in Section V. of this Order.

IX. OTHER MONITORING REQUIREMENTS

A. Water Treatment Systems and Cooling Water Additives Audit

The Discharger is required to maintain a log at the facility of all chemical additives added to the water treatment systems and cooling tower that are eventually discharged from the facility to the IBCS.

The log shall include a list of the chemicals used, the use of each chemical, the location of use of each chemical, and the approximate quantity of chemical used over a given time period.

A chemical additives audit which contains a list of all chemical additives used in the water treatment systems and cooling tower shall be submitted annually with the Annual Discharger Report required in section X.A.3 of this Monitoring and Reporting Program.

The Discharger shall notify the San Diego Water Board in writing of any additional chemical additive not listed in the chemical additives audit within one business day of its use in the water treatment system or cooling tower. The notification shall include the name of the chemical additive, the reason for its use, and the approximate quantity to be used over a given time.

The Discharger must provide a written submission notifying the San Diego Water Board of the addition of any chemical constituent(s) used for cooling tower maintenance that contains a priority pollutant listed in Attachment H of this Order within a minimum of 24-hours prior to its use. The written submission shall include the name of the chemical constituent(s), the priority pollutant(s) it contains, the reason for its use, and the approximate quantity to be used over a given time.

The Discharger shall conduct priority pollutant monitoring when any chemical constituent(s) used for cooling tower maintenance contains a priority pollutant. Effluent monitoring shall be initiated when the cooling tower water containing the chemical constituent(s) is discharged into the IBCS.

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 1.1 MGD. The notice shall specify the anticipated increased energy output production level, respective flows (not to exceed 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 based on 1.1 MGD 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 and the mass-based effluent limitations applicable to that level of production.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. The Discharger shall report all instances of noncompliance not reported under Attachment D, sections V.E, V.G, and V.H, at the time monitoring reports are submitted.
3. By March 1 of each year, the Discharger shall submit an annual report to the San Diego Water Board and USEPA Region 9 that contains tabular and graphical summaries of the monitoring data obtained during the previous year. The Discharger shall discuss the compliance record and corrective actions taken, or which may be taken, or which may be needed to bring the discharge into full compliance with the requirements of this Order and this MRP.

B. Self-Monitoring Reports (SMRs)

1. The Discharger shall electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.
2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit monthly, semiannual, and annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.
3. Unless otherwise noted in the MRP, monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-6. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins	Monitoring Period	SMR Due Date
Continuous	First day of the calendar month following the permit effective date or on permit effective date if that date is first day of the month.	All	Submit with monthly report
1/Month	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month.	First day of calendar month through last day of calendar month	First day of second calendar month following month of sampling.
2/Year	Closest of January 1 or July 1 following (or on) permit effective date.	January 1 through June 30 July 1 through December 31	August 1 March 1
1/Year	January 1 following (or on) permit effective date.	January 1 through December 31	March 1

4. Reporting Protocols. The Discharger shall report with each sample result the applicable reported Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136. For each numeric effluent limitation or performance goal for a parameter identified in Table B of the Ocean Plan, the Discharger shall not use a ML greater than that specified in Appendix II of the Ocean Plan.

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

- a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the minimum level (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 as well as the words “Estimated Concentration” (may be shortened to “Est. Conc.”). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+

- a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.
- c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
 - d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.
- 5. Compliance Determination.** Compliance with effluent limitations for reportable pollutants shall be determined using sample reporting protocols defined above and in Section VII and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the reportable pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported ML.
- 6. 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.
- 7.** The Discharger shall submit SMRs in accordance with the following requirements:
- a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

- b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the 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. SMRs must be submitted to the San Diego Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

**9174 Sky Park Court, Suite 100
San Diego, CA 92123-4340**

C. Discharge Monitoring Reports (DMRs)

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

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

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

D. Other Reports

- 1. The Discharger shall report the results of any chronic toxicity testing, TRE, as required by Special Provisions – VI.C.2. of this Order. The Discharger shall submit reports with the first monthly SMR scheduled to be submitted on or immediately following the report due date.

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

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

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

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
Name of Facility	Palomar Energy Center
Facility Address	2300 Harveson Place
	Escondido, CA 92029
	San Diego County
Facility Contact, Title and Phone	Daniel Baerman, Director Electric Generation, (760) 432-2501
Authorized Person to Sign and Submit Reports	Daniel Baerman, Director Electric Generation
Mailing Address	Same as Facility
Billing Address	Same as Mailing Address
Type of Facility	Industrial Brine Collection System (IBCS)
Major or Minor Facility	Major
Threat to Water Quality	2
Complexity	A
Pretreatment Program	Not Applicable
Reclamation Requirements	Not Applicable
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

- A. The City of Escondido is the owner and operator of the Industrial Brine Collection System (IBCS). Palomar Energy, LLC (hereinafter Discharger) discharges low volume wastewater flows and cooling tower flows from the Palomar Energy Center (PEC) (hereinafter Facility) into the IBCS.

- B.** The PEC discharges wastewater to the Pacific Ocean, a water of the United States, and is currently regulated by Order No. R9-2005-0139 which was issued to the City of Escondido. Order No. R9-2005-0139 was adopted on September 14, 2005 and expired on September 14, 2010. The terms and conditions of the current Order have been automatically continued and remain in effect until new Waste Discharge Requirements (WDRs) and a National Pollutant Discharge Elimination System (NPDES) permit are adopted pursuant to this Order.
- C.** The City of Escondido filed a report of waste discharge and submitted an application for renewal of its WDRs and NPDES permit on December 9, 2009. Supplemental information was requested on March 4, 2010 and received on March 17, 2010. Based upon review of the existing requirements in Order No. R9-2005-0139 and applicable NPDES regulations on who should be named as a discharger in an NPDES Permit, the San Diego Water Board determined that each entity discharging into the IBCS should be named as a discharger in the reissued NPDES Permit and be accountable for compliance with the requirements of the permit applicable to their discharge. As such, the renewed permit will not be issued to the City of Escondido but rather to each entity discharging into the IBCS.
- D.** San Diego Gas and Electric (SDG&E), hereinafter Discharger, submitted a Report of Waste Discharge (ROWD), dated December 15, 2011, and applied for a NPDES permit authorization to discharge up to 1.4 million gallons per day (MGD) of cooling tower blowdown and low volume waste to the City of Escondido Industrial Brine Collection System (IBCS). The IBCS discharges to the Pacific Ocean through the Escondido Land Outfall (ELO) and the San Elijo Ocean Outfall (SEOO). The application was deemed complete on January 13, 2012.

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.

II. FACILITY DESCRIPTION

The PEC is a 550-megawatt (MW) natural gas combined cycle power plant owned by Palomar Energy LLC, an entity of Sempra Energy. The Facility consists of:

- Two 165 MW combustion turbine generators provided with evaporative inlet air coolers;
- Two multi-pressure heat recovery steam generators equipped with duct burners;
- Two 110-foot tall heat recovery steam generator exhaust stacks;
- One reheat condensing 187 MW steam turbine generator; and
- A cooling system which includes a surface condenser, circulating water system, and a plume-abated wet cooling tower (rated at 130,000 gallons per minute).

A. Description of Wastewater

Approximately 5.3 MGD of tertiary treated recycled water is continuously routed from the City of Escondido’s Hale Avenue Resource Recovery Facility (HARRF) to the facility for use in the cooling towers, evaporative coolers, and water purification systems (i.e. ultra filters, reverse osmosis, and deionization systems). The Discharger may augment feed water to the cooling towers with up to 25,000 gallons per year of fire suppression system water and/or 0.375 MGD of retained storm water. The discharges from the PEC consist of the waste streams specified in Table F-2.

Table F-2. Waste Streams

Discharge Point	Wastewater Discharge	Maximum Flow (MGD)
I-001 (Previously MI-001)	Low-Volume waste <ul style="list-style-type: none"> • Evaporative cooler blowdown • Heat recovery steam generator blowdown • Floor drain effluent • Backwash of ultra-filters • Brine from a reverse osmosis system 	0.32
001 (Previously MI-002)	Cooling tower blowdown	1.4

The recycled water circulated in the cooling towers enables the captured steam from the steam turbines to be cooled, recondensed, and rerouted to the heat recovery steam generators. To minimize system fouling and corrosive effects, a portion of the cooling tower water is purged as blowdown. In addition, the cooling water is continuously chlorinated to prevent biofouling and buildup of algae and to minimize the growth of legionella bacteria and other harmful organisms. The majority of recycled water flows delivered to the PEC are lost to evaporation and only a portion of the recycled water supply is returned to the IBCS as saline wastewater.

Industrial processes concentrate dissolved minerals that naturally exist in potable water and recycled water supplies, resulting in elevated concentrations of total dissolved solids (TDS) in the discharge. Normal municipal wastewater treatment processes do not remove TDS, and increased concentrations of TDS can interfere with secondary biological wastewater treatment processes and adversely affect the usability of recycled water. To avoid adverse salinity impacts at the HARRF, brine industrial wastewater discharged into the IBCS is not directed to HARRF preliminary, primary, or secondary treatment facilities.

The brine wastewater is discharged into a 2 million gallon equalization basin that feeds directly into the ELO and is then directed to the SEOO.

B. Discharge Points and Receiving Waters

Low volume wastes and cooling tower blowdown from the Facility are discharged to the IBCS which discharges to the ELO. The wastewater flows via 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 brine wastes from the IBCS merge with treated wastewater from the San Elijo Joint Powers Authority, San Elijo Water Reclamation Facility (regulated by NPDES No. CA0107999). The San Elijo Ocean Outfall 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 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. R9-2005-0139 for discharges from the PEC and representative monitoring data obtained at Monitoring Location I-001 (previously MI-001) are as follows:

Table F-3. Historic Effluent Limitations and Monitoring Data for PEC Low Volume Wastes - Discharge Point No. I-001

Parameters	Units	Effluent Limitations			Highest Daily Reported Value ¹
		Average Monthly	Maximum Daily	Instantaneous Maximum	
pH	standard units	--	--	6.0 – 9.0	7.41 - 8.84
Oil and Grease	mg/L	15	20	--	5
	lbs/day ²	43.8	53.4	--	NR ³
Total Suspended Solids	mg/L	30	100	--	27
	lbs/day	80.1	266.9	--	NR ³

¹ Based on data from January 2008 through September 2011.

² Mass-based effluent limitations were calculated based on a maximum daily flow of 0.32 MGD.

³ NR = Not reported

Table F-4. Historic Effluent Limitations and Monitoring Data for PEC Cooling Tower Blowdown- Discharge Point No. 001 (previously MI-002)

Parameters	Units	Effluent Limitations			Highest Daily Reported Value ¹
		Average Monthly	Maximum Daily	Instantaneous Maximum	
pH		--	--	6.0 – 9.0	6.62 – 7.97
Free Available Chlorine	mg/L	--		0.5	0.1
	lbs/day	--	--	5.8	NR ²
Chromium, Total	mg/L	0.2	0.2	--	ND ³
	lbs/day	2.3	2.3	--	NR ²
Zinc, Total	mg/L	1.0	1.0	--	0.2
	lbs/day	11.6	10.6	--	NR ²
Remaining Priority Pollutants	µg/L	ND ^{3,4}	--	ND ^{3,4}	NR ³

¹ Based on data from January 2008 through August 2011.

² NR = Not reported

³ ND = Non-detect

⁴ Detectable amounts of priority pollutants in the cooling tower blowdown effluent are prohibited.

D. Compliance Summary

The compliance summary described below corresponds to monitoring data collected and reported by the City of Escondido in accordance with the requirements in Order No. R9-2005-0139. The data is considered to be representative of the PEC discharge since the PEC was the only facility discharging into the IBCS when the data was collected.

1. In November 2006, January 2007, and June 2007, for the combined IBCS effluent, the City of Escondido reported minimum pH values less than the instantaneous minimum of 6.0 standard units (5.8, 5.7, and 5.9 s.u., respectively).
2. In April 2007, August 2007, December 2008, and January 2009, for the combined IBCS effluent, the City of Escondido reported total suspended solids (TSS) values greater than the effluent limitation of 60 mg/L (80.8 and 64.3, 69.6, and 69.6 mg/L, respectively). The City of Escondido reported that the cause of the TSS exceedances in December 2008 and January 2009 occurred as a result of biological matter sloughing off the PEC cooling tower walls and entering the IBCS. The City of Escondido reported that this was a violation of the facilities sewer discharge permit that regulates PEC, and a Notice of Violation was issued by the City of Escondido to PEC.

E. Planned Changes- Not Applicable

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

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

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100 through 21177.

C. State and Federal Regulations, Policies, and Plans

State and Federal Regulations, Policies, and Plans applicable to the discharge are described in sections II.H of the Order.

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

On June 28, 2007, USEPA approved the list of impaired water bodies, prepared by the State Water Board pursuant to section 303(d) of the CWA, which are not expected to meet applicable water quality standards after implementation of technology-based effluent limitations for point sources. The 303(d) list includes 0.44 miles of the Pacific Ocean shoreline within the Escondido Creek Hydrologic Area as impaired for bacteria indicators. The listing is based on the impairment at the San Elijo Lagoon outlet. Currently there is no proposed date for the TMDL completion for this receiving water body.

E. Other Plans, Policies and Regulations – Not Applicable

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

Compliance determination language is included in section VII of this Order to accurately describe how violations of these prohibitions are determined. Discharges from the PEC

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 PEC 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. Discharge Prohibitions III.A – Water Code Section 13243 provides that a Regional Water Board, in a water quality control plan, may specify certain conditions or areas where the discharge of waste or certain types of waste is not permitted.
2. Discharge Prohibition III.B is based on new Source Performance Standards outlined in 40 CFR 423.15.
3. Discharge Prohibition III.C and III.D – Inclusion of the Basin Plan prohibitions in this Order implements the requirements of the Basin Plan. Inclusion of the Ocean Plan prohibitions in this Order implements the requirements of the Ocean Plan.
4. Discharge Prohibition III.E – This prohibition is based on the capacity of the IBCS.

B. Technology-Based Effluent Limitations

1. Scope and Authority

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

- a. Best practicable treatment control technology (BPT) represents the average of the best performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.
- b. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.
- c. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering the “cost reasonableness” of the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result, and also the cost effectiveness of additional industrial treatment beyond BPT.

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

The CWA requires USEPA to develop ELGs representing the application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and 40 CFR 125.3 authorize the use of BPJ to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the permit writer must consider specific factors outlined in 40 CFR 125.3. None of the effluent limitations contained in this Order were established using BPJ.

The technology-based requirements in this Order are 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 after the promulgation of effluent guidelines. The effluent guidelines for steam electric power generating point source became effective on November 19, 1982. The PEC facility was constructed in 2005 and is a new source performance standards (NSPS) facility.

The facility is a recently built natural gas combined cycle power plant and is subject to NSPS for the steam electric power generating point source category ELGs specified in 40 CFR section 423.15. According to 40 CFR section 423.11, low volume wastes are defined as wastewater from all sources except those for which specific limitations are otherwise established. Pursuant to 40 CFR section 423.15 (c), the waste brine from the on-site water treatment system is subject to meet NSPS ELG-based effluent limitations for low volume waste sources prior to commingling with any other waste streams.

The cooling tower blow down effluent from PEC effluent must meet NSPS prior to commingling with other wastewaters (including all low volume wastewaters) and being discharged to the IBCS. Because the IBCS is not a publicly owned treatment works facility as defined in 40 CFR section 403.3(o), pretreatment standards for new sources are not applicable to the effluent waste stream from PEC.

In compliance with 40 CFR section 122.45(f) and 40 CFR Part 423.15, mass-based limitations have also been established in the Order for conventional, nonconventional, and toxic pollutants. 40 CFR 122.45(b)(2)(i) mass-based limitations shall be based upon a reasonable measure of actual production of the facility rather than upon the design production capacity. Section 122.45(b)(2)(ii) specifies the San Diego Water Board may include conditions establishing alternate permit limitations, standards, or prohibitions based upon anticipated increased

production levels. Mass-based limitations for low volume waste have been established on the maximum discharge flow rate of 0.32 MGD. Review of historical effluent data for low volume wastes indicates that, between January 2008 and September 2011, flows fluctuated above and below the design flow of 0.32 MGD but generally stay within the design flow. Mass-based limitations for the cooling tower blowdown have been established based on the highest observed 30-day average flow, between January 2008 and September 2011, of 1.09 MGD. For the purposes of calculating mass-based limitations the highest observed flow was rounded up to 1.1 MGD. In addition, this Order contains alternative mass-based effluent limitations based on a maximum flow of 1.4 MGD to account for anticipated increased energy output production levels at the facility.

When calculating the mass-based limitations for discharges, the appropriate flow, instantaneous maximum limitations for instantaneous maximum mass calculations, and the 30-day average limitations when calculating the 30-day average mass, should be substituted in the following equation:

$$\text{Mass (lbs/day)} = \text{flow rate (MGD)} * 8.34 * \text{effluent limitation (mg/L)}$$

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

effluent limitation = concentration limitation for a pollutant (mg/L)

flow rate = discharge flow rate (MGD)

2. Applicable Technology-Based Effluent Limitations

a. Federal Regulations. 40 CFR Part 123 establishes ELGs for steam electric power generating facilities.

i. Steam Electric Power Generating Facilities

The PEC discharges cooling tower blowdown, evaporative cooler blowdown, reverse osmosis brine, deionization brine, various low volume floor drain effluent, and heat recovery steam generator blowdown to the IBCS. All other wastes are directed to the sanitary sewer.

The ELGs prohibit the discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid in all wastewaters from the facility.

Numeric ELGs-based effluent limitations applicable to all NSPS dischargers and for low volume wastes at PEC have been established in this Order at Internal Discharge Point No. I-001 at a wastewater collection and transfer sump. ELG-based effluent limitations for low volume wastes are applicable for the low volume waste prior to commingling with other wastewaters or being routed to the cooling tower.

- a) The ELGs establish effluent limitations for pH. Further, concentration-based effluent limitations and mass-based effluent limitations are established for TSS and oil and grease in low volume wastes.

An internal discharge point for evaporative cooler blowdown, ultra filtration backwash, reverse osmosis brine backwash, deionization brine backwash, various low flow floor drains, and heat recovery steam generator blowdown has been established at the wastewater collection and transfer sump.

Mass-based effluent limitations have been established for low volume wastes are based on a maximum discharge flow of 0.32 MGD. Low volume wastes ELG-based effluent limitations are summarized in Table F-5.

Table F-5. Technology Based Effluent Limitations for Low Volume Waste (Discharge Point No. I-001)

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	s.u.	--	--	6.0	9.0
TSS	mg/L	30	100	--	--
	lbs/day ¹	80	267	--	--
Oil and Grease	mg/L	15	20	--	--
	lbs/day ¹	40	53	--	--

¹ Based on a maximum effluent flow of 0.32 MGD.

Pursuant to 40 CFR 122.45 (g), the San Diego Water Board may, upon the request of the discharger, adjust technology based effluent limitations or standards to reflect credit for pollutants in the dischargers intake water if certain specified criteria are met. Table F-5 does not provide for intake credits for TSS as previously established in Order R9-2005-0139. Intake credits were permitted in Order No. R9-2005-0139 because the discharger asserted the facility would not be able to meet the TSS limit while using recycled water. Projected effluent data, used at the time Order No. R9-2005-0139 was adopted, anticipated the facility would need intake credits to comply with the technology based requirements for TSS. Effluent monitoring data submitted with the ROWD and by the City of Escondido indicates that, between September 2008 – September 2011, the highest observed monthly average concentration for TSS was 27 mg/l. The San Diego Water Board has, therefore, concluded that intake credits are not warranted.

- b) ELG-based effluent limitations applicable to cooling tower blowdown effluent from PEC have been established at Discharge Point No. 001 (previously MI-002).

The ELGs established effluent limitations for pH. Further, concentration-based effluent limitations are applicable to cooling tower blowdown for free available chlorine, total chromium, total zinc, and the remaining priority pollutants. The ELGs prohibit the discharge of free available chlorine and total residual chlorine in cooling tower blowdown from any unit for more than two hours in any one day unless the utility can demonstrate to the San Diego Water Board that the units in a particular location cannot operate at or below this level of chlorination. Further, not more than one unit in any plant may discharge free available or total residual chlorine at any one time. The discharger has provided documentation indicating continuous chlorination of the cooling tower is necessary. Continuous chlorination was specified by the California Energy Commission (CEC) when it issued its Final Commission Decision that approved the PEC project. 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 of the California Code of Regulation and with the recommendations of the Cooling Technology Institute's February 2000 Guidelines for Legionella Control. The California Code of Regulations (22 CCR §60306(c)), states the following:

Whenever a cooling system, using recycled water in conjunction with an air conditioning facility, utilizes a cooling tower or otherwise creates a mist that could come into contact with employees or members of the public, the cooling system shall comply with the following:

- (1) A drift eliminator shall be used whenever the cooling system is in operation.*
- (2) A chlorine, or other, biocide shall be used to treat the cooling system recirculating water to minimize the growth of Legionella and other microorganisms.*

The monitoring program includes weekly monitoring of biocide and chemical biofilm prevention agents, periodic maintenance of the cooling water system on a quarterly basis to remove bio-film buildup, and quarterly testing to determine the concentrations of Legionella bacteria in the cooling water.

The technology-based effluent limitations applicable to the discharge are summarized in Table F-7. Mass-based effluent limitations for cooling tower blowdown are based on the highest observed 30-day average flow of 1.1 MGD.

Table F-6. Technology-Based Effluent Limitations for Cooling Tower Blowdown (Discharge Point No. 001)

Parameters	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	s.u.	--	--	6.0	9.0
Free Available Chlorine	mg/L	--	--	--	0.5 ¹
	lbs/day	--	--	--	4.6
Chromium, Total Recoverable	mg/L	0.2	0.2	--	--
	lbs/day	1.8	1.8	--	--
Zinc, Total Recoverable ²	mg/L	1.0	1.0	--	--
	lbs/day	9.2	9.2	--	--
Remaining Priority Pollutants ²	µg/L	ND ³	--	--	ND ³

- ¹ 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.
- ² Effluent limitations for total chromium, total zinc, and the remaining priority pollutants are only applicable for priority pollutants added for cooling tower maintenance.
- ³ Detectable amounts of priority pollutants listed in Attachment H in the cooling tower blowdown effluent are prohibited.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

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

40 CFR 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, 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 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 Ocean Plan.

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 all waters.

- a. **Basin Plan.** The beneficial uses specified in the Basin Plan applicable to the Pacific Ocean are summarized in section II.H.1 of the Order. The Basin Plan includes water quality objectives for pH applicable to the receiving water.

The Basin Plan states, “*The terms and conditions of the State Board’s “Water Quality Control Plan for Ocean Waters of California” (Ocean Plan), “Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California” (Thermal Plan), and any revisions thereto are incorporated into this Basin Plan by reference. The terms and conditions of the Ocean Plan and Thermal Plan apply to the ocean waters within this Region.*”

- b. **Ocean Plan.** The beneficial uses specified in the Ocean Plan for the Pacific Ocean are summarized in section II.H.3 of the Order. 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 B 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.
- iii. 30-day average objectives for 42 carcinogenic chemicals for the protection of human health.
- iv. Daily maximum objectives for acute and chronic toxicity.

3. Determining the need for WQBELs

For this Order, the need for effluent limitations based on water quality objectives in Table B of the Ocean Plan was re-evaluated in accordance with 40 CFR 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 the 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; 3) Endpoint 3, the RPA is inconclusive, monitoring is required, and an existing effluent limitation may be retained or a permit reopener clause may be included to allow inclusion of an effluent limitation if future monitoring warrants the inclusion. 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 B in section III.C of the Ocean Plan specify that the minimum initial dilution is the lowest average initial dilution within any single month of the year. Dilution estimates are to be based on observed waste flow characteristics, observed receiving water density structure, and the assumption that no currents, of sufficient strength to influence the initial dilution process, flow across the discharge structure. Before establishing a dilution credit for a discharge, it must first be determined if, and how much, receiving water is available to dilute the discharge. To develop effluent limitations reflecting the PEC, the San Diego Water Board calculated a dilution ratio (Dm) of 237 to 1 in 2005 using the USEPA approved computer modeling application Visual Plumes with the UM3 model. The most recently established Dm of 237 to 1 is applied to the WQBELs established in this Order.

For Order No. R9-2005-0139, effluent data for the IBCS was not available, and a reasonable potential analysis (RPA) was conducted based in-part, on projected effluent quality. Reasonable potential to exceed water quality objectives was previously not determined for any of the parameters. Reasonable potential was re-evaluated for the PEC based on the available data for the renewal of this Order.

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

Effluent data provided in the City of Escondido monitoring reports for the PEC from November 2005 through March 2009 as well as data submitted by the Discharger with the ROWD were used in the RPA. A minimum probable initial dilution of 237 to 1 was considered in this evaluation.

RPA results are summarized in Table F-13.

Table F-7. RPA Results Summary

Parameter	Units	n ¹	MEC ²	Most Stringent Criteria	Background ³	RPA Endpoint ⁴
Arsenic	µg/L	8	10	8 ⁵	3	2
Cadmium	µg/L	8	2.0	1 ⁵	0	3
Chromium (VI) ⁶	µg/L	8	10 ⁶	2 ⁵	0	2
Copper	µg/L	8	29.5	3 ⁵	2	2
Lead	µg/L	8	5	2 ⁵	0	3
Mercury	µg/L	8	1.0	0.04 ⁵	0.0005	3
Nickel	µg/L	8	30.1	5 ⁵	0	2
Selenium	µg/L	8	10	15 ⁵	0	2
Silver	µg/L	8	3.28	0.7 ⁵	0.16	2
Zinc	µg/L	8	594	20 ⁵	8	2
Cyanide	µg/L	8	24	1 ⁵	0	3
Total Residual Chlorine	µg/L	106	900 ⁷	2 ⁵	0	1
Ammonia	µg/L	0	NR ⁸	600 ⁵	0	NR ⁸
Acute Toxicity	TUa	0	NR ⁸	0.3 ⁹	0	NR ⁸
Chronic Toxicity	TUc	4	<100	1 ⁹	0	3
Phenolic Compounds ¹⁰	µg/L	8	0.95	30 ⁵	0	3
Chlorinated Phenolics ¹¹	µg/L	8	0.95	1 ⁵	0	3
Endosulfan	µg/L	5	0.0047	0.009 ⁵	0	3
Endrin	µg/L	5	0.0047	0.002 ⁵	0	3
HCH	µg/L	5	0.019	0.004 ⁵	0	3
Radioactivity	pci/L	0	NR ⁸	¹²	0	NR ⁸
Acrolein	µg/L	8	5.0	220 ¹³	0	3
Antimony	µg/L	8	4.14	1,200 ¹³	0	2
Bis(2-chloroethoxy)methane	µg/L	8	0.48	4.4 ¹³	0	3
Bis(2-chloroisopropyl)ether	µg/L	8	0.48	1,200 ¹³	0	3
Chlorobenzene	µg/L	8	1.0	570 ¹³	0	3
Chromium (III) ⁶	µg/L	8	2.5	190,000 ¹³	0	2 ⁶
Di-n-butyl phthalate	µg/L	8	0.34	3,500 ¹³	0	2
Dichlorobenzene	µg/L	8	1.0	5,100 ¹³	0	3
Diethyl phthalate	µg/L	8	0.12	33,000 ¹³	0	2
Dimethyl phthalate	µg/L	8	0.6	820,000 ¹³	0	3
4,6-Dinitro-2-methylphenol	µg/L	8	4.8	220 ¹³	0	3
2,4-Dinitrophenol	µg/L	8	4.8	4.0 ¹³	0	3
Ethylbenzene	µg/L	3	7.2	4,100 ¹³	0	3
Fluoranthene	µg/L	8	0.48	15 ¹³	0	3
Hexachlorocyclopentadiene	µg/L	8	4.8	58 ¹³	0	3
Nitrobenzene	µg/L	8	0.95	4.9 ¹³	0	3
Thallium	µg/L	8	1.78	2 ¹³	0	3
Toluene	µg/L	0	NR ⁸	85,000 ¹³	0	NR ⁸
Tributyltin	µg/L	0	NR ⁸	0.0014 ¹³	0	NR ⁸
1,1,1-Trichloroethane	µg/L	3	3.8	540,000 ¹³	0	3
Acrylonitrile	µg/L	8	2.0	0.10 ¹³	0	3
Aldrin	µg/L	8	0.0047	0.000022 ¹³	0	3
Benzene	µg/L	3	3.8	5.9 ¹³	0	3
Benzidine	µg/L	8	0.48	0.000069 ¹³	0	3
Beryllium	µg/L	8	0.102	0.033 ¹³	0	3
Bis(2-chloroethyl) ether	µg/L	8	0.48	0.045 ¹³	0	3

Parameter	Units	n ¹	MEC ²	Most Stringent Criteria	Background ³	RPA Endpoint ⁴
Bis(2-ethylhexyl) phthalate	µg/L	8	1.0	3.5 ¹³	0	2
Carbon tetrachloride	µg/L	8	0.5	0.90 ¹³	0	3
Chlordane	µg/L	8	0.094	0.000023 ¹³	0	3
Chlorodibromomethane	µg/L	8	3.0	8.6 ¹³	0	3
Chloroform	µg/L	8	30	130 ¹³	0	2
DDT	µg/L	8	0.01	0.00017 ¹³	0	3
1,4-Dichlorobenzene	µg/L	8	1.0	18 ¹³	0	3
3,3-Dichlorobenzidine	µg/L	8	4.8	0.0081 ¹³	0	3
1,2-Dichloroethane	µg/L	3	2.8	28 ¹³	0	3
1,1-Dichloroethylene	µg/L	3	2.8	0.9 ¹³	0	3
Dichlorobromomethane	µg/L	8	4.5	6.2 ¹³	0	3
Dichloromethane	µg/L	5	1.0	450 ¹³	0	3
1,3-Dichloropropene	µg/L	8	1.0	8.9 ¹³	0	3
Dieldrin	µg/L	8	0.0047	0.00004 ¹³	0	3
2,4-Dinitrotoluene	µg/L	8	4.8	2.6 ¹³	0	3
1,2-Diphenylhydrazine	µg/L	5	0.95	0.16 ¹³	0	3
Halomethanes	µg/L	8	2.8	130 ¹³	0	3
Heptachlor	µg/L	8	0.0094	0.00005 ¹³	0	3
Heptachlor Epoxide	µg/L	8	0.0094	0.00002 ¹³	0	3
Hexachlorobenzene	µg/L	8	0.95	0.00021 ¹³	0	3
Hexachlorobutadiene	µg/L	8	0.9	14 ¹³	0	3
Hexachloroethane	µg/L	8	1.6	2.5 ¹³	0	3
Isophorone	µg/L	8	0.13	730 ¹³	0	3
N-nitrosodimethylamine	µg/L	8	0.23	7.3 ¹³	0	3
N-nitrosodi-N-propylamine	µg/L	8	1.9	0.38 ¹³	0	3
N-nitrosodiphenylamine	µg/L	8	0.95	2.5 ¹³	0	3
PAHs ¹⁴	µg/L	8	1.9	0.0088 ¹³	0	3
PCBs	µg/L	8	0.47	0.000019 ¹³	0	3
TCDD equivalents	pg/L	0	NR ⁸	0.0039 ¹³	0	NR ⁸
1,1,2,2-Tetrachloroethane	µg/L	8	1.0	2.3 ¹³	0	3
Tetrachloroethylene	µg/L	0	NR ⁸	2.0 ¹³	0	NR ⁸
Toxaphene	µg/L	8	0.094	0.00021 ¹³	0	3
Trichloroethylene	µg/L	3	1.9	27 ¹³	0	3
1,1,2-Trichloroethane	µg/L	8	1.0	9.4 ¹³	0	3
2,4,6-Trichlorophenol	µg/L	8	0.95	0.29 ¹³	0	3
Vinyl Chloride	µg/L	8	1.0	36 ¹³	0	3

¹ Number of data points available for the RPA.

² If there is a detected value, the highest reported value is summarized in the table. If there are no detected values, the lowest MDL is summarized in the table.

³ Background concentrations contained in Table C of the Ocean Plan.

⁴ End Point 1 – RP determined, limit 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 limits if applicable, and establish monitoring.

⁵ Based on the 6-Month Median in the Table B of the Ocean Plan.

⁶ Reported as Total Chromium.

⁷ Maximum monthly values were reported by the Facility for total residual chlorine and were used to compute reasonable potential.

⁸ Not reported.

⁹ Based on the Daily Maximum in Table B of the Ocean Plan.

¹⁰ Phenolic compounds shall mean the sum of 2,4-dimethylphenol, 2,4-dinitrophenol, 2-methyl-4,6-dinitrophenol, 2-Nitrophenol, 4-Nitrophenol, and Phenol. Where all recorded samples were non-detects, the lowest

- detection limit was used to determine reasonable potential. Where samples are detected, the sum of the detected samples was used to determine reasonable potential.
- 11 Chlorinated phenolics shall mean the sum of 2,4-Dichlorophenol, 3-methyl-4-chlorophenol, and 2,4,6-Trichlorophenol. Where all recorded samples were non-detects, the lowest detection limit was used to determine reasonable potential. Where samples are detected, the sum of the detected samples was used to determine reasonable potential.
- 12 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. Radioactivity at levels that exceed the applicable criteria are not expected in the discharge.
- 13 Based on 30-Day Average in Table B of the Ocean Plan.
- 14 In accordance with Table B, PAHs shall mean the sum of acenaphthylene, anthracene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene, benzo(a)pyrene, chrysene, dibenzon(a,h)anthracene, fluorene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene. Where all recorded samples were non-detects, the lowest detection limit was used to determine reasonable potential. Where samples are detected, the sum of the detected samples was used to determine reasonable potential.

Effluent limitations are not established for constituents for which the RPA results indicated Endpoint 2 and Endpoint 3: instead performance goals have been assigned for these constituents. Parameters for which Endpoint 2 was concluded are determined not to have reasonable potential, thus it is inappropriate to establish effluent limitations for these parameters. For parameters for which Endpoint 3 was concluded, the RPA was inconclusive and monitoring is required.

The monitoring and reporting program (MRP) in Attachment E of this Order is designed to obtain additional information for these constituents to determine if reasonable potential exists for these constituents in future permit renewals and/or updates.

Order No. R9-2005-0139 established an effluent limitation for chronic toxicity based on the fact that no effluent data for the discharge was available and to account for any uncertainty that synergetic effects of pollutants may contribute to toxicity. Using annual Chronic Whole Effluent Toxicity testing data, the RPA resulted in an endpoint of 3, monitoring of whole effluent toxicity is required. This Order contains performance goals and monitoring requirements for chronic toxicity.

In accordance with Appendix VI of the Ocean Plan, this permit includes a reopener clause to allow for subsequent modification of the permit to include an effluent limitation if the monitoring establishes that the discharge causes, has the reasonable potential to cause, or contribute to an excursion above a Table B water quality objective.

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. Effluent limitations have been established for this parameter.

4. WQBEL Calculations

- a. From the Table B 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 (µg/L)
- C_o = the water quality objective to be met at the completion of initial dilution (µg/L)
- C_s = background seawater concentration
- D_m = minimum probable initial dilution expressed as parts seawater per part wastewater

- b. Initial dilution (D_m) has been determined to be 237 to 1 by the San Diego Water Board through the application of USEPA’s dilution model, Visual Plumes.
- c. Table C 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 B implementing procedures, C_s equals zero for all pollutants not established in Table C. The background concentrations provided in Table C are summarized below:

Table F-8. Pollutants Having Background Concentrations

Pollutant	Background Seawater Concentration
Arsenic	3 µg/L
Copper	2 µg/L
Mercury	0.0005 µg/L
Silver	0.16 µg/L
Zinc	8 µg/L

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

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

Table F-9. Example Parameter Water Quality Objectives

Parameter	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
Total Residual Chlorine	µg/L	2	8	60

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

Total Residual Chlorine

$$C_e = 2 + 237 (2 - 0) = 476 \text{ } \mu\text{g/L (6-Month Median)}$$

$$C_e = 8 + 237 (8 - 0) = 1,904 \text{ } \mu\text{g/L (Daily Maximum)}$$

$$C_e = 60 + 237 (60 - 0) = 14,280 \text{ } \mu\text{g/L (Instantaneous Maximum)}$$

Based on the implementing procedures described above, effluent limitations and performance goals have been calculated for all Table B pollutants from the Ocean Plan and incorporated into this Order.

- e. 40 CFR 122.45(f)(1) requires effluent limitations be expressed in terms of mass, with some exceptions, and 40 CFR 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. This Order includes effluent limitations expressed in terms of mass and concentration. In addition, pursuant to the exceptions to mass limitations provided in 40 CFR 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 limitations are not necessary to protect the beneficial uses of the receiving water.

Mass-based effluent limitations were calculated using the following equation:

$$\text{lbs/day} = \text{permitted flow (MGD)} \times \text{pollutant concentration (mg/L)} \times 8.34$$

- f. A summary of applicable water-quality based effluent limitations is provided in Table F-10.

Table F-10. Summary of Water Quality-Based Effluent Limitations Based on Table B of the Ocean Plan

Parameters	Units	Effluent Limitations			
		6-Month Median	Monthly Average	Maximum Daily	Instantaneous Maximum
Total Residual Chlorine	$\mu\text{g/L}$	476	--	1,904	14,280
	lbs/day ¹	4.4	--	17.5	131

¹ Based on the maximum observed effluent flow of 1.1 MGD.

- g. A summary of the performance goals is provided in Table F-13, in section IV.E of this Fact Sheet.

5. Whole Effluent Toxicity (WET)

- a. This Order contains a performance goal and monitoring requirements for chronic toxicity are a requirement of this Order. Based on the methods established by

the Ocean Plan, a maximum daily effluent limitation of 238 TU_c is established in this Order.

D. Final Effluent Limitations

The following table lists the effluent limitations established by this Order. Where this Order establishes mass emission limitations, these limitations have been derived based on the highest observed 30-day average flow of 1.1 MGD.

Table F-11. Effluent Limitations at Discharge Point No. 001

Parameter	Units	Effluent Limitations				
		6-Month Median	Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
TECHNOLOGY BASED EFFLUENT LIMITATIONS FOR COOLING TOWER BLOWDOWN						
pH	standard units				6.0	9.0
Free Available Chlorine	mg/L					0.5 ²
	lbs/day ¹					4.6
Chromium Total Recoverable ³	mg/l		0.2	0.2		
	lbs/day ¹		1.8	1.8		
Zinc, Total Recoverable ³	mg/l		1.0	1.0		
	lbs/day ¹		9.2	9.2		
Remaining Priority Pollutants ³	µg/L		ND ⁴			ND ⁴
TABLE B OF THE OCEAN PLAN						
Total Residual Chlorine	µg/L	476	--	1,904	--	14,280
	lbs/day ¹	4.4	--	17.5	--	131

- ¹ Based on a highest observed 30-day average flow of 1.1 MGD.
- ² The ELGs establish an effluent limitation of 0.2 mg/L as an “Average Concentration”. The Average Concentration is defined as the average of analyses made over a 2 hour period.
- ³ Effluent limitations for total chromium, total zinc, and the remaining priority pollutants are only applicable for priority pollutants added for cooling tower maintenance.
- ⁴ Detectable amounts of priority pollutants listed in Attachment H in the cooling tower blowdown effluent are prohibited.

Table F-12. Technology Based Effluent Limitations for Low Volume Waste (Discharge Point No. I-001)

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	s.u.	--	--	6.0	9.0
TSS	mg/L	30	100	--	--
	lbs/day	80	267	--	--
Oil and Grease	mg/L	15	20	--	--
	lbs/day	40	53	--	--

1. Satisfaction of Anti-Backsliding Requirements

The technology based-effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order.

Effluent limitations from Order No. R9-2005-0139 are not retained for constituents for which RPA results indicated Endpoint 2 or Endpoint 3, instead performance goals have been assigned to these facilities. For parameters for which new data is available, and reasonable potential cannot be determined, effluent limitations have been removed as allowed under 40 CFR 122(l)(2)(i)(B), and performance goals have been established in their place. The MRP of this Order is designed to obtain additional information for these constituents to determine if reasonable potential exist for these constituents in the future permit reissuance and/or updates.

This permit complies with all applicable federal and State anti-backsliding regulations.

2. Satisfaction of Antidegradation Policy

WDRs for the Discharger must conform with federal and State antidegradation policies provided at 40 CFR 131.12 and in State Water Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*. 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.

The requirements of the Order are consistent with the State antidegradation policy.

a. Technology-based Effluent Limitations

The technology-based effluent limitations are at least as stringent as the previous effluent limitations, and no degradation of the receiving water is expected.

b. Water Quality-based Effluent Limitations

The WQBELs contained in this Order have been modified from the previous NPDES permit to remove effluent limitations for some parameters after an RPA was conducted.

Effluent limitations were not included in this Order for constituents which reasonable potential to exceed the water quality objectives was not indicated following an RPA although the previous permit included effluent limitations for those constituents. The procedures for conducting the RPA are explained in section IV.C.3 of this Fact Sheet. For constituents for which effluent limitations were not included, performance goals were included which will indicate the level

of discharge at which possible water quality impacts may be significant. The removal of effluent limitations by itself is not expected to cause a change in the physical nature of the effluent discharged and is not expected to impact beneficial uses nor cause a reduction of the water quality of the receiving water. Coupled with the inclusion of performance goals and retention of the monitoring program for constituents without effluent limitations, the existing water quality is expected to be maintained. For these reasons, the San Diego Water Board has determined that an antidegradation analysis is not required to consider the possible impacts resulting from the removal of effluent limitations following a RPA.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on pH, TSS, oil and grease, free available chlorine, total recoverable chromium, and total recoverable zinc. Restrictions on these constituents 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 have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. The scientific procedures for calculating the individual WQBELs are based on the Ocean Plan, which was approved by USEPA on October 8, 2010. 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 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. Performance Goals

Constituents that do not have reasonable potential are listed as performance goals in this Order. Performance goals serve to maintain existing treatment levels and effluent quality and supports State and federal antidegradation policies. Additionally, performance goals provide all interested parties with information regarding the expected levels of pollutants in the discharge that should not be exceeded in order to maintain the water quality objectives established in the Ocean Plan. Performance goals are not limitations or standards for the regulation of the discharge. Effluent concentrations above the performance goals will not be considered as violations of this Order but serve as red flags that indicate water quality concerns. Repeated red flags may prompt the San Diego Water Board to reopen and amend this Order to replace performance goals

for constituents of concern with effluent limitations, or the San Diego Water Board may coordinate such actions with the next permit reissuance.

The following table lists the performance goals established by this Order. A minimum probable initial dilution factor of 237 was used in establishing the performance goals.

Table F-13. Performance Goals Based on the Ocean Plan

Parameter	Unit	Performance Goals ¹			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE					
Arsenic, Total Recoverable	µg/L	1.19E+03	6.91E+03	1.83E+04	--
	lbs/day ²	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	2.18E+00	8.73E+00	2.18E+01	--
Chromium (VI), Total Recoverable ³	µg/L	4.76E+02	1.90E+03	4.76E+03	--
	lbs/day ²	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	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 ²	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 ²	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 ²	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 ²	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 ²	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	2.63E+01	1.57E+02	4.19E+02	--
Cyanide, Total (as CN) ⁴	µg/L	2.38E+02	9.52E+02	2.38E+03	--
	lbs/day ²	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 ²	1.31E+03	5.24E+03	1.31E+04	--
Chronic Toxicity ⁵	TUc	--	2.38E+02	--	--
Phenolic Compounds (non-chlorinated) ⁶	µg/L	7.14E+03	2.86E+04	7.14E+04	--
	lbs/day ²	6.55E+01	2.62E+02	6.55E+02	--
Chlorinated Phenolics ⁷	µg/L	2.38E+02	9.52E+02	2.38E+03	--
	lbs/day ²	2.18E+00	8.73E+00	2.18E+01	--

Parameter	Unit	Performance Goals ¹			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Endosulfan ⁸	µg/L	2.14E+00	4.28E+00	6.43E+00	--
	lbs/day ²	1.97E-02	3.93E-02	5.90E-02	--
Endrin	µg/L	4.76E-01	9.52E-01	1.43E+00	--
	lbs/day ²	4.37E-03	8.73E-03	1.31E-02	--
HCH ⁹	µg/L	9.52E-01	1.90E+00	2.86E+00	--
	lbs/day ²	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 ²	--	--	--	4.80E+02
Antimony	µg/L	--	--	--	2.86E+05
	lbs/day ²	--	--	--	2.62E+03
Bis(2-chloroethoxy) Methane	µg/L	--	--	--	1.05E+03
	lbs/day ²	--	--	--	9.61E+00
Bis(2-chloroisopropyl) Ether	µg/L	--	--	--	2.86E+05
	lbs/day ²	--	--	--	2.62E+03
Chlorobenzene	µg/L	--	--	--	1.36E+05
	lbs/day ²	--	--	--	1.24E+03
Chromium (III), Total Recoverable	µg/L	--	--	--	4.52E+07
	lbs/day ²	--	--	--	4.15E+05
Di-n-butyl Phthalate	µg/L	--	--	--	8.33E+05
	lbs/day ²	--	--	--	7.64E+03
Dichlorobenzenes ¹⁰	µg/L	--	--	--	1.21E+06
	lbs/day ²	--	--	--	1.11E+04
Diethyl Phthalate	µg/L	--	--	--	7.85E+06
	lbs/day ²	--	--	--	7.21E+04
Dimethyl Phthalate	µg/L	--	--	--	1.95E+08
	lbs/day ²	--	--	--	1.79E+06
4,6-dinitro-2-methylphenol	µg/L	--	--	--	5.24E+04
	lbs/day ²	--	--	--	4.80E+02
2,4-dinitrophenol	µg/L	--	--	--	9.52E+02
	lbs/day ²	--	--	--	8.73E+00
Ethylbenzene	µg/L	--	--	--	9.76E+05
	lbs/day ²	--	--	--	8.95E+03

Parameter	Unit	Performance Goals ¹			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Fluoranthene	µg/L	--	--	--	3.57E+03
	lbs/day ²	--	--	--	3.28E+01
Hexachlorocyclopentadiene	µg/L	--	--	--	1.38E+04
	lbs/day ²	--	--	--	1.27E+02
Nitrobenzene	µg/L	--	--	--	1.17E+03
	lbs/day ²	--	--	--	1.07E+01
Thallium, Total Recoverable	µg/L	--	--	--	4.76E+02
	lbs/day ²	--	--	--	4.37E+00
Toluene	µg/L	--	--	--	2.02E+07
	lbs/day ²	--	--	--	1.86E+05
Tributyltin	µg/L	--	--	--	3.33E-01
	lbs/day ²	--	--	--	3.06E-03
1,1,1-trichloroethane	µg/L	--	--	--	1.29E+08
	lbs/day ²	--	--	--	1.18E+06
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS					
Acrylonitrile	µg/L	--	--	--	2.38E+01
	lbs/day ²	--	--	--	2.18E-01
Aldrin	µg/L	--	--	--	5.24E-03
	lbs/day ²	--	--	--	4.80E-05
Benzene	µg/L	--	--	--	1.40E+03
	lbs/day ²	--	--	--	1.29E+01
Benzidine	µg/L	--	--	--	1.64E-02
	lbs/day ²	--	--	--	1.51E-04
Beryllium	µg/L	--	--	--	7.85E+00
	lbs/day ²	--	--	--	7.21E-02
Bis(2-chloroethyl) Ether	µg/L	--	--	--	1.07E+01
	lbs/day ²	--	--	--	9.83E-02
Bis(2-ethylhexyl) Phthalate	µg/L	--	--	--	8.33E+02
	lbs/day ²	--	--	--	7.64E+00
Carbon Tetrachloride	µg/L	--	--	--	2.14E+02
	lbs/day ²	--	--	--	1.97E+00
Chlordane	µg/L	--	--	--	5.47E-03
	lbs/day ²	--	--	--	5.02E-05
Chlorodibromomethane	µg/L	--	--	--	2.05E+03
	lbs/day ²	--	--	--	1.88E+01
Chloroform	µg/L	--	--	--	3.09E+04
	lbs/day ²	--	--	--	2.84E+02

Parameter	Unit	Performance Goals ¹			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
DDT ¹¹	µg/L	--	--	--	4.05E-02
	lbs/day ²	--	--	--	3.71E-04
1,4-dichlorobenzene	µg/L	--	--	--	4.28E+03
	lbs/day ²	--	--	--	3.93E+01
3,3'-dichlorobenzidine	µg/L	--	--	--	1.93E+00
	lbs/day ²	--	--	--	1.77E-02
1,2-dichloroethane	µg/L	--	--	--	6.66E+03
	lbs/day ²	--	--	--	6.11E+01
1,1-dichloroethylene	µg/L	--	--	--	2.14E+02
	lbs/day ²	--	--	--	1.97E+00
Dichlorobromomethane	µg/L	--	--	--	1.48E+03
	lbs/day ²	--	--	--	1.35E+01
Dichloromethane	µg/L	--	--	--	1.07E+05
	lbs/day ²	--	--	--	9.83E+02
1,3-dichloropropene	µg/L	--	--	--	2.12E+03
	lbs/day ²	--	--	--	1.94E+01
Dieldrin	µg/L	--	--	--	9.52E-03
	lbs/day ²	--	--	--	8.73E-05
2,4-dinitrotoluene	µg/L	--	--	--	6.19E+02
	lbs/day ²	--	--	--	5.68E+00
1,2-diphenylhydrazine	µg/L	--	--	--	3.81E+01
	lbs/day ²	--	--	--	3.49E-01
Halomethanes ¹²	µg/L	--	--	--	3.09E+04
	lbs/day ²	--	--	--	2.84E+02
Heptachlor	µg/L	--	--	--	1.19E-02
	lbs/day ²	--	--	--	1.09E-04
Heptachlor Epoxide	µg/L	--	--	--	4.76E-03
	lbs/day ²	--	--	--	4.37E-05
Hexachlorobenzene	µg/L	--	--	--	5.00E-02
	lbs/day ²	--	--	--	4.59E-04
Hexachlorobutadiene	µg/L	--	--	--	3.33E+03
	lbs/day ²	--	--	--	3.06E+01
Hexachloroethane	µg/L	--	--	--	5.95E+02
	lbs/day ²	--	--	--	5.46E+00
Isophorone	µg/L	--	--	--	1.74E+05
	lbs/day ²	--	--	--	1.59E+03

Parameter	Unit	Performance Goals ¹			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
N-nitrosodimethylamine	µg/L	--	--	--	1.74E+03
	lbs/day ²	--	--	--	1.59E+01
N-nitrosodi-N-propylamine	µg/L	--	--	--	9.04E+01
	lbs/day ²	--	--	--	8.30E-01
N-nitrosodiphenylamine	µg/L	--	--	--	5.95E+02
	lbs/day ²	--	--	--	5.46E+00
PAH	µg/L	--	--	--	2.09E+00
	lbs/day ²	--	--	--	1.92E-02
PCBs ¹³	µg/L	--	--	--	4.52E-03
	lbs/day ²	--	--	--	4.15E-05
TCDD equivalents ¹⁴	µg/L	--	--	--	9.28E-07
	lbs/day ²	--	--	--	8.52E-09
1,1,2,2-tetrachloroethane	µg/L	--	--	--	5.47E+02
	lbs/day ²	--	--	--	5.02E+00
Tetrachloroethylene	µg/L	--	--	--	4.76E+02
	lbs/day ²	--	--	--	4.37E+00
Toxaphene	µg/L	--	--	--	5.00E-02
	lbs/day ²	--	--	--	4.59E-04
Trichloroethylene	µg/L	--	--	--	6.43E+03
	lbs/day ²	--	--	--	5.90E+01
1,1,2-trichloroethane	µg/L	--	--	--	2.24E+03
	lbs/day ²	--	--	--	2.05E+01
2,4,6-trichlorophenol	µg/L	--	--	--	6.90E+01
	lbs/day ²	--	--	--	6.33E-01
Vinyl Chloride	µg/L	--	--	--	8.57E+03
	lbs/day ²	--	--	--	7.86E+01

¹ 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 represent 6.1 x 10² or 610, and 6.1E+00 represent 6.1 x 10⁰ or 6.1.

² Based on the maximum observed effluent flow of 1.1 MGD.

³ Dischargers may, at their option, apply this performance goal as a total chromium performance goal.

⁴ If the 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.

- ⁵ Chronic toxicity expressed as Chronic Toxicity Units (TUc) = 100/NOEL, where NOEL (No Observed Effect Level) is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism.
- ⁶ Non-chlorinated phenolic compounds represent the sum of 2,4-dimethylphenol, 4,6-Dinitro-2-methylphenol, 2,4-dinitrophenol, 2-methylphenol, 4-methylphenol, 2-Nitrophenol, 4-nitrophenol, and phenol.
- ⁷ Chlorinated phenolic compounds represent the sum of 4-chloro-3-methylphenol, 2-chlorophenol, pentachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol.
- ⁸ Endosulfan represents the sum of alpha-endosulfan, beta-endosulfan, and endosulfan sulfate.
- ⁹ HCH (hexachlorocyclohexane) represents the sum of the alpha, beta, gamma (Lindane), and delta isomers of hexachlorocyclohexane.
- ¹⁰ Dichlorobenzenes represent the sum of 1,2- and 1,3-dichlorobenzene.
- ¹¹ DDT represents the sum of 4,4' DDT; 2,4' DDT; 4,4' DDE; 2,4' DDE; 4,4' DDD; and 2,4' DDD.
- ¹² Halomethanes represent the sum of bromoform, bromomethane (methyl bromide), and chloromethane (methyl chloride).
- ¹³ PCBs (polychlorinated biphenyls) represent 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.
- ¹⁴ TCDD equivalents represent the sum of 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 by the table below. USEPA Method 8280 may be used to analyze TCDD equivalents.

Isomer Group	Toxicity Equivalence Factor
2,3,7,8 – tetra CDD	1.0
2,3,7,8 – penta CDD	0.5
2,3,7,8 – hexa CDD	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

F. Interim Effluent Limitations – Not Applicable

G. Land Discharge Specifications – Not Applicable

H. Reclamation 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, Thermal Plan and the Ocean Plan.

The water contact bacterial standards in the previous Order No. R9-2005-0136, which were based on the language in the 2001 Ocean Plan, have changed. The language in the 2009 Ocean Plan now specifies that the Water-Contact Standards apply to ocean waters within California’s jurisdiction designated by the San Diego Water Board as having REC-1 beneficial uses. Because the San Diego Water Board has not completed a process to

designate specific areas where the water-contact standards apply, Ocean Plan Bacterial Standards apply throughout all ocean waters in the San Diego Region. Thus, the following standards are included in this Order.

A. Surface Water

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 initial dilution zone for wastewater outfalls 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 shall not exceed 1,000 per 100 mL;
 - (b)** Fecal coliform density shall not exceed 200 per 100 mL; and
 - (c)** Enterococcus density shall not exceed 35 per 100 mL.
 - ii.** Single Sample Maximum:
 - (a)** Total coliform density shall not exceed 10,000 per 100 mL;
 - (b)** Fecal coliform density shall not exceed 400 per 100 mL;
 - (c)** Enterococcus density shall not exceed 104 per 100 mL; and
 - (d)** Total coliform density shall not exceed 1,000 per 100 mL when the fecal coliform/total coliform ratio exceeds 0.1.
- b.** The Initial Dilution Zone for any wastewater outfall shall be excluded from designation as kelp beds for purposes of bacterial standards. Adventitious assemblages of kelp plants on waste discharge structures (e.g., outfall pipes and diffusers) do not constitute kelp beds for purposes of bacterial standards.
- 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 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 initial dilution zone 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.

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 B 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 B of the Ocean Plan shall not be exceeded outside of the zone of initial dilution as a result of discharges from the Facility.

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

- a. Discharge of radioactive waste shall not degrade marine life.

B. Groundwater Limitations – Not Applicable

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the San Diego Water Board to require technical and monitoring reports. The MRP (Attachment E) of this Order, establishes monitoring and reporting requirements to implement federal and State requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this Facility.

A. Influent Monitoring – Not Applicable

B. Effluent Monitoring

Effluent monitoring is required to determine compliance with the permit conditions and to identify operational problems and improve plant performance. Effluent monitoring also provides information on wastewater characteristics and flows for use in interpreting water quality and biological data. Effluent monitoring requirements have been retained from Order No. R9-2005-0139 with the following exceptions:

1. Final Effluent (EFF-001)

Effluent monitoring is required to determine compliance with the permit conditions and to identify operational problems. Effluent monitoring requirements include monitoring for priority pollutants (as listed in Appendix A of 40 CFR 423.15 and included in Attachment H of this Order) in addition to monitoring for Ocean Plan Table B Parameters. Priority pollutant monitoring for cooling tower blowdown is needed because ELGs are specific to priority pollutants listed in Attachment A of 40 CFR 423.15 and not Table B Parameters. Because the discharge is to the Pacific Ocean to which the Ocean Plan is applicable, monitoring requirements have been added to obtain the necessary information to conduct a RPA pursuant to the requirements of the Ocean Plan.

2. Internal Outfall (I-001)

Internal Outfall I-001 was established to determine compliance of low volume waste with ELG-based effluent limitations prior to commingling with cooling tower source water.

C. Whole Effluent Toxicity Testing Requirements

As described in section IV.C.5 of this Fact Sheet, annual chronic WET testing is required by this Order to determine compliance with the performance goal for chronic toxicity.

D. Receiving Water Monitoring

1. Surface Water

The Discharger shall periodically review the receiving water monitoring reports submitted by the City of Escondido and San Elijo Joint Powers Authority for their individual wastewater discharges through the San Elijo Ocean Outfall pursuant to NPDES No.'s CA0107981 and CA0107999. Receiving water monitoring data obtained from the City of Escondido and San Elijo Joint Powers Authority will be used to determine compliance with water quality objectives and criteria specified in the Basin Plan, Ocean Plan, and other state plans and policies applicable to the discharge from the facility.

2. Groundwater Monitoring- Not Applicable

E. Other Monitoring Requirements

1. Water Treatment Systems and Cooling Water Additives Audit. The Discharger is required to maintain a log of all chemical additives added to the water treatment systems and cooling tower that are eventually discharged from the power generating facilities to the IBCS and report these chemical additives to the San Diego Water Board. The requirement to record and report chemical use in the cooling water is necessary to comply with the ELG-based effluent limitations which require the concentration of priority pollutants in cooling tower blowdown be non-detectable. By recording and reporting the chemicals used in the cooling water, both the Discharger and San Diego Water Board can determine for which priority pollutants the Discharger should be monitoring to ensure priority pollutants are not present in the cooling water blowdown in detectable amounts.

F. Reporting Requirements

1. Self-Monitoring Reports and California Integrated Water Quality System (CIWQS)

The Discharger shall electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). The CIWQS web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

CIWQS is one of the Water Boards' primary regulatory information tracking systems.

It is a web-based relational database for core regulatory data for use by staff, management, and the public, and it allows the regulated community to submit certain types of information to the Water Boards in compliance with adopted orders.

2. Discharge Monitoring Reports (DMRs)

The PEC regulated under this Order has been classified by USEPA and the San Diego Water Board as a major discharge and therefore is required to submit DMRs in accordance X.C of the Monitoring and Reporting Program. USEPA may be requiring DMRs from all Dischargers in electronic or paper form in the future.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

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

40 CFR 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. 40 CFR 123.25(a)(12) allows the State to omit or modify conditions to impose more stringent requirements. In accordance with 40 CFR 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR 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 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 modifications include the promulgation of new regulations, modification in sludge use or disposal practices, or adoption of new regulations by the State Water Board or San Diego Water Board, including revisions to the Basin Plan, Thermal Plan or Ocean Plan.

2. Special Studies and Additional Monitoring Requirements

a. Whole Effluent Toxicity (WET)

- i. Implementing provisions at section III.C.4.c.(3) of the Ocean Plan require chronic toxicity monitoring for ocean waste discharges with minimum initial dilution factors ranging from 100:1 to 350:1. Based on methods of the Ocean Plan, a maximum daily performance goal of 238 TUc is established in this Order and annual monitoring is retained from Order No. R9-2005-0139.
- ii. This Order requires the Discharger to maintain an up-to-date TRE workplan, and submit the TRE workplan within 180 days of the effective date of this Order. The workplan shall describe steps the Discharger intends to follow if the performance goal for chronic toxicity (238 TUc) is exceeded.
- iii. If the performance goal for chronic toxicity is exceeded, then within 15 days of the exceedance, the Discharger shall begin conducting six additional tests, bi-weekly, over a 12 week period. If the toxicity performance goal is exceeded in any of these six additional tests, then the Discharger shall notify the Executive Officer and Director. The requirement for a minimum of six additional tests is based on USEPA guidance describing the probability of encountering at least one exceedance assuming a true, but unknown level of occurrence . If the San Diego Water Board determines that the discharge consistently exceeds a toxicity performance goal, then the Discharger shall initiate a TRE in accordance with the TRE workplan, *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* (USEPA 833-B-99-002, 1999) or *USEPA Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070). If no toxicity is detected in any of these additional six tests, then the Discharger may return to the testing frequency specified in the MRP.

b. Priority Pollutant Monitoring and Ocean Plan Monitoring

Priority pollutant monitoring for cooling tower blowdown is necessary to determine compliance with effluent limitations established in 40 CFR 423, which prohibit the discharge of priority pollutants in detectable amounts. The Discharger shall only be required to monitor for priority pollutants expected to be present in the effluent, such as the pollutants contained within cooling water additives.

Monitoring for Table B parameters contained in Section II.D of the Ocean Plan is necessary for the implementation of Section III.C.2 of the Ocean Plan, for the determination of reasonable potential to exceed water quality objectives.

- 3. Best Management Practices and Pollution Prevention – Not Applicable**
- 4. Construction, Operation, and Maintenance Specifications – Not Applicable**
- 5. Special Provisions for Wastewater Facilities – Not Applicable**
- 6. Other Special Provisions- Not Applicable**
- 7. Compliance Schedules – Not Applicable**

VIII. PUBLIC PARTICIPATION

The San Diego Water Board is considering 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. The San Diego Water Board encourages public participation in the WDR adoption process.

A. 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. Notification was published in the San Diego Union Tribune on June 27, 2012 and posted on the San Diego Water Board web site on June 27, 2012.

B. Written Comments

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

To be fully responded to by staff and considered by the San Diego Water Board, written comments must be received at the San Diego Water Board offices by 5:00 p.m. by Friday July 27, 2012.

C. Public Hearing

The San Diego Water Board will hold a public hearing on the Tentative Order during its regular board meeting on the following date and time and at the following location:

Date: September 12, 2012
Time: 9:00 AM
Location: Regional Water Quality Control Board
Regional Board Meeting Room
9174 Sky Park Court, Suite 100
San Diego, CA 92123

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

Please be aware that dates and venues may change. The San Diego Water Board Web address is <http://www.waterboards.ca.gov/rwqcb9/> where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the San Diego Water Board regarding the Tentative Order. The petition must be submitted within 30 days of the San Diego Water Board's action to the following address:

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

E. Information and Copying

The Report of Waste Discharge (ROWD), related documents, the Tentative Order, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the San Diego Water Board by calling (858) 467-2952.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the Tentative Order should contact the San Diego Water Board, reference this facility, and provide a name, address, and phone number.

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

I. Ocean Plan Discharge Prohibitions

- A.** The Discharge of any radiological chemical, or biological warfare agent or high-level radioactive waste into the ocean is prohibited.
- B.** Waste shall not be discharged to designated Areas of Special Biological Significance except as provided in Chapter III.E. of the Ocean Plan.
- C.** 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.
- D.** The by-passing of untreated wastes containing concentrations of pollutants in excess of those of Table A or Table B [of the Ocean Plan] is prohibited.

II. Basin Plan Discharge Prohibitions

- A.** 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.
- B.** The discharge of waste to land, except as authorized by WDRs of the terms described in Water Code section 13264 is prohibited.
- C.** The discharge of pollutants or dredged or fill material to waters of the United States 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.
- D.** 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 of California Department of Public Health and the operating agency of the impacted reservoir; and the discharger has an approved fail-safe long-term disposal alternative.
- E.** 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 stream flow 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 stream flow provided 100:1 dilution capability.

- F.** 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.
- G.** 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.
- H.** 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 122.26(b)(13), define storm water as storm water runoff, snow melt runoff, and surface runoff and drainage. 40 CFR 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].
- I.** The unauthorized discharge of treated or untreated sewage to waters of the State or to a storm water conveyance system is prohibited.
- J.** 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.
- K.** The discharge of radioactive wastes amenable to alternative methods of disposal into the waters of the State is prohibited.
- L.** The discharge of any radiological, chemical, or biological warfare agent into waters of the State is prohibited.
- M.** 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.
- N.** 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.
- O.** The discharge of treated or untreated sewage from vessels to Mission Bay, Oceanside Harbor, Dana Point Harbor, or other small boat harbors is prohibited.
- P.** The discharge of untreated sewage from vessels to San Diego Bay is prohibited.
- Q.** The discharge of treated sewage from vessels to portions of San Diego Bay that are less than 30 feet deep at MLLW is prohibited.

- R.** The discharge of treated sewage from vessels, which do not have a properly functioning USCG certified Type 1 or Type II marine sanitation device, to portions of San Diego Bay that are greater than 30 feet deep at MLLW is prohibited.

ATTACHMENT H – PRIORITY POLLUTANT AND OCEAN PLAN TABLE B MONITORING REQUIREMENTS

The Discharger shall conduct effluent monitoring for priority pollutants and Table B parameters contained in section IV of the Monitoring and Reporting Program.

This monitoring shall occur at the following locations:

- Priority Pollutants at Discharge Point 001. Cooling tower blowdown only for priority pollutants added for cooling tower maintenance.
 - Ocean Plan Table B parameters for the cooling tower blowdown (Discharge Point 001).
- I. In order to determine compliance with effluent limitations established at Discharge Point No. 001, the Discharger shall conduct annual priority pollutant monitoring for priority pollutants used for cooling tower maintenance for the priority pollutants contained in Table H-1.
- II. In order to provide data during the next permit reissuance to conduct a reasonable potential analysis, and determine the need for future effluent limitations, the Discharger shall conduct the annual monitoring event for Ocean Plan Table B parameters at Discharge Point No. 001 for the parameters in listed Table H-2. The Discharger does not need to conduct duplicative monitoring for parameters contained in Table H-1.

Table H-1. Priority Pollutants

Constituent	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	Standard Units	Grab	1/Year	1
Hardness (as CaCO ₃)	mg/L	Grab	1/Year	1
Salinity	g/L	Grab	1/Year	1
Antimony	µg/L	Grab	1/Year	1
Arsenic, Total Recoverable	µg/L	Grab	1/Year	1
Beryllium, Total Recoverable	µg/L	Grab	1/Year	1
Cadmium, Total Recoverable	µg/L	Grab	1/Year	1
Chromium (III)	µg/L	Grab	1/Year	1
Chromium (VI)	µg/L	Grab	1/Year	1
Copper, Total Recoverable	µg/L	Grab	1/Year	1
Lead, Total Recoverable	µg/L	Grab	1/Year	1
Mercury, Total Recoverable	µg/L	Grab	1/Year	1
Nickel, Total Recoverable	µg/L	Grab	1/Year	1
Selenium, Total Recoverable	µg/L	Grab	1/Year	1
Silver, Total Recoverable	µg/L	Grab	1/Year	1
Thallium, Total Recoverable	µg/L	Grab	1/Year	1

Constituent	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Zinc, Total Recoverable	µg/L	Grab	1/Year	1
Cyanide, Total Recoverable	µg/L	Grab	1/Year	1
Asbestos	Fibers/L	Grab	1/Year	1
Acrolein	µg/L	Grab	1/Year	1
Acrylonitrile	µg/L	Grab	1/Year	1
Bromoform	µg/L	Grab	1/Year	1
Carbon Tetrachloride	µg/L	Grab	1/Year	1
Chlorobenzene	µg/L	Grab	1/Year	1
Chlorodibromomethane (Dibromochloromethane)	µg/L	Grab	1/Year	1
Chloroethane	µg/L	Grab	1/Year	1
2-Chloroethylvinyl ether	µg/L	Grab	1/Year	1
Chloroform	µg/L	Grab	1/Year	1
Dichlorobromomethane (Bromodichloromethane)	µg/L	Grab	1/Year	1
1,1-Dichloroethane	µg/L	Grab	1/Year	1
1,2-Dichloropropane	µg/L	Grab	1/Year	1
1,3-Dichloropropylene	µg/L	Grab	1/Year	1
Methyl Bromide (Bromomethane)	µg/L	Grab	1/Year	1
Methyl Chloride (Chloromethane)	µg/L	Grab	1/Year	1
Methylene Chloride	µg/L	Grab	1/Year	1
1,1,2,2-Tetrachloroethane	µg/L	Grab	1/Year	1
1,1,2-Trichloroethane	µg/L	Grab	1/Year	1
Vinyl Chloride	µg/L	Grab	1/Year	1
1,2-Dichlorobenzene	µg/L	Grab	1/Year	1
1,3-Dichlorobenzene	µg/L	Grab	1/Year	1
1,4-Dichlorobenzene	µg/L	Grab	1/Year	1
2-Chlorophenol	µg/L	Grab	1/Year	1
2,4-Dichlorophenol	µg/L	Grab	1/Year	1
2,4-Dimethylphenol	µg/L	Grab	1/Year	1
2-Methyl-4,6-Dinitrophenol	µg/L	Grab	1/Year	1
2,4-Dinitrophenol	µg/L	Grab	1/Year	1
2-Nitrophenol	µg/L	Grab	1/Year	1
4-Nitrophenol	µg/L	Grab	1/Year	1
3-Methyl-4-Chlorophenol	µg/L	Grab	1/Year	1
Pentachlorophenol	µg/L	Grab	1/Year	1
Phenol	µg/L	Grab	1/Year	1
2,4,6-Trichlorophenol	µg/L	Grab	1/Year	1
Acenaphthene	µg/L	Grab	1/Year	1
Acenaphthylene	µg/L	Grab	1/Year	1
Anthracene	µg/L	Grab	1/Year	1

Constituent	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Benzidine	µg/L	Grab	1/Year	1
Benzo(a)Anthracene	µg/L	Grab	1/Year	1
Benzo(a)Pyrene	µg/L	Grab	1/Year	1
Benzo(b)Fluoranthene	µg/L	Grab	1/Year	1
Benzo(ghi)Perylene	µg/L	Grab	1/Year	1
Benzo(k)Fluoranthene	µg/L	Grab	1/Year	1
Bis(2-Chloroethoxy)Methane	µg/L	Grab	1/Year	1
Bis(2-Chloroethyl)Ether	µg/L	Grab	1/Year	1
Bis(2-Chloroisopropyl)Ether	µg/L	Grab	1/Year	1
Bis(2-Ethylhexyl)Phthalate	µg/L	Grab	1/Year	1
4-Bromophenyl Phenyl Ether	µg/L	Grab	1/Year	1
Butylbenzyl Phthalate	µg/L	Grab	1/Year	1
2-Chloronaphthalene	µg/L	Grab	1/Year	1
4-Chlorophenyl Phenyl Ether	µg/L	Grab	1/Year	1
Chrysene	µg/L	Grab	1/Year	1
Dibenzo(a,h)Anthracene	µg/L	Grab	1/Year	1
3,3'-Dichlorobenzidine	µg/L	Grab	1/Year	1
Diethyl Phthalate	µg/L	Grab	1/Year	1
Dimethyl Phthalate	µg/L	Grab	1/Year	1
Di-n-Butyl Phthalate	µg/L	Grab	1/Year	1
2,4-Dinitrotoluene	µg/L	Grab	1/Year	1
2,6-Dinitrotoluene	µg/L	Grab	1/Year	1
Di-n-Octyl Phthalate	µg/L	Grab	1/Year	1
1,2-Diphenylhydrazine	µg/L	Grab	1/Year	1
Fluoranthene	µg/L	Grab	1/Year	1
Fluorene	µg/L	Grab	1/Year	1
Hexachlorobenzene	µg/L	Grab	1/Year	1
Hexachlorobutadiene	µg/L	Grab	1/Year	1
Hexachlorocyclopentadiene	µg/L	Grab	1/Year	1
Hexachloroethane	µg/L	Grab	1/Year	1
Indeno(1,2,3-cd)Pyrene	µg/L	Grab	1/Year	1
Isophorone	µg/L	Grab	1/Year	1
Naphthalene	µg/L	Grab	1/Year	1
Nitrobenzene	µg/L	Grab	1/Year	1
N-Nitrosodimethylamine	µg/L	Grab	1/Year	1
N-Nitrosodi-n-Propylamine	µg/L	Grab	1/Year	1
N-Nitrosodiphenylamine	µg/L	Grab	1/Year	1
Phenanthrene	µg/L	Grab	1/Year	1
Pyrene	µg/L	Grab	1/Year	1
1,2,4-Trichlorobenzene	µg/L	Grab	1/Year	1
Aldrin	µg/L	Grab	1/Year	1
alpha-BHC (hexachlorocyclohexane)	µg/L	Grab	1/Year	1

Constituent	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
beta-BHC	µg/L	Grab	1/Year	1
gamma-BHC	µg/L	Grab	1/Year	1
delta-BHC	µg/L	Grab	1/Year	1
Chlordane	µg/L	Grab	1/Year	1
4,4'-DDT	µg/L	Grab	1/Year	1
4,4'-DDE (linked to DDT)	µg/L	Grab	1/Year	1
4,4'-DDD	µg/L	Grab	1/Year	1
Dieldrin	µg/L	Grab	1/Year	1
alpha-Endosulfan	µg/L	Grab	1/Year	1
beta-Endosulfan	µg/L	Grab	1/Year	1
Endosulfan Sulfate	µg/L	Grab	1/Year	1
Endrin	µg/L	Grab	1/Year	1
Endrin Aldehyde	µg/L	Grab	1/Year	1
Heptachlor	µg/L	Grab	1/Year	1
Heptachlor Epoxide	µg/L	Grab	1/Year	1
PCBs sum ²	µg/L	Grab	1/Year	1
Toxaphene	µg/L	Grab	1/Year	1
2,3,7,8 TCDD ³	pg/L	Grab	1/5 Years	1

¹ Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136; for priority pollutants the methods must meet the lowest MLs specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this San Diego Water Board or the State Water Board. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level.

² PCBs sum refers to the sum of PCB Arochlors 1016, 1221, 1232, 1242, 1248, 1254, and 1260.

³ The Discharger shall conduct effluent monitoring for 2,3,7,8 TCDD, during the fourth year of the Order.

Table H-2. Table B Parameters

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
TABLE B PARAMETERS FOR PROTECTION OF MARINE AQUATIC LIFE				
Arsenic, Total Recoverable	µg/L	Grab	1/Year ^{3,4}	1
Cadmium, Total Recoverable	µg/L	Grab	1/Year ^{3,4}	1
Chromium (VI), Total Recoverable ⁵	µg/L	Grab	1/Year ^{3,4}	1
Copper, Total Recoverable	µg/L	Grab	1/Year ^{3,4}	1
Lead, Total Recoverable	µg/L	Grab	1/Year ^{3,4}	1
Mercury, Total Recoverable	µg/L	Grab	1/Year ^{3,4}	1
Nickel, Total Recoverable	µg/L	Grab	1/Year ^{3,4}	1
Selenium, Total Recoverable	µg/L	Grab	1/Year ^{3,4}	1
Silver, Total Recoverable	µg/L	Grab	1/Year ^{3,4}	1
Zinc, Total Recoverable	µg/L	Grab	1/Year ^{3,4}	1
Cyanide, Total Recoverable	µg/L	Grab	1/Year ^{3,4}	1,6
Chlorine, Total Residual	µg/L	Grab	1/Year ^{3,7}	1
Ammonia Nitrogen, Total (as N)	µg/L	Grab	1/Year ^{3,4}	1
Phenolic Compounds (nonchlorinated) ⁸	µg/L	Grab	1/Year ^{3,4}	1
Phenolic Compounds (chlorinated) ⁹	µg/L	Grab	1/Year ^{3,4}	1
Endosulfan ¹⁰	µg/L	Grab	1/Year ^{3,4}	1
Endrin	µg/L	Grab	1/Year ^{3,4}	1
HCH ¹¹	µg/L	Grab	1/Year ^{3,4}	1
Radioactivity	pci/L	Grab	1/Year ³	1
TABLE B PARAMETERS FOR PROTECTION OF HUMAN HEALTH – NONCARCINOGENS				
Acrolein	µg/L	Grab	1/Year ^{3,4}	1
Antimony, Total Recoverable	µg/L	Grab	1/Year ^{3,4}	1
Bis (2-chloroethoxy) Methane	µg/L	Grab	1/Year ^{3,4}	1
Bis (2-chloroisopropyl) Ether	µg/L	Grab	1/Year ^{3,4}	1
Chlorobenzene	µg/L	Grab	1/Year ^{3,4}	1
Chromium (III), Total Recoverable	µg/L	Grab	1/Year ^{3,4}	1
Di-n-butyl Phthalate	µg/L	Grab	1/Year ^{3,4}	1
Dichlorobenzenes ¹²	µg/L	Grab	1/Year ^{3,4}	1
Diethyl Phthalate	µg/L	Grab	1/Year ^{3,4}	1
Dimethyl Phthalate	µg/L	Grab	1/Year ^{3,4}	1
4,6-dinitro-2-methylphenol	µg/L	Grab	1/Year ^{3,4}	1
2,4-dinitrophenol	µg/L	Grab	1/Year ^{3,4}	1
Ethylbenzene	µg/L	Grab	1/Year ^{3,4}	1
Fluoranthene	µg/L	Grab	1/Year ^{3,4}	1
Hexachlorocyclopentadiene	µg/L	Grab	1/Year ^{3,4}	1
Nitrobenzene	µg/L	Grab	1/Year ^{3,4}	1
Thallium, Total Recoverable	µg/L	Grab	1/Year ^{3,4}	1
Toluene	µg/L	Grab	1/Year ^{3,4}	1
Tributyltin	µg/L	Grab	1/Year ^{3,4}	1
1,1,1-trichloroethane	µg/L	Grab	1/Year ^{3,4}	1
TABLE B PARAMETERS FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS				
Acrylonitrile	µg/L	Grab	1/Year ^{3,4}	1

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Aldrin	µg/L	Grab	1/Year ^{3,4}	1
Benzene	µg/L	Grab	1/Year ^{3,4}	1
Benzidine	µg/L	Grab	1/Year ^{3,4}	1
Beryllium, Total Recoverable	µg/L	Grab	1/Year ^{3,4}	1
Bis (2-chloroethyl) Ether	µg/L	Grab	1/Year ^{3,4}	1
Bis (2-ethylhexyl) Phthalate	µg/L	Grab	1/Year ^{3,4}	1
Carbon Tetrachloride	µg/L	Grab	1/Year ^{3,4}	1
Chlordane	µg/L	Grab	1/Year ^{3,4}	1
Chlorodibromomethane	µg/L	Grab	1/Year ^{3,4}	1
Chloroform	µg/L	Grab	1/Year ^{3,4}	1
DDT ¹³	µg/L	Grab	1/Year ^{3,4}	1
1,4-dichlorobenzene	µg/L	Grab	1/Year ^{3,4}	1
3,3'-dichlorobenzidine	µg/L	Grab	1/Year ^{3,4}	1
1,2-dichloroethane	µg/L	Grab	1/Year ^{3,4}	1
1,1-dichloroethylene	µg/L	Grab	1/Year ^{3,4}	1
Dichlorobromomethane	µg/L	Grab	1/Year ^{3,4}	1
Dichloromethane	µg/L	Grab	1/Year ^{3,4}	1
1,3-dichloropropene	µg/L	Grab	1/Year ^{3,4}	1
Dieldrin	µg/L	Grab	1/Year ^{3,4}	1
2,4-dinitrotoluene	µg/L	Grab	1/Year ^{3,4}	1
1,2-diphenylhydrazine	µg/L	Grab	1/Year ^{3,4}	1
Halomethanes ¹⁴	µg/L	Grab	1/Year ^{3,4}	1
Heptachlor	µg/L	Grab	1/Year ^{3,4}	1
Heptachlor Epoxide	µg/L	Grab	1/Year ^{3,4}	1
Hexachlorobenzene	µg/L	Grab	1/Year ^{3,4}	1
Hexachlorobutadiene	µg/L	Grab	1/Year ^{3,4}	1
Hexachloroethane	µg/L	Grab	1/Year ^{3,4}	1
Isophorone	µg/L	Grab	1/Year ^{3,4}	1
N-nitrosodimethylamine	µg/L	Grab	1/Year ^{3,4}	1
N-nitrosodi-N-propylamine	µg/L	Grab	1/Year ^{3,4}	1
N-nitrosodiphenylamine	µg/L	Grab	1/Year ^{3,4}	1
PAHs ¹⁵	µg/L	Grab	1/Year ^{3,4}	1
PCBs ¹⁶	µg/L	Grab	1/Year ^{3,4}	1
TCDD equivalents ¹⁷	µg/L	Grab	1/Year ^{3,4}	1
1,1,2,2-tetrachloroethane	µg/L	Grab	1/Year ^{3,4}	1
Tetrachloroethylene	µg/L	Grab	1/Year ^{3,4}	1
Toxaphene	µg/L	Grab	1/Year ^{3,4}	1
Trichloroethylene	µg/L	Grab	1/Year ^{3,4}	1
1,1,2-trichloroethane	µg/L	Grab	1/Year ^{3,4}	1
2,4,6-trichlorophenol	µg/L	Grab	1/Year ^{3,4}	1
Vinyl Chloride	µg/L	Grab	1/Year ^{3,4}	1

¹ As required under 40 CFR Part 136.

² Applies 5 days per week, except 7 days per week for at least 1 week in July or August of each year.

- 3 The Discharger shall calculate and report the mass emission rate (MER) of the constituent for each sample taken. The MER shall be calculated in accordance with section VII.H.2.d of this Order.
- 4 The minimum frequency of monitoring for this constituent is automatically increased to twice the minimum frequency specified, if any analysis for this constituent yields a result higher than the applicable effluent limitation or performance goal specified in this Order. The increased minimum frequency of monitoring shall remain in effect until the results of a minimum of four consecutive analyses for this constituent are below all applicable effluent limitations or performance goals specified in this Order.
- 5 Dischargers may, at their option, apply this performance goal as a total chromium performance goal.
- 6 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.
- 7 Monitoring of total chlorine residual is not required on days when none of the treatment units that are subject to this Order use chlorine for disinfection. If only one sample is collected for total chlorine residual analysis on a particular day, that sample must be collected at the time when the concentration of total chlorine residual in the discharge would be expected to be greatest. The times of chlorine discharges on the days that samples are collected, and the time at which samples are collected, shall be reported.
- 8 Non-chlorinated phenolic compounds represent the sum of 2,4-dimethylphenol, 4,6-Dinitro-2-methylphenol, 2,4-dinitrophenol, 2-methylphenol, 4-methylphenol, 2-Nitrophenol, 4-nitrophenol, and phenol.
- 9 Chlorinated phenolic compounds represent the sum of 4-chloro-3-methylphenol, 2-chlorophenol, pentachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol.
- 10 Endosulfan represents the sum of alpha-endosulfan, beta-endosulfan, and endosulfan sulfate.
- 11 HCH (hexachlorocyclohexane) represents the sum of the alpha, beta, gamma (Lindane), and delta isomers of hexachlorocyclohexane.
- 12 Dichlorobenzenes represent the sum of 1,2- and 1,3-dichlorobenzene.
- 13 DDT represents the sum of 4,4'DDT; 2,4'DDT; 4,4'DDE; 2,4'DDE; 4,4'DDD; and 2,4'DDD.
- 14 Halomethanes represent the sum of bromoform, bromomethane (methyl bromide), and chloromethane (methyl chloride).
- 15 PAHs (polynuclear aromatic hydrocarbons) represent the sum of acenaphthalene; anthracene; 1,2-benzanthracene; 3,4-benzofluoranthene; benzo[k]fluoranthene; 1,12-benzoperylene; benzo[a]pyrene; chrysene; dibenzo[a,h]anthracene; fluorene; indeno[1,2,3-cd]pyrene; phenanthrene; and pyrene.
- 16 PCBs (polychlorinated biphenyls) represent 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.
- 17 TCDD equivalents represent the sum of 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 by the table below. USEPA Method 8280 may be used to analyze TCDD equivalents.

Isomer Group	Toxicity Equivalence Factor
2,3,7,8 – tetra CDD	1.0
2,3,7,8 – penta CDD	0.5
2,3,7,8 – hexa CDD	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