laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

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

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

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

5. **Compliance Determination.** Compliance with effluent limitations for reportable pollutants shall be determined using sample reporting protocols defined above and Attachment A of this Order. For purposes of reporting and administrative enforcement by the San Diego Water Board and State Water Board, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the reportable pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (ML).

6. **Multiple Sample Data.** When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND), the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

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

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

7. **Violations.** The SMRs shall clearly identify violations of the WDR's; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

C. Discharge Monitoring Reports (DMR's)

1. At any time during the term of this permit, the State or San Diego Water Board may notify the Discharger to electronically submit DMR's. Until such notification is given specifically for the submittal of DMR's, the Discharger shall submit DMR's in accordance with the requirements described below.

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2. DMR's must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to the address listed below:

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

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1) or on self-generated forms that follow the exact same format of EPA Form 3320-1.
4. If either agency relocates its offices, the reports shall be submitted to the new office address provided by the San Diego Water Board.

D. Other Reports

The following reports are required under Special Provisions (section VI.C), Attachment E section IX, and the California Code of Regulations and shall be submitted to the San Diego Water Board, signed and certified as required by the Standard Provisions (Attachment D):

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Table E-12. Other Reports

Report	Location of requirement	Due Date
Prevention/Response Plan	Section VI.C.2.a.ii	180 days after adoption of this Order
Prevention/Response Plan Amendment	Section VI.C.2.a.iii.a)	As Needed
Request to CILA to share Prevention/Response Plan and written confirmation from CILA	Section VI.C.2.b.i	1 year after adoption of this Order
Agenda and Meeting Summary for binational technical committee meetings on transboundary wastewater flow prevention and response	Section VI.C.2.b.ii	• January 1 through March 31 Report Due May 1 • April 1 through June 30 Report Due August 1 • July 1 through September 30 Report Due November 1 • October 1 through December 31 Report Due February 1
Presentation on transboundary wastewater flows	Section VI.C.2.b.v	See Table 6 of this Order
Preliminary Spill and Transboundary Wastewater Flow Report	Section VI.C.2.d.iii	As Needed
Certified Spill and Transboundary Wastewater Flow Report	Section VI.C.2.d.iv	As Needed
Toxicity Reduction Evaluation Workplan	Section VI.C.2.e.i	180 days after adoption of this Order
Results of any Toxicity Reduction Evaluation (TRE) Evaluation	Section VI.C.2.e.iii	Within 30 days of completion of the TRE
Bacteriological Standards Compliance Assessment Report.	Section VI of Attachment E	July 1, 2016
Influent Limitations	Section VI.C.5.a.i	Within one year of the adoption of this Order
Agenda and Meeting Summary for binational technical committee meetings on transboundary wastewater flow prevention and response	Section VI.C.5.b.i	• January 1 through March 31 Report Due May 1 • April 1 through June 30 Report Due August 1 • July 1 through September 30 Report Due November 1 • October 1 through December 31 Report Due February 1
Presentation and one-page summary information sheet on pretreatment information	Section VI.C.5.b.iv	See Table 8 of this Order
Annual Pretreatment Report	Section VI.C.5.c.v	March 31
Annual Sludge Report	Section VI.C.5.d.xi	March 30
Plume Tracking Monitoring Plan (PTMP)	Section IV.B.2 of this MRP	March 30, 2018
Report of Waste Discharge (for reissuance)	Title 23, California Code of Regulations	180 days before the Order expiration date

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ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in section I, the San Diego Water Board incorporates this Fact Sheet as findings of the San Diego Water Board supporting the issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	9 000000732
Discharger	International Boundary and Water Commission, United States Section
Name of Facility	South Bay International Wastewater Treatment Plant
Facility Address	2995 Clearwater Way
	San Diego, CA 92154
	San Diego County
Facility Contact, Title and Phone	Steven J. Smullen, Area Operations Manager, 619-662-7600
Authorized Person to Sign and Submit Reports	Dawi Dakhil, Civil Engineer, 619-662-7600
Mailing Address	4171 N. Mesa, C-100, El Paso, TX 79902
Billing Address	Same as mailing address
Type of Facility	Federally Owned Treatment Works (FOTW)
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	Pretreatment Program administered by the Government of Mexico
Recycling Requirements	No
Facility Permitted Flow	25 million gallons per day (MGD)
Facility Design Flow	25 MGD
Watershed	Pacific Ocean
Receiving Water	Pacific Ocean
Receiving Water Type	Ocean

A. The United States section of the International Boundary and Water Commission (hereinafter Discharger or USIBWC) is the owner of the South Bay International Wastewater Treatment Plant (Facility or IWTP), five canyon collectors, two pump stations, the South Bay Land Outfall (SBLO) , South Bay Ocean Outfall (SBOO), and other associated infrastructure (collectively referred to as Facilities). The Discharger contracts with an entity to operate and maintain the Facilities. The SBLO is jointly owned by the Discharger and City of San Diego and operated and maintained by the Discharger. The SBOO is jointly owned and operated by the Discharger and City of San Diego. The City of San Diego discharges secondary effluent from

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its South Bay Water Reclamation Plant (SBWRP) to the SBOO via the SBLO under separate waste discharger requirements (Order No. R9-2013-0006, NPDES Permit No. CA0109045).

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

B. The Facility discharges wastewater to the Pacific Ocean, a water of the United States. The discharge was previously regulated by Order No. 96-50 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0108928 adopted on November 14, 1996 and expired on October 10, 2001. In accordance with Title 40, Code of Federal Regulations (CFR) section 122.6 and the State's regulations at title 23, division 3, chapter 9, article 3, section 2235.4 of the California Code of Regulations (CCR), the terms of the existing Order were administratively extended and continued in effect after the permit expiration date until the adoption of Order No. R9-2014-0009. Attachment B provides a map of the area around the Facilities. Attachment C provides a flow schematic of the Facilities.

C. The Discharger filed a Report of Waste Discharge (ROWD) and submitted an application of renewal for its Waste Discharge Requirements (WDR's) and NPDES permit in 2001. Because of ongoing litigation, finally concluded in 2013, the NPDES permit was not reissued at that time. The Discharger filed an updated ROWD and application for renewal of WDR's and NPDES permit in June 3, 2010.

II. FACILITY DESCRIPTION

After periods of tremendous population growth and a long history of inadequate sewerage facilities in Tijuana, Mexico and associated transboundary raw sewage flows, the governments of the United States and Mexico in 1990 agreed to build the Facility on the United States side of the border as part of a bilateral program to address environmental pollution in the international border region (IBWC Minute No. 283 between the United States and Mexican sections of the International Boundary and Water Commission). The Facility was built on a 75-acre site in San Ysidro, a community of the City of San Diego, near the international border in the U.S. immediately north of Tijuana's main wastewater pumping station. The Facility treats sewage flows exceeding the capacity of Tijuana's sewage treatment and conveyance facilities and also treats some transboundary flows in canyons and gullies that empty from Tijuana into the Tijuana River Estuary on the United States side of the international border. The Facility was originally planned as a secondary treatment facility; however, due to financial constraints, the plant was initially constructed as an advanced primary treatment facility in 1996.

In February 2001, the San Diego Water Board filed a complaint in U.S. District Court, Southern District of California (Court) against the Discharger, alleging violations of the federal Clean Water Act and the California Porter-Cologne Water Quality Control Act at the Facility. The complaint alleged the Discharger violated the terms of its NPDES Permit (San Diego Water Board Order No. 96-50/ NPDES Permit CA0108928) by failing to treat the Facility effluent to secondary treatment standards and by violating other effluent limitations.

On December 6, 2004, the Court issued a final judgment setting a compliance schedule for the Discharger to meet federal and state requirements for secondary treatment standards through construction of an activated sludge secondary treatment process at the Facility to improve effluent quality. Construction of the Facility upgrade was completed in late 2010; however, the Facility had an adjustment period of about one and a half years and did not start to consistently achieve substantial compliance with the NPDES Permit secondary treatment effluent limitations until mid-2012. On June 20, 2013, after about a year of substantial compliance with the secondary

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treatment effluent limitations, the San Diego Water Board informed the Court of its opinion that the Discharger had complied with the Court's 2004 judgment.

A. Description of Wastewater Collections

The Facility receives flow from the City of Tijuana's municipal collection system which includes domestic and industrial sources, and receives flow from five canyon collectors used to capture transboundary dry weather flows. Approximately 25 MGD of sewage from Tijuana's 72-inch diameter line, at a location upstream of Tijuana's Pumping Plant (Pump Station 1/1A), is conveyed to Junction Box 1 in the U.S. by gravity flow. Then the sewage flows from Junction Box 1 to Junction Box 2 in the U.S. via gravity.

All dry weather flow in the Tijuana River that would otherwise flow into the United States is currently diverted from the river bed at the international border using the River Diversion Structure located on the Mexican side of the border. During low flow/ dry weather conditions, the Tijuana River water is conveyed by the CILA Pump Station, through a line parallel to the 72-inch diameter sewage line, to Tijuana's Pumping Plant (Pump Station 1/1A). From Tijuana's Pumping Plant (Pump Station 1/1A), Tijuana River water is sent south and discharged directly to the Pacific Ocean at Punta Bandera, located approximately 5.6 miles south of the international border. No Tijuana River water is currently diverted to the Facility. During high flow/ wet weather conditions (greater than 1000 liters per second of flow in the Tijuana River), the River Diversion Structure screens cannot be cleaned; the flow in the Tijuana River is not diverted and continues across the international border into the United States.

Canyon collectors are concrete channels and basins designed to capture transboundary dry weather flows from Mexico in canyons and ravines draining north across the international border into the United States. There are five canyon collector systems: Goat Canyon Diversion Structure, Smugglers Gulch Diversion Structure, Silva Drain Canyon Collector, Canyon del Sol Collector, and Stewarts Drain Canyon Collector. Captured dry weather flows from these collectors are diverted to the Facility for treatment and disposal through the SBOO. Any quantity of flows in the canyons exceeding the maximum design capacity of the canyon collectors overflows the structure and continues flowing north, potentially polluting the Tijuana River, the Tijuana River Valley and Estuary, and Pacific Ocean waters at south San Diego beaches. The canyon collector at Goat Canyon Diversion Structure conveys diverted flow to Goat Canyon Pump Station via gravity. From Goat Canyon Pump Station, flow is pumped to Hollister Street Pump Station. The canyon collector at Smugglers Gulch Diversion Structure conveys diverted flow to Hollister Street Pump Station via gravity. From the Hollister Street Pump Station, the diverted flow is pumped to Junction Box 2. The remaining three canyon collectors (Silva Drain Canyon Collector, Canyon del Sol Collector, and Stewarts Drain Canyon Collector) convey flow to Junction Box 2 by gravity flow.

Combined flows gathered at Junction Box 2 are conveyed via gravity to the Facility's headworks. Junction Box 1 contains valves to control the amount of Tijuana sewage flowing into the Facility. The Discharger has the capacity to increase influent flows in the event that an interruption of service were to occur in Tijuana's sewage treatment system.

The City of Tijuana operates several wastewater treatment plants in Mexico, including the San Antonio de los Buenos Treatment Plant. The San Antonio de los Buenos Treatment Plant operates in parallel to the Facility, possesses a design capacity of 25 MGD, and receives influent flows from the City of Tijuana conveyance system. Pumping Station 1 consists of a 42-inch force main and a conveyance canal possessing an operational capacity of 36 MGD.

A schematic illustrating the described wastewater collections is included in Attachment C to this Order

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B. Description of Wastewater and Solids Treatment and Controls

Wastewater treatment unit operations and processes at the Facility consist of three mechanical bar screens, one grit removal unit, six primary sedimentation tanks with ferric chloride injection capabilities, polymer injections, seven aeration basins, and 10 secondary clarifiers. During the winter when the discharge (or outfall) plume is most likely to surface, the Discharger also chlorinates the effluent with sodium hypochlorite. Treated wastewater is discharged to the Pacific Ocean through the SBOO, via the SBLO. Attachment C provides a flow schematic of the Facility.

The advanced primary treatment facility has a peak hydraulic capacity of 100 MGD, a peak design flow rate of 75 MGD, and an average design flow rate of 25 MGD. The secondary treatment design capacity is 25 MGD with a peaking factor of approximately 2. If flow from the primary treatment units to the secondary treatment units exceeds 49.85 MGD, primary effluent flows exceeding 49.85 MGD bypass the polymer addition and activated sludge processes and discharge directly to the SBOO. Bypasses are prohibited unless they meet the requirements contained in Attachment D of this Order, section I.G The annual average daily discharge flow between the years 2008 through 2012 are summarized below:

Year	Annual Average Daily Flow
2008	23.92 MGD
2009	22.76 MGD
2010	22.95 MGD
2011	24.50 MGD
2012	23.98 MGD
2013	24.44 MGD

Solids from secondary sedimentation tanks are conveyed to three dissolved air flotation units for thickening. Thickened sludge from the dissolved air flotation units and solids collected from the primary sedimentation tanks are sent to an on-site solids handling facility for dewatering using belt-filter presses and lime stabilization. Processed solids are collected on-site and trucked to Mexico for disposal.

C. Discharge Points and Receiving Waters

The SBLO was completed in March 1994. The SBLO is 12,300 feet long. The SBLO starts at the Facility and ends at the mouth of Goat Canyon, where it connects to the SBOO. The diameter of the SBLO is 144 inches. The SBLO and SBOO were constructed for use by the Discharger and the City of San Diego's SBWRP. The SBOO extends westward approximately 23,600 feet from SBLO and the mouth of the Tijuana River. The outfall terminates in a wye diffuser with two 1,980-foot diffusers. The terminus of the ocean outfall and diffusors was placed within the territorial marine waters of the State as defined by California law.

Each diffuser leg contains 82 diffuser riser assemblies, and one at the wye structure for a total of 165 diffuser riser assemblies. The SBOO was constructed with a total average design capacity of 174 MGD and a peak hydraulic capacity of 233 MGD. The Facility is permitted to discharge up to 25 MGD of secondary treated wastewater to the outfall and the SBWRP is permitted to discharge up to 15 MGD. The effluent from the SBWRP is combined with the effluent from the Facility within the SBOO prior to discharge to the Pacific Ocean. To achieve proper effluent velocity and dilution levels, 18 diffuser risers (72 open ports) are in use on the

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South leg of the diffuser. The North leg of the diffuser is closed with no open ports. The terminus of the diffuser is located at Latitude 32° 32' 15" North, Longitude 117° 11' 00" West.

The San Diego Water Board, with assistance from the State Water Board, determined the minimum initial dilution factor to be 94.6 for the discharge of up to 40 MGD of combined effluent through the SBOO using the U.S. Environmental Protection Agency (USEPA)-approved computer modeling package Visual Plumes with the UM3 model. The computer modeling was performed based on characteristics of the SBOO, the effluent, and the receiving water, subject to the input limitations of Visual Plumes. Monthly profiles for the receiving water were developed using receiving water data provided by the Discharger for the time period between June 2002 and April 2005. Initial dilution factors were determined for each monthly profile; the most conservative and minimum initial dilution factor was determined using the May profile. Section IV.C.3 of this Fact Sheet includes additional discussion of initial dilution. Additional details of the initial dilution computer modeling performed are provided in Attachment H and in the San Diego Water Board records.

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

Influent limitations, effluent limitations, and discharge specifications contained in Order No. 96-50 for discharges from the Facility and representative monitoring data from July 2012 – October 2013 are as follows:

Table F-2. Historic Influent Limitations and Monitoring Data

Parameter	Units[1]	Influent Limitation			Monitoring Data[2] (July 2012 – October 2013)		
		Average Monthly	6-Month Median	Maximum At Anytime	Highest Average Monthly	Highest Average 6-Month Median	Highest Maximum At Anytime
Arsenic, Total Recoverable	mg/L	0.024	--	--	0.153	--	--
	lbs/day	5.0	--	--	37,093.9	--	--
Beryllium	mg/L	0.0025	--	--	<0.0018	--	--
	lbs/day	0.52	--	--	<544.9	--	--
Cadmium, Total Recoverable	mg/L	0.061	--	--	0.0121	--	--
	lbs/day	13	--	--	3,016.3	--	--
Chromium, Total Recoverable	mg/L	1.1	--	--	0.0227	--	--
	lbs/day	230	--	--	5,556.5	--	--
Copper, Total Recoverable	mg/L	--	0.15	--	--	0.955	--
	lbs/day	--	32	--	--	214.7	--
Cyanide	mg/L	--	0.075	--	--	<0.02	--
	lbs/day	--	16	--	--	<6.055	--
Lead, Total Recoverable	mg/L	0.16	--	--	0.027	--	--
	lbs/day	34	--	--	6.4	--	--
Mercury	mg/L	--	--	0.0054	--	--	0.0167
	lbs/day	--	--	1.1	--	--	4.027
Nickel, Total Recoverable	mg/L	--	0.44	--	--	0.236	--
	lbs/day	--	93	--	--	53.06	--
Silver, Total Recoverable	mg/L	--	0.052	--	--	0.012	--
	lbs/day	--	11	--	--	2.698	--

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Parameter	Units[1]	Influent Limitation			Monitoring Data[2] (July 2012 – October 2013)		
		Average Monthly	6-Month Median	Maximum At Anytime	Highest Average Monthly	Highest Average 6-Month Median	Highest Maximum At Anytime
Zinc, Total Recoverable	mg/L	--	1.1	--	--	49.8	--
	lbs/day	--	220	--	--	2,296.43	--
HCH[1]	mg/L	--	0.00042	--	--	<0.000014	--
	lbs/day	--	0.088	--	--	<0.00151	--

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

2 ND = Not Detected and NR = Not Reported

Table F-3. Historic Effluent Limitations and Monitoring Data (Major Constituents and Properties of Wastewater)

Parameter	Units[1]	Effluent Limitation			Monitoring Data[2] (July 2012 – October 2013)		
		Average Monthly	Average Weekly	Maximum At Anytime	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Maximum At Anytime
Flow	MGD	--	--	25	--	--	[3]
Carbonaceous Biochemical Oxygen Demand (5-Day at 20°C) ($CBOD_5$)	mg/L	25	40	45	18.8	33.1	140
	lbs/day	5,200	8,300	9,400	3896.6	7093.6	31,724
$CBOD_5$ percent removal	%	85	--	--	NR	--	--
Total Suspended Solids (TSS)	mg/L	30	45	50	26.2	61.7	339
	lbs/day	6,300	9,400	10,000	5570	13,573.9	76,817
TSS percent removal	%	85	--	--	NR	--	--
Oil & Grease	mg/L	25	40	75	0.1	0.1	39.6
	lbs/day	5,200	8,300	16,000	493.5	1,454.4	8,973.3
Settleable Solids	mL/L	1.0	1.5	3.0	NR	NR	6.2
Turbidity	NTU	75	100	225	8	24.9	155
pH	S.U.	Within limits of 6.0 - 9.0 at all times.			--	--	6.2-7.6[3]
Acute Toxicity	TUa	1.5	2.0	2.5	3.1	NR	8

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

2 ND = Not Detected and NR = Not Reported

3 Represents range of monitoring results

Table F-4. Historic Effluent Limitations and Monitoring Data (Protection of Marine Aquatic Life)

Parameter	Units[1]	Effluent Limitation[2]			Monitoring Data[3] (July 2012 – October 2013)		
		6-Month Median	Maximum Daily	Instantaneous Maximum	Highest 6-month Median	Highest Maximum Daily	Highest Instantaneous Maximum
Arsenic, Total Recoverable	mg/L	0.51	2.9	7.8	NR	NR	0.216
	lbs/day	110	600	1,600	NR	NR	50.15
Cadmium, Total Recoverable	mg/L	0.10	0.40	1.0	NR	NR	0.0124
	lbs/day	21	83	210	NR	NR	2.7
Chromium (VI)	mg/L	0.20	0.81	2.0	NR	NR	0.158
	lbs/day	42	170	420	NR	NR	32.46

Parameter	Units[1]	Effluent Limitation[2]			Monitoring Data[3] (July 2012 – October 2013)		
		6-Month Median	Maximum Daily	Instantaneous Maximum	Highest 6-month Median	Highest Maximum Daily	Highest Instantaneous Maximum
Copper, Total Recoverable	mg/L	0.10	1.0	2.8	NR	NR	0.0517
	lbs/day	21	210	580	NR	NR	12.94
Lead, Total Recoverable	mg/L	0.20	0.81	2.0	NR	NR	0.12
	lbs/day	42	170	420	NR	NR	25.31
Mercury	mg/L	4.0	16	40	NR	NR	0.0133
	lbs/day	0.83	3.3	8.3	NR	NR	3.01
Nickel, Total Recoverable	mg/L	0.51	2.0	5.1	NR	NR	0.0295
	lbs/day	100	420	1,000	NR	NR	6.1
Selenium	mg/L	1.5	6.1	15	NR	NR	0.0546
	lbs/day	310	1,300	3,100	NR	NR	11.97
Silver, Total Recoverable	mg/L	0.055	0.27	0.69	NR	NR	<0.0007
	lbs/day	11	56	140	NR	NR	0.2119
Zinc, Total Recoverable	mg/L	1.2	7.3	19	NR	NR	1.4
	lbs/day	250	1,500	4,000	NR	NR	344.79
Cyanide	mg/L	0.10	0.40	1.0	NR	NR	<0.00002
	lbs/day	21	83	210	NR	NR	6.054
Total Chlorine Residual	mg/L	0.20	0.81	6.1	NR	NR	0.0002
	lbs/day	42	170	1,300	NR	NR	45.3
Ammonia (as N)	mg/L	61	240	610	NR	NR	0.0394
	lbs/day	13,000	50,000	130,000	NR	NR	8927.95
Chronic Toxicity	TUc	--	--	100	--	400	200
Phenolic Compounds[1] (Non-Chlorinated)	mg/L	3.0	12	30	NR	NR	<0.0249
	lbs/day	630	2,500	6,300	NR	NR	5.15
Chlorinated Phenolics[1]	mg/L	0.10	0.40	1.0	NR	NR	<0.011
	lbs/day	21	83	210	NR	NR	2.185
Endosulfan[1]	µg/L	0.91	1.8	2.7	NR	NR	<0.034
	lbs/day	0.19	0.38	0.56	NR	NR	NR
Endrin	µg/L	0.20	0.40	0.61	NR	NR	<0.002
	lbs/day	0.042	0.083	0.13	NR	NR	0.00052
HCH[1]	µg/L	0.40	0.81	1.2	NR	NR	<0.014
	lbs/day	0.083	0.17	0.25	NR	NR	0.0031
Radioactivity	Not to exceed limits specified in title 17, division 1, chapter 5, subchapter 4, group 3, article 3, section 30253 of the California Code of Regulations.						

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

2 Effluent limits determined using the 2012 California Ocean Plan, an initial dilution factor of 94.6, and a flow rate of 25 MGD.

3 ND = Not Detected and NR = Not Reported

Table F-5. Historic Effluent Limitations and Monitoring Data (protection of Human Health)

Parameter	Units[1]	Effluent Limitation[2]	Monitoring Data[3] (July 2012 – October 2013)
		30-day Average	Highest 30-day Average
Acrolein	mg/L	22	< 0.020
	lbs/day	4,600	NR
Antimony	mg/L	120	<0.023
	lbs/day	25,000	NR
Bis(2-chloroethoxy)methane	mg/L	0.44	<0.001
	lbs/day	92	NR

Parameter	Units[1]	Effluent Limitation[2]	Monitoring Data[3] (July 2012 – October 2013)
		30-day Average	Highest 30-day Average
Bis(2-chloroisopropyl)ether	mg/L	120	<0.001
	lbs/day	25,000	NR
Chlorobenzene	mg/L	58	<0.001
	lbs/day	12,000	NR
Chromium (III)	g/L	19,000	0.026
	lbs/day	4,000,000	NR
Di-n-butyl Phthalate	mg/L	350	0.0069
	lbs/day	73,000	NR
Dichlorobenzenes[1]	g/L	0.52	$2.0x10^{-12}$
	lbs/day	110,000	NR
Diethyl Phthalate	g/L	3.3	$19x10^{-6}$
	lbs/day	690,000	NR
Dimethyl Phthalate	g/L	83	<0.001
	lbs/day	17,000,000	NR
4,6-dinitro-2-methylphenol	mg/L	22	<0.001
	lbs/day	4,600	NR
2,4-dinitrophenol	µg/L	0.40	22.75
	lbs/day	83	NR
Ethylbenzene	mg/L	400	0.0087
	lbs/day	83,000	NR
Fluoranthene	mg/L	1.5	<0.001
	lbs/day	310	NR
Hexachloro-cyclopentadiene	mg/L	5.9	<0.001
	lbs/day	1,200	NR
Nitrobenzene	mg/L	0.49	<0.001
	lbs/day	100	NR
Thallium	mg/L	1.4	<0.011
	lbs/day	290	NR
Toluene	g/L	8.6	0.11
	lbs/day	1,800,000	NR
Tributyltin	µg/L	0.14	0.003
	lbs/day	0.029	NR
1,1,1-trichloroethane	g/L	54	$<1x10^{-6}$
	lbs/day	11,000,000	NR
Acrylonitrile	µg/L	10	<20
	lbs/day	2.1	NR
Aldrin	ng/L	2.2	<75
	lbs/day	0.00046	NR
Benzene	mg/L	0.60	<0.001
	lbs/day	120	NR
Benzidine	ng/L	7.0	<1
	lbs/day	0.0015	NR
Beryllium	µg/L	3.3	<0.009
	lbs/day	0.69	NR
Bis(2-chloroethyl)ether	µg/L	4.5	<1
	lbs/day	0.94	NR
Bis(2-ethylhexyl) phthalate	µg/L	350	61
	lbs/day	73	NR
Carbon Tetrachloride	µg/L	0.91	<1
	lbs/day	19	NR
Chlordane[1]	ng/L	2.3	<50
	lbs/day	0.00048	NR
Chlorodibromomethane (dibromochloromethane)	NA	NA	
	NA	NA	

Parameter	Units[1]	Effluent Limitation[2]	Monitoring Data[3] (July 2012 – October 2013)
		30-day Average	Highest 30-day Average
Chloroform	mg/L	13	0.015
	lbs/day	2,700	NR
DDT[1]	ng/L	17	<10
	lbs/day	0.0035	NR
1,4-dichlorobenzene	mg/L	1.8	<0.001
	lbs/day	380	NR
3,3-dichlorobenzidine	µg/L	0.82	1
	lbs/day	0.17	NR
1,2-dichlorothane	mg/L	13	<0.001
	lbs/day	2,700	NR
1,1-dichloroethylene	g/L	72	$<1x10^{-6}$
	lbs/day	150,000	NR
Dichlorobromomethane	NA	NA	
	NA	NA	
Dichloromethane (Methylene Chloride)	mg/L	45	<0.001
	lbs/day	9,400	NR
1,3-dichloropropene (1,3-Dichloropropylene)	mg/L	0.90	<0.001
	lbs/day	190	NR
Dieldrin	ng/L	4.0	<20
	lbs/day	0.00083	NR
2,4-dinitrotoluene	µg/L	260	< 1
	lbs/day	54	NR
1,2-diphenylhydrazine	µg/L	16	< 5
	lbs/day	3.3	NR
Halomethanes[1]	mg/L	13	0.0363
	lbs/day	2,700	NR
Heptachlor	ng/L	73	<0.01
	lbs/day	0.015	NR
Heptachlor Epoxide	NA	NA	
	NA	NA	
Hexachlorobenzene	ng/L	21	<1
	lbs/day	0.0044	NR
Hexachlorobutadiene	mg/L	1.4	<0.001
	lbs/day	290	NR
Hexachloroethane	µg/L	250	<1
	lbs/day	52	NR
Isophorone	g/L	15	<0.001
	lbs/day	3,100,000	NR
N-nitrosodimethylamine	mg/L	0.74	0.003
	lbs/day	150	NR
N-nitrosodi-N-propylamine	NA	NA	
	NA	NA	
N-nitrosodiphenylamine	µg/L	250	<1
	lbs/day	52	NR
PAHs[1]	µg/L	0.89	< 1
	lbs/day	0.19	NR
PCBs[1]	ng/L	1.9	<500
	lbs/day	0.00040	NR
TCDD Equivalents[1]	pg/L	0.39	<5
	lbs/day	$8.1x10^{-8}$	NR
1,1,2,2-tetrachlorothane	mg/L	120	<0.001
	lbs/day	25,000	NR
Tetrachloroethylene (Tetrachloroethene)	mg/L	1.0	0.005
	lbs/day	210	NR

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Parameter	Units[1]	Effluent Limitation[2]	Monitoring Data[3] (July 2012 – October 2013)
		30-day Average	Highest 30-day Average
Toxaphene	ng/L	21	<1,000
	lbs/day	0.0044	NR
Trichloroethylene (Trichloroethene)	mg/L	2.7	0.012
	lbs/day	560	NR
1,1,2-trichloroethane	g/L	4.3	$<1x10^{-6}$
	lbs/day	900,000	NR
2,4,6-Trichlorophenol	µg/L	29	0.4
	lbs/day	6.0	NR
Vinyl Chloride	mg/L	3.6	<0.005
	lbs/day	750	NR

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

2 Effluent limits determined using the 2012 California Ocean Plan, an initial dilution factor of 94.6, and a flow rate of 25 MGD.

3 ND = Not Detected and NR = Not Reported

E. Compliance Summary

The Facility first started to discharge advanced primary-treated effluent to the SBOO in January 1999, under Order No. 96-50. As explained in section II of this Fact Sheet, the Facility was initially planned as a secondary treatment facility; however, due to financial constraints, the plant was instead constructed as an advanced primary treatment facility in 1996. The primary-treated effluent could not comply with the secondary treatment effluent limitations contained in Order No. 96-50 and there were numerous exceedances of other effluent limitations as well. The effluent exceedances included acute toxicity, ammonia, $CBOD_5$, chronic toxicity, mercury, TCDD equivalents, TSS, 2,4,6-trichlorophenol, chlordane, copper, DDT, nickel, PAH, PCB, tributyltin, zinc, turbidity, and flow. From 1996 to 2001, the Facility was regulated under Cease and Desist Order No. 96-52, which contained a time schedule for achieving compliance with the secondary treatment effluent limitations contained in Order No. 96-50. The Cease and Desist Order also contained interim effluent limitations which would remain in effect until compliance with secondary treatment effluent limitations was achieved. From 2001 to approximately June 20, 2013, the Facility was subject to a federal court's judgment setting a compliance schedule for meeting federal and state secondary treatment requirements through construction of an activated sludge secondary treatment process at the Facility to improve effluent quality.

The Facility upgrade to secondary treatment became operational in November 2010; however, due to various operational problems the facility was unable to consistently achieve substantial compliance with secondary treatment effluent limitations until mid-2012. Since June 2013, the Discharger has reported the following influent and effluent limitation exceedances:

- Arsenic (two violations of the monthly average influent concentration limitation (mg/L) and two violations of the monthly average influent mass emission limitation (lb/day) on July 27, 2013 and October 20, 2013).
- Mercury (one violation of the monthly average influent concentration limitation (mg/L) and one violation of the monthly average influent mass emission limitation (lb/day) on August 6, 2013).

- $CBOD_5$ (two violations of the instantaneous maximum effluent concentration limitation (mg/L) and two violations of the instantaneous maximum effluent mass emission limitation (lb/day) on March 10 and 16, 2014).
- TSS (two violations of the instantaneous maximum effluent concentration limitation (mg/L) and two violations of the instantaneous maximum effluent mass emission limitation (lb/day) on March 10 and 16, 2014).
- Acute Toxicity (one violation of the instantaneous maximum effluent limitation and nine violations of the 30-day average effluent limitation on July 25 and 31, 2013; August 5, 8, 13, 15, and 19, 2013; and March 26 and 27, 2014).
- TCDD (four violations of the 30-day average effluent concentration limitation (mg/L) on July 1, 2013; August 1, 2013; September 1, 2013; and October 1, 2013).

Under the Tentative Order, since June 2013, the Discharger would have only had the following violations:

- Arsenic (two violations of the monthly average influent concentration limitation (mg/L) and two violations of the monthly average influent mass emission limitation (lb/day) on July 27, 2013 and October 20, 2013).
- Mercury (one violation of the monthly average influent concentration limitation (mg/L) and one violation of the monthly average influent mass emission limitation (lb/day) on August 6, 2013).
- Acute Toxicity (one violation of the instantaneous maximum limitation on March 26, 2014).
- TCDD (four violations of the 30-day average concentration limitation (mg/L) on July 1, 2013; August 1, 2013; September 1, 2013; and October 1, 2013).

F. Planned Changes

The Discharger completed an upgrade to secondary treatment in November, 2010 and has not indicated that any plans exist to make additional upgrades or alterations to its system.

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

B. California Environmental Quality Act

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of chapter 3 of the California Environmental Quality Act (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 Water Quality Control Plan for the San Diego Basin (Basin Plan) designates beneficial uses, establishes water quality objectives, and

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contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. The San Diego Water Board adopted, and the State Water Board approved the Basin Plan in 1975. A subsequent revision to the Basin Plan was adopted by the San Diego Water Board and approved by the State Water Board in 1994. Beneficial uses applicable to the Pacific Ocean specified in the Basin Plan are as follows:

Table F-6. Basin Plan Beneficial Uses

Discharge Point No.	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	Industrial service supply; navigation; contact water recreation; non-contact water recreation; commercial and sport fishing; preservation of biological habitats of special significance; wildlife habitat; rare, threatened, or endangered species; marine habitat; aquaculture; migration of aquatic organisms; spawning, reproduction, and/or early development; and shellfish harvesting.

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, and 2012. The State Water Board adopted the latest amendment on October 16, 2012, and it became effective on August 19, 2013. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the state to be protected as summarized below:

Table F-7. Ocean Plan Beneficial Uses

Discharge Point No.	Receiving Water	Beneficial Uses
001	Pacific Ocean	Industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish 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. **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.

4. **Antidegradation Policy.** 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 Resolution No. 68-16

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("Statement of Policy with Respect to Maintaining High Quality of Waters in California"). Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The 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 Resolution No. 68-16.

5. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and 40 CFR section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

6. **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 USCA sections 1531 to 1544). This Order requires compliance with effluent limitations, receiving water limitations, and other requirements to protect the beneficial uses of waters of the State. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

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

On November 12, 2010, USEPA approved the list of impaired water bodies, prepared by the State Water Board pursuant to section 303(d) of the CWA, which are not expected to meet applicable water quality standards after implementation of technology-based effluent limitations for point sources. The 303(d) list for waters in the vicinity of the Tijuana River, Tijuana River Estuary, and SBOO include:

1. Pacific Ocean Shoreline, Otay Valley HA, at Carnation Ave and Camp Surf Jetty for total coliform
2. Pacific Ocean Shoreline, Imperial Beach Pier for fecal coliform, total coliform, and PCBs (fish tissue)
3. Pacific Ocean Shoreline, Tijuana HU, at end of Seacoast Drive for enterococcus, fecal coliform, and total coliform
4. Pacific Ocean Shoreline, Tijuana HU, at 3/4 mile North of Tijuana River for enterococcus, fecal coliform, and total coliform
5. Pacific Ocean Shoreline, Tijuana HU, at Tijuana River mouth for enterococcus, fecal coliform, and total coliform
6. Pacific Ocean Shoreline, Tijuana HU, at Monument Road for fecal coliform and total coliform
7. Pacific Ocean Shoreline, Tijuana HU, at the U.S. Border for enterococcus, fecal coliform, and total coliform
8. Tijuana River, Tijuana HU, eutrophic, indicator bacteria, low dissolved oxygen, pesticides, phosphorus, sedimentation/ siltation, selenium, solids, surfactants (MBAS), synthetic organics, total nitrogen as N, toxicity, trace elements, and trash.
9. Tijuana River Estuary, Tijuana HU, eutrophic, indicator bacteria, lead, nickel, pesticides, thallium, trash, and turbidity.

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Currently, there is no effective total maximum daily load (TMDL) for the Pacific Ocean near the SBOO. A draft TMDL is under development for the Tijuana River for solids, turbidity, and trash.

E. Other Plans, Polices and Regulations

1. **Secondary Treatment Regulations.** 40 CFR part 133 establishes the minimum levels of effluent quality to be achieved by secondary treatment. These limitations, established by the USEPA, are incorporated into this Order, except where more stringent limitations are required by other applicable plans, policies, or regulations.

2. **Storm Water.** Sewage treatment works with a design flow of 1.0 MGD or greater are required to comply with Water Quality Order No. 97-03-DWQ (NPDES General Permit No. CAS000001), *Waste Discharge Requirements for Dischargers of Storm Water Associated with Industrial Activities, Excluding Construction Activities*.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 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 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. 96-50, as described below. Compliance determination language is included in section VII of this Order to accurately describe how violations of these prohibitions are determined. Discharges from the Facilities to surface waters of the United States in violation of prohibitions contained in this Order are violations of the CWA and therefore are subject to third party lawsuits. Discharges from the Facilities to land that are not discharges to waters of the United States are violations governed by 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.

Discharge Prohibitions III.A through III.C have been carried over from Order No. 96-50. Prohibition III.A clearly defines what types of discharges are prohibited. This prohibition is based on 40 CFR section 122.21(a), duty to apply, and CWC section 13260, which requires filing a ROWD before discharges can occur. Discharges not described in the ROWD, and subsequently in this Order, are prohibited. Prohibition III.B and III.C include discharge prohibitions of the Ocean Plan and the Basin Plan.

Order No. 96-50 prohibited bypassing of untreated wastes, except as provided for in 40 CFR section 122.41(m). Because this prohibition is expressly included in Attachment D of this Order, this requirement is not retained in section III of this Order.

Order No. 96-50 prohibited discharges to the Pacific Ocean through the SBOO in excess of a 25.0 MGD flow rate at any time unless the discharger obtains revised waste discharge requirements authorizing an increased flow rate. Because this prohibition is now included as an effluent limitation, this requirement is not retained in section III of this Order.

Order No. 96-50 prohibited discharges of waste to Areas of Special Biological Significance and the discharge of sludge to the ocean. Because these prohibitions are expressly included in the Ocean Plan prohibitions, which are included in this Order as Prohibition III.B and

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incorporated in Attachment G of this Order, these specific requirements are not retained in section III of this Order.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at 40 CFR section 122.44(a)(1) 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.

Regulations promulgated in 40 CFR section 125.3 require technology-based effluent limitations to be placed in NPDES permits.

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements attainable through the application of secondary treatment [defined in 40 CFR section 304(d)(1)].

Based on this statutory requirement, USEPA developed secondary treatment regulations, which are specified in 40 CFR part 133. These technology-based regulations apply to all wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of Biochemical Oxygen Demand (5-day) (BOD_5), TSS, and pH. In lieu of effluent limitations for BOD_5 where BOD_5 may not provide a reliable measure of the oxygen demand of the effluent, 40 CFR section 133.102(a)(4) allows for effluent limitations for $CBOD_5$ to be applied.

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 technology-based effluent limitations for publicly-owned treatment works (POTW) and industrial discharges for which Effluent Limitation Guidelines have not been established pursuant to sections 301, 302, or 306 of the CWA (summarized in Table F-6 below). Although this Facility does not meet the definition of a POTW, the Facility is a federally-owned treatment works that serves the same functions. Thus, this Order established numeric effluent limitations based on Table 2 of the Ocean Plan.

The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 CFR part 133 and technology-based requirements contained in Table 2 of the Ocean Plan.

2. Applicable Technology-Based Effluent Limitations

This Order does not retain the "Maximum at Any Time" (instantaneous maximum) effluent limitations for $CBOD_5$ and TSS contained in Order No. 96-50 which were established using best professional judgment. Recent attempts to derive instantaneous maximum effluent limitations based on the secondary treatment standards at 40 CFR part 133 using appropriate statistical approaches did not yield results similar to the previous instantaneous maximum effluent limitations; therefore, based on this new information, retaining the previous instantaneous maximum effluent limitations for $CBOD_5$ and TSS in this Order is not supported.

Technology-based regulations, specified in 40 CFR part 133, are summarized in the table below.

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Table F-8. Summary of Technology-Based Effluent Limitations Based on Secondary Treatment Standards

Parameter	Monthly Average	Weekly Average	30-day Percent Removal
$CBOD_5$	25 mg/L	40 mg/L	85%
TSS	30 mg/L	45 mg/L	85%
pH	Effluent values shall remain within the limits of 6.0 to 9.0 at all times		
Percent Removal	The 30-day average percent removal of $CBOD_5$ and TSS shall not be less than 85 percent.		

Technology-based regulations, specified in Table 2 of the Ocean Plan, are summarized below:

Table F-9. Summary of Technology-Based Effluent Limitations Based on Table 2 of the Ocean Plan

Parameter	Unit	Average Monthly	Average Weekly	Instantaneous Minimum	Instantaneous Maximum
Grease and Oil	mg/L	25	40		75
TSS	mg/L	60[1]	--		--
Settleable Solids	mL/L	1.0	1.5		3.0
Turbidity	NTU	75	100		225
pH	standard units	--	--	6.0	9.0
Percent Removal	Dischargers shall, as a 30-day average, remove 75 percent of suspended solids from the influent stream before discharging wastewaters to the ocean, except that the effluent limitation to be met shall not be lower than 60 mg/L.				

Because secondary treatment standards contain effluent limitations for TSS that are more stringent than Table 2 of the Ocean Plan, the more stringent effluent limitations for TSS will be applied to discharges from the Facility.

The current permitted flow is an instantaneous maximum of 25 MGD based on the Facility's design capacity. As discussed in section II of this Fact Sheet, the Facility was upgraded to provide secondary treatment. The advanced primary treatment facility has a peak hydraulic capacity of 100 MGD, peak design flow rate of 75 MGD, and an average design flow rate of 25 MGD. The secondary treatment design capacity is 25 MGD with a peaking factor of approximately 2. Therefore, the effluent limitation for flow is being modified to an average monthly flow rate of 25 MGD.

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, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under section 304(a) of the CWA, 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 Ocean Plan.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

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

a. Basin Plan. The beneficial uses specified in the Basin Plan applicable to the Pacific Ocean are summarized in section 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 includes water quality objectives for pH applicable to the receiving water.

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 chlorine residual and chronic toxicity, for the protection of marine aquatic life.

ii. 30-day average objectives for 20 non-carcinogenic chemicals for the protection of human health.

iii. 30-day average objectives for 42 carcinogenic chemicals for the protection of human health.

iv. Daily maximum objectives for acute and chronic toxicity.

3. Determining the Need for WQBELs

Order No. 96-50 contained effluent limitations for non-conventional and toxic pollutant parameters in Table B of the 1990 California Ocean Plan. For this Order, the need for effluent limitations based on water quality objectives in Table 1 of the 2012 Ocean Plan was re-evaluated 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-

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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 probable initial dilution) can then be compared to the appropriate objective to determine the potential for an exceedance of that objective and the need for an effluent limitation. According to the Ocean Plan amendment, the RPA can yield three endpoints: 1) Endpoint 1, an effluent limitation is required and monitoring is required; 2) Endpoint 2, an effluent limitation is not required and the San Diego Water Board may require monitoring; 3) Endpoint 3, the RPA is inconclusive, monitoring is required, and an existing effluent limitation may be retained or a permit reopener clause may be included to allow inclusion of an effluent limitation if future monitoring warrants the inclusion. Endpoint 3 is typically the result when there are fewer than 16 data points and all are censored data (i.e., below quantitation or method detection levels for an analytical procedure). If no data was provided for a parameter, and an RPA could not be conducted for that parameter, reasonable potential for that parameter was carried over to this Order based on the requirements of federal and State anti-backsliding regulations. Data for all parameters was available to conduct an RPA.

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

Prior to issuance of Order No. 96-50, the State Water Board had determined the minimum initial dilution factor (Dm), expressed as parts seawater per part wastewater, for the SBOO to be 100. This determination was based on 660 diffuser ports being open and an average daily flow rate of 174 MGD, although, at the time, the total permitted flow rate through the SBOO was only 25 MGD. Prior to issuance of Order No. R9-2006-0067, NPDES Permit No. CA0109045, *Waste Discharge Requirements for the City of San Diego South Bay Water Reclamation Plant Discharge to the Pacific Ocean via the South Bay Ocean Outfall*, the Dm was recalculated in order to account for the maximum permitted effluent flow through the SBOO (25 MGD from the Facility and 15 MGD from SBWRP) and the current configuration of the diffuser (72 open ports). The new recalculated Dm was determined as 94.6 using the USEPA approved computer modeling application Visual Plumes with the UM3 model. There is insufficient data for the SBOO's effluent at this time to reevaluate Dm. Further, the Facility's upgrade to secondary treatment is expected to result in lower conductivity and thus more dilution. Therefore, the current Dm of 94.6 will be applied to WQBELs established herein.

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

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-10. For parameters that do not display reasonable potential, this Order includes desirable maximum effluent concentrations which were

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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 pursuant to 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 July 2012[1] to October 2013 were used in the RPA. A minimum probable initial dilution of 94.6 was considered in this evaluation.

A summary of the RPA results is provided below:

Table F-10. RPA Results Summary

Parameter	Units[10]	n[1]	MEC[2,4]	Most Stringent Criteria	Background	RPA Endpoint[3]
Arsenic	µg/L	61	216	8[5]	3[6]	2
Cadmium	µg/L	61	7.5	1[5]	0	2
Chromium, Total Recoverable	µg/L	61	158	2[5]	0	2
Copper	µg/L	61	42.8	3[5]	2[6]	2
Lead	µg/L	61	120	2[5]	0	2
Mercury	µg/L	61	13.3	0.04[5]	0.0005[6]	1
Nickel	µg/L	59	29.5	5[5]	0	2
Selenium	µg/L	60	54.6	15[5]	0	2
Silver	µg/L	57	<0.7	0.7[5]	0.16[6]	2
Zinc	µg/L	61	1400	20[5]	8[6]	1
Cyanide	µg/L	57	<0.02	1[5]	0	2
Total Chlorine Residual	µg/L	423	0.2	2[5]	0	2
Ammonia	µg/L	61	39.4	600[5]	0	2
Acute Toxicity	TUa	57	8	0.3[7]	0	1
Chronic Toxicity	TUc	50	200	1[7]	0	1
Phenolic Compounds[10]	µg/L	65	<1.26	30[5]	0	2
Chlorinated Phenolics[10]	µg/L	65	<2	1[5]	0	2
Endosulfan[10]	µg/L	56	<0.02	0.009[5]	0	2
Endrin	µg/L	57	<0.002	0.002[5]	0	2
HCH[10]	µg/L	57	<0.005	0.004[5]	0	2
Radioactivity	pCi/L	--	--	[8]	0	--
Acrolein	µg/L	16	<2.6	220[9]	0	2
Antimony	µg/L	61	278	1,200[9]	0	2
Bis(2-chloroethoxyl)methane	µg/L	30	<0.27	4.4[9]	0	2
Bis(2-chloroisopropyl)ether	µg/L	16	<0.38	1,200[9]	0	2
Chlorobenzene	µg/L	16	<0.31	570[9]	0	2
Chromium (III)	µg/L	61	158	190,000[9]	0	2
Di-n-butyl phthalate	µg/L	16	<0.25	3,500[9]	0	2
Dichlorobenzenes[10]	µg/L	16	<0.55	5,100[9]	0	2
Diethyl phthalate	µg/L	16	<1	33,000[9]	0	2
Dimethyl phthalate	µg/L	32	<0.22	820,000[9]	0	2
4,6-Dinitro-2-methylphenol	µg/L	16	<1	220[9]	0	2
2,4-Dinitrophenol	µg/L	16	<1	4.0[9]	0	2

[1] This time frame corresponds to the dates that the Discharger started to come into substantial compliance with NPDES Permit effluent limitations, as explained in section II of this Fact Sheet.

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Parameter	Units[10]	n[1]	MEC[2,4]	Most Stringent Criteria	Background	RPA Endpoint[3]
Ethylbenzene	µg/L	16	<0.38	4,100[9]	0	2
Fluoranthene	µg/L	16	<0.13	15[9]	0	2
Hexachlorocyclopentadiene	µg/L	16	<1	58[9]	0	2
Nitrobenzene	µg/L	16	<0.23	4.9[9]	0	2
Thallium	µg/L	61	565	2[9]	0	1
Toluene	µg/L	16	1.4	85,000[9]	0	2
Tributyltin	µg/L	16	<0.004	0.0014[9]	0	3
1,1,1-Trichloroethane	µg/L	16	<0.23	540,000[9]	0	2
Acrylonitrile	µg/L	16	<1.5	0.10[9]	0	2
Aldrin	µg/L	53	<0.002	0.000022[9]	0	2
Benzene	µg/L	16	<0.47	5.9[9]	0	2
Benzidine	µg/L	16	<1	0.000069[9]	0	3
Beryllium	µg/L	69	<1.8	0.033[9]	0	2
Bis(2-chloroethyl) ether	µg/L	16	<0.42	0.045[9]	0	2
Bis(2-ethylhexyl) phthalate	µg/L	16	9	3.5[9]	0	2
Carbon tetrachloride	µg/L	16	<0.38	0.90[9]	0	2
Chlordane[10]	µg/L	138	<10	0.000023[9]	0	3
Chlorodibromomethane (dibromochloromethane)	µg/L	16	<0.36	8.6[9]	0	3
Chloroform	µg/L	16	6.9	130[9]	0	2
DDT[10]	µg/L	69	<3.007	0.00017[9]	0	3
1,4-Dichlorobenzene	µg/L	16	<0.26	18[9]	0	2
3,3-Dichlorobenzidine	µg/L	16	<0.0062	0.0081[9]	0	2
1,2-Dichloroethane	µg/L	16	<0.25	28[9]	0	2
1,1-Dichloroethylene	µg/L	16	<0.07	0.9[9]	0	2
Dichlorobromomethane	µg/L	16	4.1	6.2[9]	0	2
Dichloromethane (Methylene Chloride)	µg/L	16	<0.43	450[9]	0	2
1,3-dichloropropene (1,3-Dichloropropylene)	µg/L	16	<0.32	8.9[9]	0	2
Dieldrin	µg/L	69	<0.002	0.00004[9]	0	2
2,4-Dinitrotoluene	µg/L	16	<0.45	2.6[9]	0	2
1,2-Diphenylhydrazine	µg/L	16	<1	0.16[9]	0	2
Halomethanes[10]	µg/L	16	<2.43	130[9]	0	2
Heptachlor	µg/L	69	<0.002	0.00005[9]	0	2
Heptachlor Epoxide	µg/L	69	<0.003	0.00002[9]	0	3
Hexachlorobenzene	µg/L	16	<0.35	0.00021[9]	0	3
Hexachlorobutadiene	µg/L	16	<0.56	14[9]	0	2
Hexachloroethane	µg/L	16	<0.25	2.5[9]	0	2
Isophorone	µg/L	16	<0.64	730[9]	0	2
N-nitrosodimethylamine	µg/L	69	<1	7.3[9]	0	2
N-nitrosodi-N-propylamine	µg/L	69	<0.58	0.38[9]	0	2
N-nitrosodiphenylamine	µg/L	69	<0.12	2.5[9]	0	2
PAHs[10]	µg/L	60	<0.34	0.0088[9]	0	2
PCBs[10]	µg/L	65	<2.8	0.000019[9]	0	3
TCDD equivalents[10]	pg/L	14	0.0001736	0.0000039[9]	0	1
1,1,2,2-Tetrachoroethane	µg/L	16	<0.42	2.3[9]	0	2
Tetrachloroethylene (Tetrachloroethene)	µg/L	16	<0.31	2.0[9]	0	2
Toxaphene	µg/L	69	<0.5	0.00021[9]	0	3

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Parameter	Units[10]	n[1]	MEC[2,4]	Most Stringent Criteria	Background	RPA Endpoint[3]
Trichloroethylene (Trichloroethene)	µg/L	16	<0.23	27[9]	0	2
1,1,2-Trichloroethane	µg/L	16	<0.34	9.4[9]	0	2
2,4,6-Trichlorophenol	µg/L	69	<1	0.29[9]	0	2
Vinyl Chloride	µg/L	16	<0.47	36[9]	0	2

1 Number of data points available for the RPA.
2 If there is a detected value, the highest reported value is summarized in the table. If there are no detected values, the lowest MDL is summarized in the table.
3 End Point 1 – Reasonable Potential (RP) determined, limit required, monitoring required.
End Point 2 – Discharge determined not to have RP, monitoring may be established.
End Point 3 – RPA was inconclusive, carry over previous limitations if applicable, and establish monitoring.
4 Note that the reported MEC does not account for dilution. The RPA does account for dilution; therefore it is possible for a parameter with an MEC in exceedance of the most stringent criteria not to present a RP (i.e. Endpoint 2).
5 Based on the 6-Month Median in the Table 1 of the Ocean Plan.
6 Background concentrations contained in Table 3 of the Ocean Plan.
7 Based on the Daily Maximum in Table 1 of the Ocean Plan.
8 Not to exceed limits specified in title 17, division 1, chapter 5, subchapter 4, group 3, article 3, section 30253 of the California Code of Regulations. Levels of radioactivity that exceed the applicable criteria are not expected in the discharge.
9 Based on 30-Day Average in Table 1 of the Ocean Plan.
10 See Attachment A for definitions of abbreviations and a glossary of common terms used in 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 zinc, mercury, acute toxicity, chronic toxicity, TCDD equivalents, and thallium. Thus effluent limitations for these parameters have been retained.

For parameters for which the RPA was inconclusive (Endpoint 3), reasonable potential was not determined and effluent limitations are retained. Endpoint 3 applied to tributyltin, benzidine, chlordane, chlorodibromomethane, DDT, heptachlor epoxide, hexachlorobenzene, PCBs, and toxaphene. Thus effluent limitations for these parameters were retained.

Consistent with 40 CFR section 122.44(l)(2)(i)(B), effluent limitations from Order No. 96-50 were not retained for parameters for which there was no RP (Endpoint 2). Instead, performance goals have been assigned for these parameters.

The monitoring requirements in Attachment E of this Order are designed to obtain additional information for these constituents 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 equations:

For all pollutants, except for acute toxicity (if applicable) and radioactivity:

$Ce = Co + Dm (Co – Cs)$ where,
Ce = the effluent limitation (µg/L)

Co = the water quality objective to be met at the completion of initial dilution (µg/L)

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Cs = background seawater concentration (µg/L), from Table 3 of the Ocean Plan

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

For acute toxicity (if applicable):

Ce = Ca + (0.1) Dm (Ca) where,
Ce = the effluent limitation

Ca = the concentration (water quality objective) to be met at the edge of the acute mixing zone

Dm = minimum probable initial dilution expressed as parts seawater per part wastewater (This equation applies only when Dm > 24)

b. As discussed in section IV.C.3 above, the Dm has been determined to be 94.6 by the San Diego Water Board through the application of USEPA's dilution model, Visual Plumes.

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 are summarized below:

Table F-11. Pollutants Having Background Concentrations

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

d. 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. Section III.C.4.j of the Ocean Plan requires that mass emission rate limitations be established in addition to the effluent concentration limitations for all Table 1 parameters. This Order includes effluent limitations expressed in terms of mass and concentration. In addition, pursuant to the exceptions to mass limitations provided in 40 CFR section 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH and temperature. Exceptions to mass limitations are also allowable where effluent limitations are based on applicable standards expressed in terms of concentration (e.g., CTR criteria and MCLs) and mass limitations are not necessary to protect the beneficial uses of the receiving water.

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

lb/day = Permitted Flow (MGD) x Pollutant Concentration (mg/L) x 8.34

e. The calculations for the effluent limitations for zinc are shown below as an example of how effluent limitations and performance goals have been calculated.

Table F-12. Water Quality Objectives from the Ocean Plan for Zinc

Parameter	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
zinc	µg/L	20	80	200

Using the equations in sections IV.C.4.a and d above, effluent limitations are calculated for zinc as follows.

Ce = Co + Dm (Co – Cs)

Ce = 2 + 94.6 (20 – 0) = 1,155.2 µg/L (6-Month Median)

Ce = 8 + 94.6 (80 – 0) = 6,891.2 µg/L (Daily Maximum)

Ce = 60 + 94.6 (200 – 0) = 18,363.2 µg/L (Instantaneous Maximum)

lb/day = Permitted Flow (MGD) x Pollutant Concentration (mg/L) x 8.34

lb/day = 25 MGD x 1.1552 mg/L x 8.34 = 241 lb/day

lb/day = 25 MGD x 6.8912 mg/L x 8.34 = 1437 lb/day

lb/day = 25 MGD x 1.83632 mg/L x 8.34 = 3829 lb/day

Due to a decrease in the minimum probable initial dilution (explained in section IV.C.3 above), the calculated effluent limitations for zinc are less than those in the previous Order.

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

f. A summary of the WQBELs established in this Order is provided below:

Table F-13. Summary of Water Quality-based Effluent Limitations, Discharge Point No. 001

Parameter	Unit[1]	Water Quality-Based Effluent Limitations[2]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
BASED ON OCEAN PLAN OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE					
Mercury, Total Recoverable	µg/L	3.78E+00	1.52E+01	3.82E+01	--
	lbs/day	7.87E-01	3.18E+00	7.96E+00	--
Zinc	µg/L	1.16E+03	6.89E+03	1.84E+04	
	lbs/day	2.41E+02	1.44E+03	3.83E+03	
Acute Toxicity	TUa	--	3.2	--	--
Chronic Toxicity	TUc	--	95.6	--	--

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BASED ON OCEAN OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS					
Thallium, Total Recoverable	µg/L	--	--	--	1.91E+02
	lbs/day	--	--	--	3.99E+01
Tributyltin	µg/L	--	--	--	1.34E-01
	lbs/day	--	--	--	2.79E-02
Benzidine	µg/L	--	--	--	6.60E-03
	lbs/day	--	--	--	1.38E-03
Chlordane[1]	µg/L	--	--	--	2.20E-03
	lbs/day	--	--	--	4.58E-04
Chlorodibromomethane (dibromochloromethane)	µg/L	--	--	--	8.22E+02
	lbs/day	--	--	--	1.71E+02
DDT[1]	µg/L				1.63E-02
	lbs/day				3.39E-03
Heptachlor Epoxide	µg/L	--	--	--	1.91E-03
	lbs/day	--	--	--	3.99E-04
Hexachlorobenzene	µg/L	--	--	--	2.01E-02
	lbs/day	--	--	--	4.19E-03
PCBs[1]	µg/L	--	--	--	1.82E-03
	lbs/day	--	--	--	3.79E-04
TCDD equivalents[1]	µg/L	--	--	--	3.73E-07
	lbs/day	--	--	--	7.77E-08
Toxaphene	µg/L	--	--	--	2.01E-02
	lbs/day	--	--	--	4.19E-03

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

2 Scientific "E" notation is used to express certain values. In scientific "E" notation, the number following the "E" indicates that position of the decimal point in the value. Negative numbers after the "E" indicate that the value is less than 1, and positive numbers after the "E" indicate that the value is greater than 1. In this notation a value of 6.1E-02 represents 6.1×10^{-2} or 0.061, 6.1E+02 represents 6.1×10^{2} or 610, and 6.1E+00 represents 6.1×10^{0} or 6.1.

g. Parameters that do not have reasonable potential (as determined in section IV.C.3 of this Fact Sheet) are listed as performance goals in this Order. Performance goals serve to ensure existing treatment levels and effluent quality is sufficient to support State and federal antidegradation policies. Additionally, performance goals provide all interested parties with information regarding the expected levels of pollutants in the discharge that should not be exceeded in order to maintain the water quality objectives established in the Ocean Plan. Performance goals are not limitations or standards for the regulation of the discharge. Effluent concentrations above the performance goals will not be considered as violations of the permit, but serve as red flags that indicate water quality concerns. Repeated red flags may prompt the San Diego Water Board to reopen and amend the permit to replace performance goals for parameters of concern with effluent limitations, or the San Diego Water Board may coordinate such actions with the next permit renewal.

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The following table lists the performance goals established by this Order. A minimum probable initial dilution factor of 94.6:1 was used in establishing the performance goals.

Table F-14. Summary of Performance Goals

Parameter	Unit[1]	Performance Goals[2]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
BASED ON OCEAN PLAN OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE					
Arsenic, Total Recoverable	µg/L	4.81E+02	2.78E+03	7.36E+03	--
	lbs/day	1.00E+02	5.79E+02	1.54E+03	--
Cadmium, Total Recoverable	µg/L	9.56E+01	3.82E+02	9.56E+02	--
	lbs/day	1.99E+01	7.97E+01	1.99E+02	--
Chromium VI, Total Recoverable [3]	µg/L	1.91E+02	7.65E+02	1.91E+03	--
	lbs/day	3.99E+01	1.59E+02	3.99E+02	--
Copper, Total Recoverable	µg/L	9.76E+01	9.58E+02	2.68E+03	
	lbs/day	2.03E+01	2.00E+02	5.59E+02	
Lead, Total Recoverable	µg/L	1.91E+02	7.65E+02	1.91E+03	--
	lbs/day	3.99E+01	1.59E+02	3.99E+02	--
Nickel, Total Recoverable	µg/L	4.78E+02	1.91E+03	4.78E+03	--
	lbs/day	9.97E+01	3.99E+02	9.97E+02	--
Selenium, Total Recoverable	µg/L	1.43E+03	5.74E+03	1.43E+04	--
	lbs/day	2.99E+02	1.20E+03	2.99E+03	--
Silver, Total Recoverable	µg/L	5.18E+01	2.53E+02	6.54E+02	--
	lbs/day	1.08E+01	5.27E+01	1.36E+02	--
Cyanide, Total Recoverable [4]	µg/L	9.56E+01	3.82E+02	9.56E+02	--
	lbs/day	1.99E+01	7.97E+01	1.99E+02	--
Total Chlorine Residual[5]	µg/L	1.91E+02	7.65E+02	5.74E+03	
	lbs/day	3.99E+01	1.59E+02	1.20E+03	
Ammonia (expressed as nitrogen)	µg/L	5.74E+04	2.29E+05	5.74E+05	--
	lbs/day	1.20E+04	4.78E+04	1.20E+05	--
Phenolic Compounds (non-chlorinated)[1]	µg/L	2.87E+03	1.15E+04	2.87E+04	--
	lbs/day	5.98E+02	2.39E+03	5.98E+03	--
Chlorinated Phenolics[1]	µg/L	9.56E+01	3.82E+02	9.56E+02	--
	lbs/day	1.99E+01	7.97E+01	1.99E+02	--
Endosulfan[1]	µg/L	8.60E-01	1.72E+00	2.58E+00	--
	lbs/day	1.79E-01	3.59E-01	5.38E-01	--
Endrin	µg/L	1.91E-01	3.82E-01	5.74E-01	
	lbs/day	3.99E-02	7.97E-02	1.20E-01	
HCH[1]	µg/L	3.82E-01	7.65E-01	1.15E+00	
	lbs/day	7.97E-02	1.59E-01	2.39E-01	

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Parameter	Unit[1]	Performance Goals[2]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
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.			
BASED ON OCEAN PLAN OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – NONCARCINOGENS					
Acrolein	µg/L	--	--	--	2.10E+04
	lbs/day	--	--	--	4.39E+03
Antimony	µg/L	--	--	--	1.15E+05
	lbs/day	--	--	--	2.39E+04
Bis(2-chloroethoxy) Methane	µg/L	--	--	--	4.21E+02
	lbs/day	--	--	--	8.77E+01
Bis(2-chloroisopropyl) Ether	µg/L	--	--	--	1.15E+05
	lbs/day	--	--	--	2.39E+04
Chlorobenzene	µg/L	--	--	--	5.45E+04
	lbs/day	--	--	--	1.14E+04
Chromium (III), Total Recoverable[3]	µg/L				1.82E+07
	lbs/day				3.79E+06
Di-n-butyl Phthalate	µg/L	--	--	--	3.35E+05
	lbs/day	--	--	--	6.98E+04
Dichlorobenzenes[1]	µg/L	--	--	--	4.88E+05
	lbs/day	--	--	--	1.02E+05
Diethyl Phthalate	µg/L	--	--	--	3.15E+06
	lbs/day	--	--	--	6.58E+05
Dimethyl Phthalate	µg/L	--	--	--	7.84E+07
	lbs/day	--	--	--	1.63E+07
4,6-dinitro-2-methylphenol	µg/L	--	--	--	2.10E+04
	lbs/day	--	--	--	4.39E+03
2,4-dinitrophenol	µg/L	--	--	--	3.82E+02
	lbs/day	--	--	--	7.97E+01
Ethylbenzene	µg/L	--	--	--	3.92E+05
	lbs/day	--	--	--	8.17E+04

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Parameter	Unit[1]	Performance Goals[2]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Fluoranthene	µg/L	--	--	--	1.43E+03
	lbs/day	--	--	--	2.99E+02
Hexachlorocyclopentadiene	µg/L	--	--	--	5.54E+03
	lbs/day	--	--	--	1.16E+03
Nitrobenzene	µg/L	--	--	--	4.68E+02
	lbs/day	--	--	--	9.77E+01
Toluene	µg/L	--	--	--	8.13E+06
	lbs/day	--	--	--	1.69E+06
1,1,1-trichloroethane	µg/L	--	--	--	5.16E+07
	lbs/day	--	--	--	1.08E+07
BASED ON OCEAN PLAN OBJECTIVES FOR PROTECTION OF HUMAN HEALTH - CARCINOGENS					
Acrylonitrile	µg/L	--	--	--	9.56E+00
	lbs/day	--	--	--	1.99E+00
Aldrin	µg/L	--	--	--	2.10E-03
	lbs/day	--	--	--	4.39E-04
Benzene	µg/L	--	--	--	5.64E+02
	lbs/day	--	--	--	1.18E+02
Beryllium	µg/L	--	--	--	3.15E+00
	lbs/day	--	--	--	6.58E-01
Bis(2-chloroethyl) Ether	µg/L	--	--	--	4.30E+00
	lbs/day	--	--	--	8.97E-01
Bis(2-ethlyhexyl) Phthalate	µg/L	--	--	--	3.35E+02
	lbs/day	--	--	--	6.98E+01
Carbon Tetrachloride	µg/L	--	--	--	8.60E+01
	lbs/day	--	--	--	1.79E+01
Chloroform	µg/L	--	--	--	1.24E+04
	lbs/day	--	--	--	2.59E+03
1,4-dichlorobenzene	µg/L	--	--	--	1.72E+03
	lbs/day	--	--	--	3.59E+02
3,3'-dichlorobenzidine	µg/L	--	--	--	7.74E-01
	lbs/day	--	--	--	1.61E-01
1,2-dichloroethane	µg/L	--	--	--	2.68E+03
	lbs/day	--	--	--	5.58E+02
1,1-dichloroethylene	µg/L	--	--	--	8.60E+01
	lbs/day	--	--	--	1.79E+01
Dichlorobromomethane	µg/L	--	--	--	5.93E+02
	lbs/day	--	--	--	1.24E+02

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Parameter	Unit[1]	Performance Goals[2]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Dichloromethane (Methylene Chloride)	µg/L	--	--	--	4.30E+04
	lbs/day	--	--	--	8.97E+03
1,3-dichloropropene (1,3-Dichloropropylene)	µg/L	--	--	--	8.51E+02
	lbs/day	--	--	--	1.77E+02
Dieldrin	µg/L	--	--	--	3.82E-03
	lbs/day	--	--	--	7.97E-04
2,4-dinitrotoluene	µg/L	--	--	--	2.49E+02
	lbs/day	--	--	--	5.18E+01
1,2-diphenylhydrazine	µg/L	--	--	--	1.53E+01
	lbs/day	--	--	--	3.19E+00
Halomethanes[1]	µg/L	--	--	--	1.24E+04
	lbs/day	--	--	--	2.59E+03
heptachlor	µg/L	--	--	--	4.78E-03
	lbs/day	--	--	--	9.97E-04
Hexachlorobutadiene	µg/L	--	--	--	1.34E+03
	lbs/day	--	--	--	2.79E+02
Hexachloroethane	µg/L	--	--	--	2.39E+02
	lbs/day	--	--	--	4.98E+01
Isophorone	µg/L	--	--	--	6.98E+04
	lbs/day	--	--	--	1.46E+04
N-nitrosodimethylamine	µg/L	--	--	--	6.98E+04
	lbs/day	--	--	--	1.46E+04
N-nitrosodi-N-propylamine	µg/L	--	--	--	3.63E+01
	lbs/day	--	--	--	7.57E+00
N-nitrosodiphenylamine	µg/L	--	--	--	2.39E+02
	lbs/day	--	--	--	4.98E+01
PAH[1]	µg/L	--	--	--	8.41E-01
	lbs/day	--	--	--	1.75E-01
1,1,2,2-tetrachloroethane	µg/L	--	--	--	2.20E+02
	lbs/day	--	--	--	4.58E+01
Tetrachloroethylene (Tetrachloroethene)	µg/L	--	--	--	1.91E+02
	lbs/day	--	--	--	3.99E+01
Trichloroethylene (Trichloroethene)	µg/L	--	--	--	2.58E+03
	lbs/day	--	--	--	5.38E+02
1,1,2-trichloroethane	µg/L	--	--	--	8.99E+02
	lbs/day	--	--	--	1.87E+02
2,4,6-trichlorophenol	µg/L	--	--	--	2.77E+01
	lbs/day	--	--	--	5.78E+00

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Parameter	Unit[1]	Performance Goals[2]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Vinyl Chloride	µg/L	--	--	--	3.44E+03
	lbs/day	--	--	--	7.18E+02

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

2 Scientific "E" notation is used to express certain values. In scientific "E" notation, the number following the "E" indicates that position of the decimal point in the value. Negative numbers after the "E" indicate that the value is less than 1, and positive numbers after the "E" indicate that the value is greater than 1. In this notation a value of 6.1E-02 represents 6.1×10^{-2} or 0.061, 6.1E+02 represents 6.1×10^{2} or 610, and 6.1E+00 represents 6.1×10^{0} or 6.1.

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

4 If a Discharger can demonstrate to the satisfaction of the San Diego Water Board (subject to USEPA approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by (or performance goals may be evaluated with) the combined measurement of free cyanide, simple alkali metals cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in 40 CFR part 136, as revised May 14, 1999.

5 The water quality objectives for total chlorine residual applicable to intermittent discharges not exceeding two hours, shall be determined through the use of the following equation:

$\log y = -0.43 (\log x) + 1.8$,

where y =the water quality objective (in µg/l) to apply when chlorine is being discharged;

x =the duration of uninterrupted chlorine discharge in minutes.

Actual effluent limitations for total chlorine, when discharging intermittently, shall then be determined according to Implementation Procedures for Table 1from the Ocean Plan, using a minimum probable initial dilution factor of 94.6 and a flow rate of 25 MGD.

5. Whole Effluent Toxicity (WET)

a. Implementing provisions at section III.C.4.c.(4) of the Ocean Plan state that the Discharger shall conduct chronic toxicity monitoring for ocean waste discharges with minimum initial dilution factors that fall below 100:1. In addition, the RPA for chronic toxicity resulted in Endpoint 1 and the effluent limitation was carried over from Order No. 96-50. Thus monitoring is required to determine compliance with the effluent limitation. Based on methods of the Ocean Plan, a maximum daily effluent limitation of 95.6 TUc is established in the Order and weekly monitoring is carried over from Order No. 96-50.

b. Order No. 96-50 required acute toxicity monitoring in addition to chronic toxicity monitoring. The Ocean Plan does not require acute toxicity monitoring for dischargers with a minimum initial dilution factor less than 100:1.The RPA, however, resulted in Endpoint 1 for acute toxicity and monitoring is required to determine compliance with the effluent limitation. Thus, the effluent limitation and weekly monitoring for acute toxicity from Order No. 96-50 has been carried over to this Order.

D. Final Effluent Limitation Considerations

1. Anti-Backsliding Requirements

Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 CFR section 122.44(l) prohibit backsliding in NPDES permits (see section III.C.5 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. The effluent limitations in this Order are at least as stringent as the effluent

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limitations in the previous Order (Order No. 96-50), with the exception of a) "Maximum at Any Time"(instantaneous maximum) effluent limitations for $CBOD_5$ and TSS and b) other effluent limitations that were not retained for parameters for which there was no RP (Endpoint 2). The removal of these effluent limitations from this Order is consistent with the federal anti-backsliding requirements for the reasons set forth below.

As explained in section IV.B.2 of this Fact Sheet, the instantaneous maximum effluent limitations for $CBOD_5$ and TSS of 45 mg/L and 50 mg\L respectively were not carried over to this Order. These limitations were established by the San Diego Water Board based on best professional judgment (BPJ). Recent attempts to derive instantaneous maximum effluent limitations based on USEPA secondary treatment standards at 40 CFR part 133 using appropriate statistical approaches demonstrated that retaining the previous instantaneous maximum effluent limitations for $CBOD_5$ and TSS in this Order was not supported. This Order does retain average monthly and average weekly effluent limitations (AMEL and AWEL) for $CBOD_5$ and TSS which are based on USEPA secondary treatment standards for POTWs practicing a combination of physical and biological treatment to remove biodegradable organic matter and suspended solids. The AMEL and AWEL for $CBOD_5$ and TSS are expected to ensure the Discharger maintains the same level of treatment required in the previous Order and no degradation of the effluent quality is expected. Anti-backsliding regulations found at 40 CFR 122.44(l) prohibit reissuing or modifying an NPDES permit to include effluent limitations less stringent than in the previous permit, unless one of the exceptions described in 40 CFR 122.44(l) are met. In this instance, the San Diego Water Board has determined that removal of the instantaneous maximum effluent limitations for $CBOD_5$ and TSS effluent limitations is appropriate under the exception described in 40 CFR 122.44(l)(2)(i)(B)(2) because these effluent limitations were based on a technical mistake.

As discussed in section IV.C.3 of this Fact Sheet, effluent limitations from Order No. 96-50 are not retained for parameters for which RPA results indicated Endpoint 2; instead performance goals have been assigned for these parameters. Parameters for which Endpoint 2 was indicated are determined not to have reasonable potential, thus it is inappropriate to establish effluent limitations for these parameters. Effluent limitations have been removed for parameters for which new data is available, and a reasonable potential analysis determined that reasonable potential does not exist, as allowed under 40 CFR section 122(l)(2)(i)(B). Performance goals have been established in their place. The monitoring requirements in Attachment E of this Order are designed to obtain additional information for these parameters to determine if reasonable potential exists for these parameters in future permit renewals and/or updates. The removal of the effluent limitations for parameters where Endpoint 2 is appropriate under the exceptions described in 40 CFR 122.44(l)(2)(i)(A) and (B)(1),.which specify that permits may include a less stringent effluent limitation than the previous permit, if 1) Material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation; or 2) Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance.

Based on all of these considerations, this permit (Order) complies with all applicable federal and State anti-backsliding regulations.

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2. Antidegradation Policies

WDRs for the Discharger must conform with antidegradation requirements discussed in section III.C.4 of this Fact Sheet.

As explained in section IV.B.2 of this Fact Sheet, this Order does not retain the instantaneous maximum effluent limitations for $CBOD_5$ and TSS contained in Order No. 96-50. The AMEL and AWEL for $CBOD_5$ and TSS, however, have been retained in this Order. The AMEL and AWEL are expected to ensure the Discharger maintains the same level of treatment and no degradation of the receiving water is expected. Thus, the removal of the instantaneous maximum effluent limitations for $CBOD_5$ and TSS is consistent with State and federal antidegradation policy.

This Order has been modified from Order No. 96-50, to replace WQBELs for some parameters with performance goals based on an RPA. The procedures for conducting the RPA are explained in section IV.C.3 of this Fact Sheet. Performance goals were included in the Order for parameters determined not to have reasonable potential to exceed the water quality objectives, and thus, for which WQBELs were not included. Performance goals will indicate the level of discharge at which possible water quality impacts may be significant. The removal of WQBELs by itself is not expected to cause a change in the physical nature of the effluent discharged and is not expected to impact beneficial uses nor cause a reduction of the water quality of the receiving water. Coupled with the inclusion of performance goals and retention of the monitoring program for parameters without WQBELs, the existing water quality is expected to be maintained. For these reasons, an antidegradation analysis is not required to consider the possible impacts resulting from the removal of WQBELs following an RPA.

This permit complies with the antidegradation provision of 40 CFR section 131.12 and State Water Board Resolution No. 68-16.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on $CBOD_5$, TSS, oil and grease, settleable solids, turbidity, and pH, 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 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 August 19, 2013. 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

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