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

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

D. Compliance Summary

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

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

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

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

E. Planned Changes

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

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

This Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (Water Code, commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit authorizing the Discharger to discharge into waters of the U.S. at the discharge location described in Table 2 of this Order subject to the WDRs in this Order.

B. California Environmental Quality Act (CEQA)

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

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

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

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Table F-4. Basin Plan Beneficial Uses

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

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

2. **California Ocean Plan.** The State Water Board adopted the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, 2005, 2009, 2012, and 2015. The State Water Board adopted the latest amendment on May 6, 2015, and it became effective on January 28, 2016. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the State to be protected as summarized in Table F-6:

Table F-5. Ocean Plan Beneficial Uses

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

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

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

4. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised State and tribal water quality standards (WQS) become effective for CWA purposes (40 CFR section 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

5. **Antidegradation Policy.** Federal regulation at 40 CFR section 131.12 requires that the State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California.* Resolution 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law.

Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 CFR section 131.12 and State Water Board Resolution 68-16.

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

7. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, sections 2050 to 2097) or the Federal Endangered Species Act (16 United States Code (U.S.C.) sections 1531 to 1544). This Order requires compliance with effluent limitations, receiving water limits, and other requirements to protect the beneficial uses of waters of the State, including protecting rare and endangered species. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

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

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

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

E. Other Plans, Polices and Regulations – Not Applicable

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the U.S. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 CFR section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR section 122.44(d) requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

A. Discharge Prohibitions

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

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

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

B. Technology-Based Effluent Limitations (TBELs)

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at 40 CFR section 122.44 require that permits include conditions meeting applicable technology based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards.

The CWA requires that TBELs be established based on several levels of controls:

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

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

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

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

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The CWA requires USEPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and 40 CFR section 125.3 authorize the use of best professional judgment (BPJ) to derive TBELs on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the San Diego Water Board must consider specific factors outlined in 40 CFR section 125.3. The discharge authorized by this Order must meet minimum federal technology-based requirements based on *Effluent Limitations Guidelines for the Steam Electric Power Generating Point Source Category* established by USEPA at 40 CFR part 423.

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

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

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

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

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

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

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

2. Applicable TBELs

a. Federal Regulations.

Low Volume Waste Sources

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

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

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

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

Table F-6. TBELs for Low Volume Waste Sources at Discharge Point No. I-001[1]

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

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

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

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

Cooling Tower Blowdown

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

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

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

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

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

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

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

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

Table F-7. TBELs for Cooling Tower Blowdown Based at Discharge Point No. 001[1]

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

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

2 Applied as a two-hour average.

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

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

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

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

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

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

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

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

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

The Basin Plan water quality objective for dissolved oxygen applicable to ocean waters is stated as follows: "The dissolved oxygen concentration in ocean waters shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste materials."

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

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

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

i. 6-month median, daily maximum, and instantaneous maximum objectives for 21 chemicals and chemical characteristics, including total residual chlorine and chronic toxicity, for the protection of marine aquatic life.

ii. 30-day average objectives for 20 non-carcinogenic chemicals for the protection of human health. These have been applied as average monthly performance goals.[5]

iii. 30-day average objectives for 42 carcinogenic chemicals for the protection of human health. These have been applied as average monthly performance goals.[5]

iv. Daily maximum objectives for acute and chronic toxicity.

3. Determining the Need for WQBELs

The San Diego Water Board evaluated the need for effluent limitations for non-conventional and toxic pollutant parameters, based on water quality objectives in Table 1 of the Ocean Plan. The evaluation was performed in accordance with 40 CFR section 122.44(d) and guidance for statistically determining the "reasonable potential" for a discharged pollutant to exceed an objective, as outlined in the revised *Technical Support Document for Water Quality-based Toxics Control* (TSD; EPA/505/2-90-001, 1991) and the Ocean Plan Reasonable Potential Analysis (RPA) Amendment that was adopted by the State Water Board on April 21, 2005. The statistical approach combines knowledge of effluent variability (as estimated by a coefficient of variation) with the uncertainty due to a limited amount of effluent data to estimate a maximum effluent value at a high level of confidence. This estimated maximum effluent value is based on a lognormal distribution of daily effluent values. Projected receiving water values (based on the estimated maximum effluent value or the reported maximum effluent value and minimum probably initial dilution) can then be compared to the appropriate objective to determine potential for an exceedance of that objective and need for an effluent limitation.

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

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

effluent limitation may be retained or a permit reopener clause may be included to allow inclusion of an effluent limitation if future monitoring warrants the inclusion. Endpoint 3 is typically the result when there are fewer than 16 data points and all are censored data (i.e., below quantitation or method detection levels for an analytical procedure).

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

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

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

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

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

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

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

Table F-8. RPA Results Summary[1]

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

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

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

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

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

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

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

4. WQBEL Calculations

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

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

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

b. As discussed in section IV.C.3 above, the Dm has been determined to be 237:1 by the San Diego Water Board.

c. Table 3 of the Ocean Plan establishes background concentrations for some pollutants to be used when determining reasonable potential (represented as "Cs"). In accordance with Table 1 implementing procedures, Cs equals zero for all pollutants not established in Table 3. The background concentrations provided in Table 3 of the Ocean Plan are in Table F-10:

Table F-9. Pollutants Having Background Concentrations[1]

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

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

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

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

Table F-10. Example Parameter Water Quality Objectives[1]

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

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

Using the equation, Ce = Co + Dm (Co – Cs), effluent limitations are calculated as follows.

total residual chlorine:
Ce = 1 + 237 (2 – 0) = 476 (6-Month Median)
Ce = 4 + 237 (8 – 0) = 1,904 (Daily Maximum)
Ce = 10 + 237 (60 – 0) = 14,280 (Instantaneous Maximum)

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

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

Mass-based effluent limitations were calculated using the following equation:
lbs/day = permitted flow (MGD) x pollutant concentration (mg/L) x 8.34

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

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

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
2. The MER limitations, in lbs/day, were calculated based on the following equation: MER (lbs/day) = 8.34 x Q x C, where Q is the permitted flow for the Facility (1.4 MGD) and C is the concentration (mg/L).

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

Table F-12. Performance Goals[1] for Discharge Point No. 001 (Monitoring Location EFF-001)

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

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Parameter	Unit	Performance Goals[2,3]			
		6-Month Median	Average Monthly	Maximum Daily	Instantaneous Maximum
Chromium (VI), Total Recoverable[4]	µg/L	4.76E+02	--	1.90E+03	4.76E+03
	lbs/day	4.37E+00	--	1.75E+01	4.37E+01
Copper, Total Recoverable	µg/L	2.40E+02	--	2.38E+03	6.67E+03
	lbs/day	2.20E+00	--	2.19E+01	6.12E+01
Lead, Total Recoverable	µg/L	4.76E+02	--	1.90E+03	4.76E+03
	lbs/day	4.37E+00	--	1.75E+01	4.37E+01
Mercury, Total Recoverable	µg/L	9.40E+00	--	3.80E+01	9.51E+01
	lbs/day	8.62E-02	--	3.48E-01	8.72E-01
Nickel, Total Recoverable	µg/L	1.19E+03	--	4.76E+03	1.19E+04
	lbs/day	1.09E+01	--	4.37E+01	1.09E+02
Selenium, Total Recoverable	µg/L	3.57E+03	--	1.43E+04	3.57E+04
	lbs/day	3.28E+01	--	1.31E+02	3.28E+02
Silver, Total Recoverable	µg/L	1.29E+02	--	6.28E+02	1.63E+03
	lbs/day	1.18E+00	--	5.77E+00	1.49E+01
Zinc, Total Recoverable	µg/L	2.86E+03	--	1.71E+04	4.57E+04
	lbs/day	2.63E+01	--	1.57E+02	4.19E+02
Cyanide, Total	µg/L	2.38E+02	--	9.52E+02	2.38E+03
	lbs/day	2.18E+00	--	8.73E+00	2.18E+01
Ammonia (expressed as nitrogen)	µg/L	1.43E+05	--	5.71E+05	1.43E+06
	lbs/day	1.31E+03	--	5.24E+03	1.31E+04
Chronic Toxicity (Test of Significant Toxicity)[5,6]	"Pass"/"Fail"	--	--	"Pass"	--
Phenolic Compounds (non-chlorinated)[1]	µg/L	7.14E+03	--	2.86E+04	7.14E+04
	lbs/day	6.55E+01	--	2.62E+02	6.55E+02
Chlorinated Phenolics[1]	µg/L	2.38E+02	--	9.52E+02	2.38E+03
	lbs/day	2.18E+00	--	8.73E+00	2.18E+01
Endosulfan[1]	µg/L	2.14E+00	--	4.28E+00	6.43E+00
	lbs/day	1.97E-02	--	3.93E-02	5.90E-02
Endrin	µg/L	4.76E-01	--	9.52E-01	1.43E+00
	lbs/day	4.37E-03	--	8.73E-03	1.31E-02
HCH (BHC)[1]	µg/L	9.52E-01	--	1.90E+00	2.86E+00
	lbs/day	8.73E-03	--	1.75E-02	2.62E-02
Radioactivity	pCi/L	Not to exceed limits specified in title 17, division 1, chapter 5, subchapter 4, group 3, article 3, section 30253 of the California Code of Regulations, Reference to section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.			
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – NONCARCINOGENS					
Acrolein	µg/L	--	5.24E+04	--	--
	lbs/day	--	4.80E+02	--	--

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

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

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

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

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

5. Whole Effluent Toxicity (WET)

a. The WET testing protects receiving waters from the aggregate toxic effect of a mixture of pollutants in the effluent. Ocean Plan section III.C.4.c.(3) requires chronic toxicity monitoring for ocean waste discharges with a minimum initial dilution from 100:1 to 350:1.

b. For chronic toxicity, Order No. R9-2012-0015 established a performance goal of 238 TUc and annual monitoring. During the term of Order No. R9-2012-0015, the maximum reported effluent chronic toxicity value was 100 TUc. Using the RPA procedures from the Ocean Plan, the effluent does not have reasonable potential to cause an exceedance of the narrative water quality objective for chronic toxicity. This Order increases monitoring for the chronic toxicity from annually to semiannually to ensure a sufficient dataset for performing a more statistically-sound RPA for the reissuance of this Order.

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

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stream" waste concentration (IWC), as described in section VII.K of this Order and section III.C of the MRP (Attachment E). The TST statistical approach is described in the *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010), Appendix A, Figure A-1 and Table A-1. The TST null hypothesis shall be "mean discharge IWC response ≤ 0.75 × mean control response." A test that rejects this null hypothesis shall be reported as "Pass." A test that does not reject this null hypothesis shall be reported as "Fail." The chronic toxicity performance goal is expressed as "Pass" for each maximum daily individual result. The Discharger shall also report the "Percent Effect" as part of chronic toxicity result.

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

c. For acute toxicity, Order No. R9-2012-0015 did not establish any effluent limitations, performance goals, or monitoring requirements. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a short or a longer period of time and may measure mortality, reproduction, and growth. A chemical at a low concentration could have chronic effects but no acute effects until the chemical is at a higher concentration. Thus, chronic toxicity is a more stringent requirement than acute toxicity. To ensure the aggregated impacts of pollutants present within the Discharger's effluent does not result in the presence of toxicity within the receiving water, this Order contains a performance goal for chronic toxicity.

d. Section III.F of the 2015 Ocean Plan provides for more stringent requirements if necessary to protect the designated beneficial uses of ocean waters. Diamond et al. (2013) examined the side-by-side comparison of no-observed-effect-concentration (NOEC) and TST results using California chronic toxicity test data (including data from POTWs) for the West Coast marine methods and test species required under this Order. See Table 1 (method types 1 through 5) on page 1103 in Diamond D., Denton D., Roberts J., Zheng L. 2013. *Evaluation of the Test of Significant Toxicity for Determining the Toxicity of Effluents and Ambient Water Samples*. Environ Toxicol Chem 32:1101-1108. This comparison shows that while the TST and NOEC statistical approaches perform similarly most of the time, the TST performs better in identifying toxic and nontoxic samples, a desirable characteristic for chronic toxicity testing conducted under this Order. This examination also signals that the test methods' false positive rate (β no higher than 0.05 at a mean effect of 10%) and false negative rate (α no higher than 0.05 (0.25 for topsmelt) at a mean effect of 25%) are indeed low. This highlights that using the TST in this Order - in conjunction with other Ocean Plan requirements (West Coast WET method/test species for monitoring and limiting chronic toxicity, the IWC representing the critical condition for water quality protection, the initial dilution procedure, and a single test for compliance)—provides increased assurance that statistical error rates are more directly addressed and accounted for in decisions regarding chronic toxicity in the discharge. As a result and in accordance with Ocean Plan section III.F, the San Diego Water Board is exercising its discretion to use the TST statistical approach for this discharge.

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

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

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

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

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

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

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

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

D. Final Effluent Limitations Considerations

1. Satisfaction of Anti-Backsliding Requirements

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

2. Satisfaction of Antidegradation Policies

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

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

3. Stringency of Requirements for Individual Pollutants

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

WQBELs for total chlorine residual have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. The procedures for calculating the individual WQBELs are based on the Ocean Plan, which was approved by USEPA on January 28, 2016. All beneficial uses and water quality objectives contained in the Basin Plan were approved under State law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR section 131.21(c)(1).

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

E. Interim Effluent Limitations – Not Applicable

F. Land Discharge Specifications – Not Applicable

G. Recycling Specifications – Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

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

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

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

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

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

Sections 122.41(a)(1) and (b) through (n) of 40 CFR establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) of 40 CFR allows the State to omit or modify conditions to impose more stringent requirements. In accordance with 40 CFR section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

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

2. Special Studies and Additional Monitoring Requirements – Not Applicable

3. Best Management Practices and Pollution Prevention – Not Applicable

4. Construction, Operation, and Maintenance Specifications

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

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

6. Other Special Provisions – Not Applicable

7. Compliance Schedules – Not Applicable

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VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

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

A. Core Monitoring Requirements

1. Influent Monitoring – Not Applicable

2. Effluent Monitoring

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

a. Monitoring Location EFF-001

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

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

This Order increases monitoring for total dissolved solids from semiannually to monthly to evaluate whether the dilution credit established in 2005 is still applicable and appropriate and to re-assess the dilution credit if the brine discharges from the Facility changes effluent quality discharged at Discharge Point No. 001.[8]

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

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

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

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

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

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

b. Monitoring Location I-001

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

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

3. Whole Effluent Toxicity Testing Requirements

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

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

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

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

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

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

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

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

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

4. Land Discharge Monitoring Requirements – Not Applicable

5. Recycling Monitoring Requirements – Not Applicable

B. Receiving Water Monitoring Requirements

The City of Escondido and San Elijo Joint Powers Authority conduct receiving water monitoring for their individual discharges to the San Elijo Ocean Outfall[11]. The receiving water monitoring is designed to measure the effects of the SEOO discharge on the receiving ocean waters, including effects on coastal water quality, seafloor sediments, and marine life. The receiving water monitoring data may be used, in conjunction with other pertinent technical information, to determine compliance with the receiving water limitations and other related provisions of this Order. The Discharger shall review the receiving water monitoring reports submitted by the City of Escondido and San Elijo Joint Powers Authority as they become available on the State Water Board website at http://ciwqs.waterboards.ca.gov/ciwqs/readOnly/PublicReportEsmrAtGlanceServlet?inCommand=reset.

C. Regional Monitoring Requirements

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

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

[11] Discharges from the City of Escondido's MFRO Facility and HARRF are regulated by separate WDRs, Order No. R9-2018-0002, NPDES No. CA0107981, *Waste Discharge Requirements for the City of Escondido, Hale Avenue Resource Recovery Facility and Membrane Filtration/Reverse Osmosis Facility Discharge to the Pacific Ocean through the San Elijo Ocean Outfall.*
Discharges from the San Elijo Joint Powers Authority, San Elijo Water Reclamation Facility are regulated by separate WDRs, Order No. R9-2018-0003, NPDES No. CA0107999, *Waste Discharge Requirements for the San Elijo Joint Powers Authority, San Elijo Water Reclamation Facility Discharge to the Pacific Ocean through the San Elijo Ocean Outfall.*

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

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

1. Kelp Bed Canopy Monitoring Requirements

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

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

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

2. Southern California Bight Regional Monitoring Program Participation Requirements

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

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

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

D. Special Studies Requirements – Not Applicable

E. Other Monitoring Requirements

1. Water Treatment Systems and Cooling Tower Additives Log

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

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

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

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

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

VIII. PUBLIC PARTICIPATION

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

A. Notification of Interested Parties

The San Diego Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through in the North County Union Tribune on August 10, 2018. The Tentative Order was also posted on the San Diego Water Board website and emailed to the Discharger and all known interested parties on August 10, 2018.

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

B. Written Comments

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

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

C. Public Hearing

The San Diego Water Board held a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

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

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

D. Reconsideration of Waste Discharge Requirements

Any person aggrieved by this action of the San Diego Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and CCR, title 23, sections 2050. The State Water Board must receive the petition by 5:00 p.m., within 30 calendar days of the date of adoption of this Order at the following address, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or State holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Petitions may be sent in as follows:

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

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

By email:
waterqualitypetitions@waterboards.ca.gov

By fax:
(916) 341-5199

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

E. Information and Copying

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

F. Register of Interested Persons

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

G. Additional Information

Requests for additional information or questions regarding this Order should be directed to Joann Lim by email at Joann.Lim@waterboards.ca.gov or by phone at (619) 521-3362.

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

A. Ocean Plan Discharge Prohibitions

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

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

B. Basin Plan Discharge Prohibitions

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

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