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

On June 28, 2007, USEPA approved the list of impaired water bodies, prepared by the State Water Board pursuant to section 303(d) of the CWA, which are not expected to meet applicable water quality standards after implementation of technology-based effluent limitations for point sources. The 303(d) list for waters in the vicinity of the Oceanside OO include:

- 0.5 miles of the Pacific Ocean at the mouth of the San Luis Rey River for indicator bacteria;
- 1.1 miles of the Pacific Ocean shoreline at the mouth of Loma Alta Creek for indicator bacteria;
- 3. 1.2 miles of the Pacific Ocean shoreline at Buena Vista Creek for indicator bacteria.

Impairment has been detected in the above waters. Some of the receiving water monitoring locations required by this permit may be within the current 303(d) listed waterbodies. The San Diego Water Board will take these considerations into account the fact when determining compliance. An applicable Total Maximum Daily Load has not been adopted for this pollutant/waterbody combination and a waste load allocation has not been assigned for FPUD's discharge under this Order.

E. Other Plans, Policies and Regulations

- 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), WDRs for Dischargers of Storm Water Associated with Industrial Activity, Excluding Construction Activities. FPUD is currently regulated under the General Permit, which is not incorporated into this Permit by reference.

F. Provisions and Requirements Implementing State Law

Pursuant to CWC section 13263, the provisions and requirements contained in this Order that implement State law shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of CWC section 13241.

The beneficial uses (CWC section 13241 (a)) and water quality objectives (CWC section 13241 (c)) serve as the basis for the development of the water quality based effluent limitations as described in section IV. Of the Fact Sheet. Other waste discharges are described in paragraph II.B of this fact sheet. There is a clear need to prevent potential nuisance conditions resulting from the inadequate treatment of sewage.

In addition to the above, CWC section 13241 requires consideration of:

Section 13241(b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto. As noted in paragraph III.D, some of the receiving water monitoring locations required by this permit may be within the current 303(d) listed waterbodies.

Section 13241(d) Economic considerations. No party has submitted current or future cost information on the facility. Based upon the State Water Board's Wastewater User Charge Survey Report, dated May 2008, the monthly rates for agencies with both collection and treatment systems ranged from \$25 to \$82.50, with an average rate of \$44.22 as compared to FPUD's reported monthly rate of \$42.78.

Section 13241(e) The need to develop housing within the region. FPUD has not indicated that development in the area requires expansion of the capacity of the treatment facility.

Section 13241(f) The need to develop and use recycled water. The San Diego Water Board supports FPUD's efforts to develop and to supply recycle water to users. The need to supply recycled water is the reason that the San Diego Water Board is prescribing a time schedule for FPUD to comply Ocean Plan total residual chlorine standards.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

A. Discharge Prohibitions

This Order retains the discharge prohibitions from Order No. R9-2006-002, 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 Facility to surface waters in violation of prohibitions contained in this Order are violations of the CWA and therefore are subject to third party lawsuits. Discharges from the Facility to land in violation of prohibitions contained in this Order are violations of the CWC and are not subject to third party lawsuits under the CWA because the CWC does not contain provisions allowing third party lawsuits.

 Prohibitions III.A, III.B, and III.C of this Order are based on Order No. R9-2006-002 and are included in order to clearly define what types of discharges are prohibited.

- This Order prohibits the discharge of wastes in excess of the design criteria for Treatment Plant No. 1. As such, Prohibitions III.C prohibit the discharge of wastes in excess of the design criteria for the Facility.
- 3. CWC section 13243 provides that the San Diego Water Board, in a water quality control plan, may specify certain conditions where the discharge of wastes, or certain types of wastes, that could affect the quality of waters in the State is prohibited. This Order includes the Basin Plan and Ocean Plan prohibitions as Discharge Prohibitions, section III.D and E.

Order No. R9-2006-002 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 section III.D and for convenience listed in Attachment G of this Order, these requirements are not retained in the prohibitions 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 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. Discharges authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 CFR Part 133. Discharges must also meet technology-based effluent limitations (TBELs) based on Ocean Plan Table A.

Regulations promulgated in 40 CFR 125.3(a)(1) require TBELs for municipal Dischargers to be placed in NPDES permits based on Secondary Treatment Standards or Equivalent to Secondary Treatment Standards.

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements for POTWs [defined in 40 CFR 304(d)(1)]. Section 301(b)(1)(B) of that Act requires that such treatment works must, as a minimum, meet effluent limitations based on secondary treatment as defined by the USEPA Administrator.

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 municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of biochemical oxygen demand (BOD₅), TSS, and pH.

2. Applicable Technology-Based Effluent Limitations

a. Federal Regulations. 40 CFR Part 133 establishes the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD₅ and TSS. 40 CFR 133.102(a)(4) allows for effluent limitations for carbonaceous biological oxygen demand (CBOD $_5$) to be applied in lieu of effluent limitations for BOD $_5$ where BOD $_5$ may not provide a reliable measure of the oxygen demand of the effluent. USEPA has determined that a 30-day average effluent limitation of 25 mg/L and a 7-day average effluent limitation of 40 mg/L are effectively equivalent to the secondary treatment standards for BOD $_5$.

b. 40 CFR 133.102, in describing the minimum level of effluent quality attainable by secondary treatment, states that the 30-day average percent removal of BOD₅ and TSS shall not be less than 85 percent. This Order contains a limitation requiring an average of 85 percent removal of CBOD₅ and TSS over each calendar month.

The secondary treatment regulations at 40 CFR Part 133 also require that pH be maintained between 6.0 and 9.0 standard units.

These TBELs are applicable to each of the POTWs prior to the commingling of their respective effluents with any other wastewater. Thus, compliance with these effluent limitations must be determined at internal outfall locations upstream of the location where these wastewaters commingle with other wastewaters.

TBELs based on secondary treatment standards for CBOD₅, TSS, and pH are summarized in the following table.

Table F-7. Summary of Technology-Based Effluent Limitations Based on Secondary Treatment Standards

Parameter		Effluent Limitations						
	Units	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum		
	mg/L	25	40		-	1 7.		
CBOD	Lbs/day	560	900					
CBOD ₅	% Removal	85				-		
	mg/L	30	45					
TCC	Lbs/day	680	1,000					
TSS	% Removal	85						
рН	standard units				6.0	9.0		

c. Ocean Plan. 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 A of the Ocean Plan establishes TBELs for POTWs and industrial discharges for which effluent limitation guidelines have not been established. Order No. R9-2006-002 established numeric effluent limitations based on Table A of the Ocean

Plan at Monitoring Location M-001 or M-002. Because the Table A effluent limitations are technology-based, the San Diego Water Board finds that the Table A effluent limitations are applicable to Treatment Plant No. 1 and FPUD shall be responsible for achieving compliance with the effluent limitations prior to the contributing wastewaters commingling with effluent from other facilities discharging effluent at the Oceanside OO.

Because secondary treatment standards contain effluent limitations for TSS that are more stringent than Table A of the Ocean Plan, the more stringent effluent limitations for TSS will be applied to discharges from Treatment Plant No. 1. The TBELs from the Ocean Plan are summarized below:

Table F-8. Summary of Technology-Based Effluent Limitations Based on Table A of the Ocean Plan

Parameter		Effluent Limitations						
	Units	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum		
Oil and	mg/L	25	40	-	-	75		
Grease	Lbs/day	560	900			1700		
Settleable Solids	mL/L	1.0	1.5	(ee)		3.0		
Turbidity	NTU	75	100			225		
рН	standard units	Y	355	// *** /	6.0	9.0		

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

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

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

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

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Basin Plan and Ocean Plan designate beneficial uses, establishes 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 includes water quality objectives for pH applicable to the receiving water.

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

b. Ocean Plan. The beneficial uses specified in the Ocean Plan for the Pacific Ocean are summarized in section 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 B of the Ocean Plan includes the following water quality objectives for toxic pollutants and whole effluent toxicity:

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

3. Determining the need for WQBELs

Order No. R9-2006-002 contained effluent limitations for non-conventional and toxic pollutant parameters in Table B of the California Ocean Plan. For this Order, the need for effluent limitations based on water quality objectives in Table B of the Ocean Plan was re-evaluated in accordance with 40 CFR 122.44(d) and guidance for statistically determining the "reasonable potential" for a discharged pollutant to exceed an objective, as outlined in the revised *Technical Support Document for Water Quality-based Toxics Control* (TSD; EPA/505/2-90-001, 1991) and the Ocean Plan Reasonable Potential Analysis (RPA) Appendix VI that was adopted by the State Water Board on September 15, 2009. 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 potential for an exceedance of that objective and the need for an effluent limitation. According to the Ocean Plan amendment, the RPA can yield three endpoints: 1) Endpoint 1, an effluent limitation is required and monitoring is required; 2) Endpoint 2, an effluent limitation is not required and the San Diego Water Board may require monitoring; 3) Endpoint 3, the RPA is inconclusive, monitoring is required, and an existing effluent limitation may be retained or a permit reopener clause may be included to allow inclusion of an effluent limitation if future monitoring warrants the inclusion. Endpoint 3 is typically the result when there are fewer than 16 data points and all are censored data (i.e., below quantitation or method detection levels for an analytical procedure).

The implementation provisions for Table B in section III.C of the Ocean Plan specify that the minimum initial dilution is the lowest average initial dilution within any single month of the year. Dilution estimates are to be based on observed waste flow characteristics, observed receiving water density structure, and the assumption that no currents of sufficient strength to influence the initial dilution process flow across the discharge structure. Before establishing a dilution credit for a discharge, it must first be determined if, and how much, receiving water is available to dilute the discharge. Prior to issuance of Order No. R9-2006-002, the State Water Board had determined the minimum initial dilution factor (Dm), for the Oceanside OO to be 87 to 1. This determination was based on flow from the Facility and additional discharges from the City of Oceanside's La Salina and San Luis Rey wastewater treatment plants, the Mission Basin Desalting Facility, USMC Camp Pendleton, and Genentech, yielding a total flow rate of 29.055 MGD. No additions or modifications to the Facility or the Oceanside OO have been proposed that would alter the previously determined dilution characteristics. Therefore, the previous Dm of 87 to 1 will be retained in the current Order and applied to WQBELs established herein.

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

Using the RPcalc 2.0 software tool developed by the State Water Board for conducting reasonable potential analyses, the San Diego Water Board has conducted the RPA for the constituents in Table F-9. For parameters without reasonable potential a narrative limit statement to comply with all Ocean Plan objectives requirements is provided. This Order includes desirable maximum effluent concentrations for constituents that do not have reasonable potential which were derived using the effluent limitation determination procedure described above and are referred to in this Order as "performance goals", not as enforceable "numeric effluent limitations". FPUD is required to monitor for these constituents as stated in the MRP (Attachment E of this Order) to gather data for use in reasonable potential analyses for future permit renewals.

Effluent data provided in FPUD's monitoring reports for the Facility from July 2006 through July 2009 were used in the RPA. A minimum probable initial dilution of 87 to 1 was considered in this evaluation.

A summary of the RPA results is provided below:

Table F-9. RPA Results Summary

Parameter	Units	n¹	MEC ^{2,4}	Most Stringent Criteria	Background	RPA Endpoint ³
Arsenic	μg/L	7	<0.0044	8 ⁵	3 ⁶	3
Cadmium	μg/L	7	<0.002	1 ⁵	0	3
Chromium (VI)	μg/L	7	2.3	2 ⁵	0	3
Copper	μg/L	7	26	3 ⁵	26	2
Lead	μg/L	7	<0.003	2 ⁵	0	3
Mercury	µg/L	7	0.12	0.045	0.0005 ⁶	3
Nickel	μg/L	7	3.3	5 ⁵	0	2
Selenium	µg/L	7	<0.008	15 ⁵	0	3
Silver	μg/L	7	<0.006	0.75	0.16 ⁶	3
Zinc	µg/L	7	51	20 ⁵	8 ⁶	2
Cyanide	µg/L	7	20	15	0	3
Total Residual Chlorine	µg/L	1617	6600	2 ⁵	0	1
Ammonia	µg/L	68	26,000	600 ⁵	0	2
Acute Toxicity	TUa	12	0.41	0.3	0	2
Chronic Toxicity ⁸	TUc	20	25	1′	0	2
Phenolic Compounds ⁹	µg/L	7	0.730	30 ⁵	0	2
Chlorinated Phenolics ¹⁰	µg/L	7	<0.096	15	0	3
Endosulfan ¹¹	µg/L	7	0.049	0.009 ⁵	0	3
Endrin	µg/L	7	<0.0019	0.0025	0	3
HCH ¹²	µg/L	7	0.014	0.0045	0	3
Radioactivity	pCi/L			13	0	
Acrolein	µg/L	4	<1.3	22014	0	3
Antimony	µg/L	4	<0.006	1,20014	0	3
Bis(2-chloroethoxyl)methane	µg/L	4	<0.096	4.414	0	3
Bis(2-chloroisopropyl)ether	µg/L	4	<0.096	1,20014	0	3
Chlorobenzene	µg/L	4	<0.36	570 ¹⁴	0	3
Chromium (III) ¹⁵	µg/L	4	2.3	190,00014	0	3
Di-n-butyl phthalate	µg/L	4	0.21	3,500 ¹⁴	0	3
Dichlorobenzenes ¹⁶	µg/L	4	<0.096	5,10014	0	3
Diethyl phthalate	µg/L	4	0.89	33,000 ¹⁴	0	2
Dimethyl phthalate	µg/L	4	0.87	820,00014	0	2
4,6-Dinitro-2-methylphenol	µg/L	4	<0.19	22014	0	3
2,4-Dinitrophenol	μg/L	NA	NA	4.014	0	
Ethylbenzene	μg/L	4	<0.25	4,100 ¹⁴	0	3
Fluoranthene	µg/L	4	<0.096	15 ¹⁴	0	3
Hexachlorocyclopentadiene	µg/L	4	<0.096	58 ¹⁴	0	3
Nitrobenzene	µg/L	4	<0.096	4.914	0	3
Thallium	µg/L	4	<0.007	214	0	3
Toluene	µg/L	4	0.69	85,000 ¹⁴	0	3
Tributyltin	µg/L	4	0.028	0.001414	0	3
1,1,1-Trichloroethane	µg/L	4	<0.3	540,000 ¹⁴	0	3
Acrylonitrile	µg/L	4	<0.7	0.10 ¹⁴	0	3
Aldrin	µg/L	4	<0.0014	0.00002214	0	3

Parameter	Units	n ¹	MEC ^{2,4}	Most Stringent Criteria	Background	RPA Endpoint ³
Benzene	μg/L	4	<0.28	5.9 ¹⁴	0	3
Benzidine	μg/L	4	<0.96	0.00006914	0	3
Beryllium	μg/L	4	<0.0009	0.03314	0	3
Bis(2-chloroethyl) ether	µg/L	4	<0.096	0.04514	0	3
Bis(2-ethylhexyl) phthalate	µg/L	4	9.7	3.5 ¹⁴	0	2
Carbon tetrachloride	µg/L	4	<0.28	0.9014	0	3
Chlordane	µg/L	4	<0.019	0.00002314	0	3
Chlorodibromomethane	µg/L	4	1.1	8.6 ¹⁴	0	2
Chloroform	µg/L	4	9.2	130 ¹⁴	0	2
DDT ¹⁷	µg/L	2	<0.002	0.0001714	0	3
1,4-Dichlorobenzene	µg/L	4	0.46	18 ¹⁴	0	3
3,3-Dichlorobenzidine	µg/L	4	<0.38	0.008114	0	3
1,2-Dichloroethane	µg/L	4	<0.28	2814	0	3
1,1-Dichloroethylene	µg/L	4	<0.32	0.914	. 0	3
Dichlorobromomethane	µg/L	4	2.8	6.214	0	2
Dichloromethane	µg/L	4	<0.7	450 ¹⁴	0	3
1,3-Dichloropropene	µg/L	4	<0.32	8.9 ¹⁴	0	3
Dieldrin	μg/L	4	<0.0019	0.0000414	0	3
2.4-Dinitrotoluene	µg/L	4	1.3	2.614	0	3
1,2-Diphenylhydrazine	μg/L	4	<0.096	0.1614	0	3
Halomethanes ¹⁸	µg/L	4	5.3	130 ¹⁴	0	3
Heptachlor	µg/L	4	<0.0028	0.0000514	0	3
Heptachlor Epoxide	µg/L	4	<0.0024	0.0000214	0	3
Hexachlorobenzene	µg/L	4	<0.096	0.0002114	0	3
Hexachlorobutadiene	µg/L	4	<0.1	1414	0	3
Hexachloroethane	µg/L	4	<0.19	2.514	0	3
Isophorone	µg/L	4	<0.096	730 ¹⁴	0	3
N-nitrosodimethylamine	µg/L	4	0.095	7.314	0	3
N-nitrosodi-N-propylamine	µg/L	4	<0.096	0.3814	0	3
N-nitrosodiphenylamine	µg/L	4	<0.096	2.514	0	3
PAHs ¹⁹	µg/L	4	<0.096	0.008814	0	3
PCBs ²⁰	µg/L	4	<0.1	0.00001914	0	3
TCDD equivalents ²¹	pg/L	4	0.0009	0.000003914	0	1
1,1,2,2-Tetrachoroethane	µg/L	4	<0.24	2.314	0	3
Tetrachloroethylene	µg/L	4	<0.26	2.014	0	3
Toxaphene	µg/L	3	<0.069	0.0002114	0	3
Trichloroethylene	µg/L	4	<0.26	2714	0	3
1,1,2-Trichloroethane	µg/L	4	<0.3	9.414	0	3
2,4,6-Trichlorophenol	µg/L	4	0.23	0.2914	0	3
Vinyl Chloride	µg/L	4	<0.26	36 ¹⁴	0	3

Parameter	Units	n¹	MEC ^{2,4}	Most Stringent Criteria	Background	RPA Endpoint ³
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NA = Not Available

Number of data points available for the RPA.

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.

End Point 1 – RP determined, limit required, monitoring required.

End Point 2 - Discharger determined not to have RP, monitoring may be established.

End Point 3 - RPA was inconclusive, carry over previous limits if applicable, and establish monitoring.

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 1).

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

⁶ Background concentrations contained in Table C of the Ocean Plan.

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

- Chronic toxicity expressed as Chronic Toxicity Units (TUc) = 100/NOEL, where NOEL (No Observed Effect Level) is express as the maximum percent effluent of receiving water that causes no observable effect on a test organism.
- Non-chlorinated phenolic compounds represent the sum of 2,4-dimethylphenol, 4,6-Dinitro-2-methylphenol, 2,3-dinitrophenol, 2-methylphenol, 4-methylphenol, 2-nitrophenol, 4-nitrophenol, and phenol.
- Chlorinated phenolic compounds represent the sum of 4-chloro-3-methylphenol, 2-chlorophenol, pentachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol.
- Endosulfan represents the sum of alpha-endosulfan, beta-endosulfan, and endosulfan sulfate.
- HCH (hexachlorocyclohexane) represents the sum of the alpha, beta, gamma (Lindane), and delta isomers of hexachlorocyclohexane.
- Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30253 of the California Code of Regulations. Radioactivity at levels that exceed the applicable criteria are not expected in the discharge.
- Based on 30-Day Average in Table B of the Ocean Plan.
- ¹⁵ Chromium data was reported as Total Chromium and is summarized under Chromium (VI).
- Dichlorobenzenes represent the sum of 1,2- and 1,3-dichlorobenzene.
- DDT represents the sum of 4,4'DDT; 2,4'DDT; 4,4'DDE; 2,4'DDE; 4,4'DDD; and 2,4'DDD.
- Halomethanes represent the sum of bromoform, bromomethane (methyl bromide), and chloromethane (methyl chloride).
- PAHs (polynuclear aromatic hydrocarbons) represent the sum of acenaphthalene; anthracene; 1,2-benzanthracene; 3,4-benzofluoranthene; benzo[k]fluoranthene; 1,12-benzoperylene; benzo[a]pyrene; chrysene; dibenzo[a,h]anthracene; fluorene; indeno[1,2,3-cd]pyrene; phenanthrene; and pyrene.
- PCBs (polychlorinated biphenyls) represent the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Arolclor-1254, and Arcolor-1260.
- TCDD equivalents represent the sum of concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown by the table below. USEPA Method 8280 may be used to analyze TCDD equivalents.

Isomer Group	Toxicity Equivalence Factor
2,3,7,8 - tetra CDD	1.0
2,3,7,8 - penta CDD	0.5
2,3,7,8 - hexa CDD	0.1
2,3,7,8 - hepta CDD	0.01
octa CDD	0.001
2,3,7,8 - tetra CDF	0.1
1,2,3,7,8 - penta CDF	0.05
2,3,4,7,8 - penta CDF	0.5
2,3,7,8 - hexa CDFs	0.1
နှဲမှိနှင့်နှို – hepta CDFs	0.01
Octa CDF	0.001

Consistent with 40 CFR 122.44(I)(2)(i)(B), effluent limitations from Order No. R9-2006-002 are not retained for constituents for which the RPA results indicated Endpoint 2. Instead performance goals have been assigned for these constituents. Parameters for which Endpoint 2 was concluded are determined not to have reasonable potential, thus it is inappropriate to establish or retain effluent limitations for these parameters.

For parameters for which Endpoint 3 was concluded, the reasonable potential analysis was inconclusive. For parameters for which Endpoint 3 was concluded and previous effluent limitations had not been established, reasonable potential was not determined. For parameters for which new data is available, and the reasonable potential analysis results are inconclusive, effluent limitations have been retained. During the current permit reissuance, none of the parameters for which effluent limitations had been established in the previous Order were determined to be Endpoint 3.

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 TCDD equivalents and total residual chlorine, thus effluent limitations for TCDD equivalents and total residual chlorine have been established in this Order based on the initial dilution of 87 to 1, as discussed below.

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

4. WQBEL Calculations

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

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

Ce = the effluent limitation $(\mu g/L)$

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

Cs = background seawater concentration

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

- **b.** Initial dilution (Dm) has been determined to be 87 to 1 by the San Diego Water Board through the application of USEPA's dilution model, Visual Plumes.
- c. Table C of the Ocean Plan establishes background concentrations for some pollutants to be used when determining reasonable potential (represented as "Cs"). In accordance with Table B implementing procedures, Cs equals zero for

all pollutants not established in Table C. The background concentrations provided in Table C are summarized below:

Table F-10. Pollutants Having Background Concentrations

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

d. As an example of how effluent limitations and performance goals have been calculated, the performance goals for cyanide are determined as follows:

Water quality objectives from the Ocean Plan for cyanide are:

Table F-11. Example Parameter Water Quality Objectives

Parameter	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
Cyanide	μg/L	1	4	10

Using the equation, Ce = Co + Dm (Co - Cs), effluent limitations/performance goals are calculated as follows.

Cyanide

Ce =
$$1 + 87 (1 - 0) = 88 (6-Month Median)$$

Ce = $4 + 87 (4 - 0) = 352 (Daily Maximum)$
Ce = $10 + 87 (10 - 0) = 880 (Instantaneous Maximum)$

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

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

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

lbs/day = permitted flow (MGD) x pollutant concentration (mg/L) x 8.34

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

Table F-12. Summary of Water Quality-based Effluent Limitations - Discharge Point No. 001

		Effluent Limitations ¹						
Parameter	Unit	6-Month Median	Maximum Daily	Instantaneous Maximum	Average Monthly			
	OBJEC	TIVES FOR PROTEC	CTION OF MARINE	AQUATIC LIFE				
Total	μg/L	180	700	5,300				
Residual Chlorine ²	lbs/day	4.0	16	120				
	OBJECTIVES	FOR PROTECTION	OF HUMAN HEA	TH - CARCINO	GENS			
TCDD ³	μg/L			>24	3.4E-07			
TODD	lbs/day				7.7E-09			

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

The water quality objectives for total chlorine residual applicable to intermittent discharges not exceeding two hours shall be determined through 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 B from the Ocean Plan and using a minimum probably dilution factor of 87 and a flow rate of 2.7 MGD.

TCDD equivalents represent the sum of concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2.3.7.8-CDFs) multiplied by their respective toxicity factors.

> g. A summary of the performance goals is provided in Table F-14 of this Fact Sheet.

5. Whole Effluent Toxicity (WET)

- a. Implementing provisions at section III.C.4.c.(4) of the Ocean Plan require chronic toxicity monitoring for ocean waste discharges with minimum initial dilution factors that fall below 100:1 at the edge of the mixing zone. Using quarterly chronic WET testing conducted between January 2005 and November 2006 to conduct the RPA, resulted in Endpoint 2, and an effluent limitation for chronic toxicity is not required. However, consistent with Order No. R9-2006-002, this Order contains a performance goal and quarterly monitoring for chronic toxicity. Based on the methods established by the Ocean Plan, a maximum daily performance goal of 88 TUc is established in this Order.
- b. Implementing provisions at section III.C.4.c.(3) of the Ocean Plan states that the San Diego Water Board may require acute toxicity testing in addition to chronic toxicity monitoring for ocean waste discharges with minimum initial dilution factors ranging from 100:1 to 350:1 as necessary for the protection of beneficial

uses of ocean waters. The Oceanside OO has been granted a dilution ratio of 87:1 and the results of the RPA do not indicate reasonable potential for acute toxicity, thus monitoring for acute toxicity is not necessary and has been discontinued.

D. Final Effluent Limitations

1. Final Effluent Limitations

The following tables list the effluent limitations established by this Order. Where this Order establishes mass emission limitations, these limitations have been derived based on a flow of 2.7 MGD.

Table F-13.a. Technology Based Effluent Limitations at M-001

			Effluent Limitations							
Parameter	Units	Averag e Monthly	Averag e Weekly	Maximu m Daily	Instantaneou s Minimum	Instantaneou s Maximum	6-Mont h Median			
Carbonaceou s Biochemical Oxygen	mg/L	25	40				55 .			
Demand (5-day @ 20°C) ¹	lbs/day	560	900	5.		, 51				
Total	mg/L	30	45		-					
Suspended Solids ¹	lbs/day	680	1,000							
Oil and	mg/L	25	40			75				
Grease	lbs/day	560	900			1,700				
Settleable Solids	ml/L	1.0	1.5			3.0				
Turbidity	NTU	75	100	100 to 10		225				
pН	standar d units	11			6.0	9.0				

The average monthly percent removal of CBOD5 and TSS shall not be less than 85 percent.

Table F-13.b. Effluent Limitations Based on Table B of the Ocean Plan at M-001 or M-002 (Discharge Point No. 001)

		Effluent Limitations ¹						
Parameter	Unit	6-Month Median Maximum Daily		Instantaneous Maximum	Average Monthly			
	OBJEC	TIVES FOR PROTE	CTION OF MARINI	AQUATIC LIFE				
Total	μg/L	180	700	5,300				
Residual Chlorine ²	lbs/day	4.0	16	120				
	OBJECTIVES	FOR PROTECTION	OF HUMAN HEA	LTH - CARCINO	GENS			
TCDD ³	μg/L))		3.4E-07			
ICDD.	lbs/day				7.7E-09			

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

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

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

where,

y = the water quality objective (in μ g/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 B from the Ocean Plan and using a minimum probably dilution factor of 87 and a flow rate of 2.7 MGD.

TCDD equivalents represent the sum of concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors.

2. Satisfaction of Anti-Backsliding Requirements

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

Effluent limitations from Order No. R9-2006-002 are not retained for constituents for which RPA results indicated Endpoint 2, or Endpoint 3 when previous effluent limitations had not been established; instead performance goals have been assigned for these constituents. Parameters for which Endpoint 2 was concluded are determined not to have reasonable potential, thus it is inappropriate to establish effluent limitations for these parameters. For parameters for which Endpoint 3 was concluded and previous effluent limitations had not been established, reasonable potential was not determined. For parameters for which new data is available, and a reasonable potential analysis determined that reasonable potential does not exist, effluent limitations have been removed as allowed under 40 CFR 122(I)(2)(i)(B), and performance goals have been established in their place. The MRP for this Order is designed to obtain additional information for these constituents to determine if reasonable potential exists for these constituents in future permit renewals and/or updates.

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

3. Satisfaction of Antidegradation Policy

WDRs for FPUD must conform with federal and State antidegradation policies provided at 40 CFR 131.12 and in State Water Board Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality of Waters in California. The antidegradation policies require that beneficial uses and the water quality necessary to maintain those beneficial uses in the receiving waters of the discharge shall be maintained and protected, and, if existing water quality is better than the quality required to maintain beneficial uses, the existing water quality shall be maintained and protected unless allowing a lowering of water quality is necessary to accommodate important economic and social development or consistent with maximum benefit to the people of California. When a significant lowering of water quality is allowed by the San Diego Water Board, an antidegradation analysis is required in accordance with the State Water Board's Administrative Procedures Update (July 2, 1990), Antidegradation Policy Implementation for NPDES Permitting.

a. Technology-based Effluent Limitations

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

b. Water Quality-based Effluent Limitations

The WQBELs contained in this Order have been modified from previous NPDES permits for FPUD, including Order No. R9-2006-002, to remove effluent limitations for some parameters after an RPA was conducted. In accordance with the State Water Board's Administrative Procedures Update (APU) No. 90-004, the San Diego Water Board assessed the potential impact of the modified effluent limitations on existing water quality and the need for an antidegradation analysis.

Effluent limitations were not included in this Order for constituents which reasonable potential to exceed the water quality objectives was not indicated following an RPA although the previous permit included effluent limitations for those constituents. The procedures for conducting the RPA are explained in section IV.C.3 of this Fact Sheet. For constituents for which effluent limitations were not included, performance goals were included which will indicate the level of discharge at which possible water quality impacts may be significant. The removal of effluent limitations by itself is not expected to cause a change in the physical nature of the effluent discharged and is not expected to impact beneficial uses nor cause a reduction of the water quality of the receiving water. Coupled with the inclusion of performance goals and retention of the monitoring program for constituents without effluent limitations, the existing water quality is expected to be maintained. For these reasons, the San Diego Water Board has determined that an antidegradation analysis is not required to consider the possible impacts resulting from the removal of effluent limitations following a RPA.

4. Stringency of Requirements for Individual Pollutants

This Order contains both TBELs and WQBELs for individual pollutants. The TBELs consist of restrictions on CBOD₅, TSS, oil and grease, settleable solids, turbidity, and pH. Restrictions on these constituents are discussed in section IV.B of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. These limitations are not more stringent than required by the CWA.

WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. The scientific procedures for calculating the individual WQBELs are based on the Ocean Plan, which was approved by USEPA on February 14, 2006. All beneficial uses and water quality objectives contained in the Basin Plan were approved under State law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

E. Performance Goals

Constituents that do not have reasonable potential are listed as performance goals in this Order. Performance goals serve to maintain existing treatment levels and effluent quality and supports State and federal antidegradation policies. Additionally, performance goals provide all interested parties with information regarding the expected levels of pollutants in the discharge that should not be exceeded in order to maintain the water quality objectives established in the Ocean Plan. Performance goals are not effluent limitations or standards as defined by the Clean Water Act 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 the potential for water quality concerns. Repeated red flags may prompt the San Diego Water Board to reopen and amend the permit to replace performance goals for constituents of concern with effluent limitations or the San Diego Water Board may coordinate such actions with the next permit renewal.

The following table lists the performance goals established by this Order. A minimum probable initial dilution factor of 87:1 was used in establishing the performance goals.

Table F-14. Performance Goals Based on the Ocean Plan

			Perforn	nance Goals ¹	
Parameter	Unit	6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
OBJECT	IVES FO	R PROTECTIO	N OF MARINE	AQUATIC LIFE	
Arsenic, Total Recoverable	μg/L	4.4E+02	2.6E+03	6.8E+03	
Cadmium, Total Recoverable	μg/L	8.8E+01	3.5E+02	8.8E+02	
Chromium VI, Total Recoverable ²	μg/L	1.8E+02	7.0E+02	1.8E+03	
Copper, Total Recoverable	μg/L	9.0E+01	8.8E+02	2.5E+03	
Lead, Total Recoverable	μg/L	1.8E+02	7.0E+02	1.8E+03	
Mercury, Total Recoverable	μg/L	3.09E+00	1.4E+01	3.5E+01	
Nickel, Total Recoverable	μg/L	4.4E+02	1.8E+03	4.4E+03	
Selenium, Total Recoverable	μg/L	1.3E+03	5.3E+03	1.3E+04	
Silver, Total Recoverable	μg/L	4.8E+01	2.3E+02	6.0E+02	
Zinc, Total Recoverable	μg/L	1.1E+03	6.3E+03	1.7E+04	
Cyanide, Total Recoverable	µg/L	8.8E+01	3.5E+02	8.8E+02	
Ammonia (expressed as nitrogen)	μg/L	5.3E+04	2.1E+05	5.3E+05	
Acute Toxicity	TUa		2.9E+00		
Chronic Toxicity ³	TUc		8.8E+01		
Phenolic Compounds (non-chlorinated) ⁴	μg/L	2.6E+03	1.1E+04	2.6E+04	
Chlorinated Phenolics ⁵	μg/L	8.8E+01	3.5E+02	8.8E+02	
Endosulfan ⁶	μg/L	7.9E-01	1.6E+00	2.4E+00	
Endrin	μg/L	1.8E-01	3.5E-01	5.3E-01	
HCH ⁷	μg/L	3.5E-01	7.0E-01	1.1E+00	
Radioactivity	pCi/L	Subchapter 4 Code of Regu	, Group 3, Articl lations, Referer e changes to ar	d in Title 17, Division of 3, Section 30253 and to Section 3025 and incorporated provinges take effect.	of the Californ 3 is prospectiv

OBJECTIVES FO	R PROTE	CTION OF HUI	MAN HEALTH -	NONCARCINOG	
Acrolein	μg/L	744)			1.9E+04
Antimony	μg/L				1.1E+05
Bis(2-chloroethoxy) Methane	μg/L		-	-	3.9E+02
Bis(2-chloroisopropyl) Ether	μg/L	7 -			1.1E+05
Chlorobenzene	μg/L	2 55 7		1988	5.0E+04
Chromium (III), Total Recoverable	μg/L		-	4	1.7E+07
Di-n-butyl Phthalate	μg/L				3.1E+05
Dichlorobenzenes ⁸	μg/L				4.5E+05
Diethyl Phthalate	μg/L	()	-	#E	2.9E+06
Dimethyl Phthalate	μg/L	(0==)			7.2E+07
4,6-dinitro-2-methylphenol	μg/L	1/574		-	1.9E+04
2,4-dinitrophenol	μg/L				3.5E+02
Ethylbenzene	μg/L				3.6E+05
Fluoranthene	μg/L			22	1.3E+03
Hexachlorocyclopentadiene	μg/L				5.1E+03
Nitrobenzene	μg/L			-	4.3E+02
Thallium, Total Recoverable	μg/L				1.8E+02
Toluene	μg/L				7.5E+06
Tributyltin	µg/L		1-20		1.2E-01
1,1,1-trichloroethane	μg/L		5==5		4.8E+07
		TECTION OF H	IUMAN HEALT	H - CARCINOGE	NS
Acrylonitrile	μg/L	1	4	1	8.8E+00
Aldrin	μg/L	44			1.9E-03
Benzene	μg/L	-	(mm)	-	5.2E+02
Benzidine	μg/L		:21x	99	6.1E-03
Beryllium	µg/L				2.9E+00
Bis(2-chloroethyl) Ether	μg/L		-		4.0E+00
Bis(2-ethlyhexyl) Phthalate	μg/L				3.1E+02
Carbon Tetrachloride	μg/L	==	5 57 4	i .	7.9E+01
Chlorodane	μg/L	==	: ** :		2.0E-03
Chlorodibromomethane	μg/L		U 	-	7.6E+02
Chloroform	µg/L		7227	22	1.1E+04
DDT ⁹	μg/L		2 2		1.5E-02
1,4-dichlorobenzene	µg/L			-	1.6E+03
3,3'-dichlorobenzidine	μg/L		2==		7.1E-01
1,2-dichloroethane	μg/L		1558		2.5E+03
1,1-dichloroethylene	μg/L		1220		7.9E+01
Dichlorobromomethane	μg/L		(**)		5.5E+02
Dichloromethane	μg/L				4.0E+04
1,3-dichloropropene	µg/L		9 24 0		7.8E+02
Dieldrin	μg/L				3.5E-03
2,4-dinitrotoluene	μg/L				2.3E+02

1,2-diphenylhydrazine	μg/L			-	1.4E+01
Halomethanes ¹⁰	μg/L	(##)		(1.1E+04
Heptachlor	μg/L	10000	-	0 == 0	4.4E-03
Heptachlor Epoxide	μg/L			-	1.8E-03
Hexachlorobenzene	μg/L	1.)(==)	1.8E-02
Hexachlorobutadiene	μg/L			(1.2E+03
Hexachloroethane	μg/L	(()		(S ==):	2.2E+02
Isophorone	μg/L	1 77		9 77	6.4E+04
N-nitrosodimethylamine	μg/L	(2 44)		San (1)	6.4E+02
N-nitrosodi-N-propylamine	μg/L			(1 -)	3.3E+01
N-nitrosodiphenylamine	μg/L	(444)	-	1 44	2.2E+02
PAHs ¹¹	μg/L				7.7E-01
PCBs ¹²	μg/L	-		-	1.7E-03
1,1,2,2-tetrachloroethane	μg/L			0. 100. 1	2.0E+02
Tetrachloroethylene	μg/L			3 55	1.8E+02
Toxaphene	μg/L	(i==1		10 00 0	1.8E-02
Trichloroethylene	μg/L	11 55 1		11 5-4 2	2.4E+03
1,1,2-trichloroethane	μg/L			17-11-12-13 18-11-13-13-13-13-13-13-13-13-13-13-13-13-	8.3E+02
2,4,6-trichlorophenol	μg/L	-		· (2.6E+01
Vinyl Chloride	μg/L				3.2E+03

Scientific "E" notation is used to express certain values. In scientific "E" notation, the number following the "E" indicates that position of the decimal point in the value. Negative numbers after the "E" indicate that the value is less than 1, and positive numbers after the "E" indicate that the value is greater than 1. In this notation a value of 6.1E-02 represents 6.1 x 10⁻² or 0.061, 6.1E+02 represents 6.1 x 10⁰ or 610, and 6.1E+00 represents 6.1 x 10⁰ or 6.1.

Dischargers may, at their option, apply this performance goal as a total chromium performance goal.
 Chronic toxicity expressed as Chronic Toxicity Units (TUc) = 100/NOEL, where NOEL (No Observed Effect Level) is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism.

Non-chlorinated phenolic compounds represent the sum of 2,4-dimethylphenol, 4,6-Dinitro-2-methylphenol, 2,4-dinitrophenol, 2-methylphenol, 4-methylphenol, 2-Nitrophenol, 4-nitrophenol, and phenol.

Chlorinated phenolic compounds represent the sum of 4-chloro-3-methylphenol, 2-chlorophenol, pentachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol.

Endosulfan represents the sum of alpha-endosulfan, beta-endosulfan, and endosulfan sulfate.

HCH (hexachlorocyclohexane) represents the sum of the alpha, beta, gamma (Lindane), and delta isomers of hexachlorocyclohexane.

Dichlorobenzenes represent the sum of 1,2- and 1,3-dichlorobenzene.

DDT represents the sum of 4,4'DDT; 2,4'DDT; 4,4'DDE; 2,4'DDE; 4,4'DDD; and 2,4'DDD.

Halomethanes represent the sum of bromoform, bromomethane (methyl bromide), and chloromethane (methyl chloride).

PAHs (polynuclear aromatic hydrocarbons) represent the sum of acenaphthalene; anthracene; 1,2-benzanthracene; 3,4-benzofluoranthene; benzo[k]fluoranthene; 1,12-benzoperylene; benzo[a]pyrene; chrysene; dibenzo[a,h]anthracene; fluorene; indeno[1,2,3-cd]pyrene; phenanthrene; and pyrene.

PCBs (polychlorinated biphenyls) represent the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Arolclor-1254, and Arcolor-1260.

F. Interim Effluent Limitations

Order No. R9-2012-0005 supplements the requirements of Order No. R9-2012-0004 and establishes a Time Schedule for FPUD to comply with the final total residual chlorine effluent limitations prescribed in Order No. R9-2012-0004 (NPDES Permit NO. CA0108031). Order No. R9-2012-0005 includes the following interim effluent limitation for total residual chlorine at Monitoring Location M-001 or M-002, as described in Order No. R9-2012-0004, to be effective until **March 31, 2016** or when the Discharger achieves compliance, whichever is earlier:

Table 2: Interim Total Residual Chlorine Effluent Limitations

Parameter L		Effluent Limitations					
	Unit	6-Month Median	Maximum Daily	Instantaneous Maximum	Average Monthly		
Total mg/L Residual Chlorine lbs/day	5.4	11.12	11.12				
	122	252	252				

G. Land Discharge Specifications - Not Applicable

H. Reclamation Specifications

FPUD must continue to comply with the separate reclamation requirements established in San Diego Water Board Order No. 91-39 and any applicable future revised or renewal waste discharge requirements, which are not incorporated by reference into this Permit.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

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

The water contact bacterial standards in the previous Order No. R9-2006-002, which were based on the language in the 2001 Ocean Plan, have changed. The language in the 2009 Ocean Plan now specifies that the Water-Contact Standards apply to ocean waters within California's jurisdiction designated by the San Diego Water Board as having REC-1 beneficial uses. Because the San Diego Water Board has not completed a process to designate specific areas where the water-contact standards apply, Ocean Plan Bacterial Standards apply throughout all ocean waters in the San Diego Region. Thus, the applicable standards are included in this Order. See section VII.B.7 of this Fact Sheet for additional information on compliance with the 2009 Ocean Plan bacterial standards.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. CWC sections 13267 and 13383 authorize the San Diego

¹ The interim effluent limitations are based on effluent performance data from July 1, 2012 through July 31, 2011 for the Discharger where 99.9% of the data points lie within 3.3 standard deviations of the mean.

Water Board to require technical and monitoring reports. The MRP (Attachment E of this Order), establishes monitoring and reporting requirements to implement federal and State requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this Facility.

A. Influent Monitoring

Influent monitoring is required to determine the effectiveness of the source control program, to assess the performance of treatment facilities, and to evaluate compliance with effluent limitations. Influent monitoring frequencies and sample types for flow, CBOD₅, and TSS have been retained from Order No. R9-2006-002. Refer to section III.A of Attachment E of this Order for a summary of influent monitoring requirements.

B. Effluent Monitoring

Effluent monitoring is required to determine compliance with the permit conditions and to identify operational problems and improve plant performance. Effluent monitoring also provides information on wastewater characteristics and flows for use in interpreting water quality and biological data. Effluent monitoring requirements for most of the parameters have been retained from Order No. R9-2006-002. Effluent monitoring for TCDD equivalents have been increased from annually to semiannually based on the results of the RPA and to determine compliance with the newly established effluent limitations. Order No. R9-2006-002 gave FPUD the option of sampling for parameters contained in Table B of the Ocean Plan at either Monitoring Location M-001 (located at the end of the Facility treatment train) or at Monitoring Location M-002 (located near the terminus of the Fallbrook Land Outfall prior to joining the Oceanside OO). This option permits FPUD reasonable flexibility in their sampling regimen (i.e., sampling for whole effluent toxicity and total residual chlorine may be conducted at M-002) and has been retained.

C. Whole Effluent Toxicity Testing Requirements

As described in section IV.C.5 of this Fact Sheet, quarterly chronic WET testing is required by this Order to evaluate compliance with Table B water quality objective and evaluate any potential synergistic effects associated with pollutants in the effluent.

D. Receiving Water Monitoring

1. Surface Water

a. Microbiological (Near Shore and Off Shore)

The near shore and off shore water quality sampling program is designed to help evaluate the fate of the wastewater plume under various conditions and to determine if the Ocean Plan standards are being negatively impacted by the discharge. Further, bacterial sampling is required to provide data to help track the wastewater plume in the offshore waters, to evaluate compliance with recreational water standards in the kelp beds, and to address issues of beach water quality at the shoreline stations. Monitoring requirements for total coliform organisms, fecal coliform organisms, and enterococcus bacteria have been

established in this Order, consistent with Order No. R9-2006-002 and consistent with the City of Oceanside's Order No. R9-2011-0016.

b. Benthic Monitoring

Sediment and infauna monitoring is required to help evaluate the potential effects of the discharge on the physical and chemical properties of the sediment and biological communities in the vicinity of the discharge, consistent with Order No. R9-2006-002.

c. Fish and Invertebrate

Fish and invertebrate monitoring is required to assess the effects of the discharge on local fish and megabenthic invertebrate communities in the surrounding area of the discharge location, consistent with Order No. R9-2006-002.

E. Other Monitoring Requirements

- 1. Kelp Bed Monitoring. Kelp bed monitoring is intended to assess the extent to which the discharge of wastes may affect the aerial extent and health of coastal kelp beds. The aerial extent of the various kelp beds photographed in each survey will provide a baseline for future monitoring to help evaluate any significant and persistent losses to the kelp beds.
- 2. Regional Monitoring. The purpose of regional monitoring programs (such as the Southern California Bight Regional Monitoring Program, which is coordinated by the Southern California Coastal Water Research Project) is to address questions about conditions in and influences on water bodies with regard to beneficial uses. This is done using scientifically sound and cost-effective monitoring designs and coordinating the efforts of various parties involved in monitoring. The Discharger is required to participate in regional monitoring programs pursuant to 40 CFR 122.48 and CWC sections 13225, 13267, and 13383.

FPUD may request to reduce the level of effort devoted to other monitoring so that resources can be reallocated to regional monitoring by submitting a proposal to the San Diego Water Board and USEPA for such changes (including sampling, analytical, and/or reporting work).

3. Solids Monitoring. FPUD is required to monitor solids generated at the Facility pursuant to 40 CFR Part 503. FPUD shall report, annually, the volume of screenings, sludges, grit, and other solids generated and/or removed during wastewater treatment and the locations where these waste materials are placed for disposal.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

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

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

B. Special Provisions

1. Reopener Provisions

This Order may be re-opened and modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR Parts 122, 123, 124, and 125. The San Diego Water Board may reopen the permit to modify permit conditions and requirements [including, but not limited to, increased/ modified receiving water requirements and participation in the Southern California Coastal Water Research Project (SCCWRP) model monitoring program]. Causes for modifications include the promulgation of new regulations, modification in sludge use or disposal practices, or adoption of new regulations by the State Water Board or San Diego Water Board, including revisions to the Basin Plan.

2. Special Studies and Additional Monitoring Requirements

a. Spill Prevention and Response Plans

The CWA largely prohibits any discharge of pollutants from point sources to waters of the United States except as authorized under an NPDES permit. In general, any point source discharge of sewage effluent to waters of the United States must comply with technology-based, secondary treatment standards, at a minimum, and any more stringent requirements necessary to meet applicable water quality standards and other requirements. The unpermitted discharge of wastewater to waters of the United States is illegal under the CWA. Further, the Basin Plan prohibitions discharges of waste to land, except as authorized by WDRs of the terms described in CWC section 13264. The Basin Plan also prohibits the unauthorized discharge of treated or untreated sewage to waters of the State or to a storm water conveyance system. Further, Discharge Prohibition III.A of the Order prohibits the discharge of waste from the Facility not treated by secondary treatment process and not in compliance with the effluent limitations of the Order and/or to a location other than Discharge Point No. 001.

Sanitary collection and treatment systems experience periodic failures resulting in discharges that may affect waters of the State. There are many factors which may affect the likelihood of a spill. To ensure appropriate funding, management and planning to reduce the likelihood of a spill, and increase the spill preparedness, this Order requires FPUD to maintain and implement Spill Prevention and Response Plans.

b. Spill Reporting Requirements.

To determine compliance with Discharge Prohibition III.A and provide appropriate notification to the general public for the protection of public health, spill reporting requirements have been established in section VI.C.2.b of this Order.

c. Whole Effluent Toxicity (WET)

Implementing provisions at section III.C.4.c.(4) of the Ocean Plan require chronic toxicity monitoring for ocean waste discharges with minimum initial dilution of less than 100:1. Based on methods of the Ocean Plan, a maximum daily performance goal of 88 TUc is established in this Order and quarterly monitoring is retained from Order No. R9-2006-002.

As described further in section IV.C.5.b of this Fact Sheet, this Order does not require acute toxicity testing.

This Order requires FPUD to update, as necessary, its Toxicity Reduction Evaluation (TRE) workplan, and submit any revisions of the TRE workplan within 180 days of the effective date of this Order. The workplan shall describe steps FPUD intends to follow if the performance goal for chronic toxicity (88 TUc) is exceeded.

If the performance goal for chronic toxicity is exceeded in any one test, then within 15 days of the exceedance, FPUD shall begin conducting six additional tests, bi-weekly, over a 12 week period. If the toxicity performance goal is exceeded in any of these six additional tests, then FPUD shall notify the San Diego Water Board and Director. If the San Diego Water Board and Director determine that the discharge consistently exceeds a toxicity performance goal, then FPUD shall initiate a TRE/TIE in accordance with the TRE workplan, Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants (USEPA 833-B-99-002, 1999), and USEPA Toxicity Identification Evaluation (TIE) guidance documents (Phase I, EPA/600/6-91/005F, 1992; Phase II, EPA/600/R-92/080, 1993; and Phase III, EPA/600/R-92/081, 1993). Once the source of toxicity is identified, FPUD shall take all reasonable steps to reduce the toxicity to meet the chronic toxicity performance goal identified in section IV.A.2 of this Order.

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

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

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

- 3. Best Management Practices and Pollution Prevention Not Applicable
- 4. Construction, Operation, and Maintenance Specifications Not Applicable
- 5. Special Provisions for Wastewater Facilities

a. Treatment Plant Capacity

Consistent with Order No. R9-2006-002, this Order requires FPUD to perform a treatment plant capacity study to serve as an indicator for the San Diego Water Board of the Facility's increasing hydraulic capacity and growth in the service area.

FPUD shall submit a written report to the San Diego Water Board within 90 days after the monthly average influent flow rate equals or exceeds 75 percent of the secondary treatment design capacity of the wastewater treatment and/or disposal facilities. FPUD's senior administrative officer shall sign a letter in accordance with Standard Provision V.B. (Attachment D of this Order) which transmits that report and certifies that that policy-making body is adequately informed of the influent flow rate relative to the Facility's design capacity. The report shall include the following:

- Average influent daily flow for the calendar month, the date on which the maximum daily flow occurred, and the rate of that maximum flow.
- FPUD's best estimate of when the average daily influent flow for a calendar month will equal or exceed the design capacity of the facilities.
- FPUD's intended schedule for studies, design, and other steps needed to
 provide additional treatment for the wastewater from the collection system
 and/or control the flow rate before the waste flow exceeds the capacity of
 present units.

b. Pretreatment Program

Because the Facility does not currently receive discharges from industries that are subject to USEPA's pretreatment standards, FPUD is not currently required to develop and implement an industrial pretreatment program. Consistent with Order No. R9-2006-002, this Order requires FPUD to perform an Industrial Waste Survey (IWS) and influent priority pollutant monitoring to determine whether a pretreatment program is required pursuant to 40 CFR Part 403.

c. Biosolids

The use and disposal of biosolids is regulated under federal and State laws and regulations, including permitting requirements and technical standards included in 40 CFR Part 503. FPUD is required to comply with the standards and time schedules contained in 40 CFR Part 503.

Title 27, CCR, Division 2, Subdivision 1, section 20005 establishes approved methods for the disposal of collected screenings, residual sludge, biosolids, and other solids removed from liquid wastes. Requirements to ensure FPUD disposes of solids in compliance with State and federal regulations have been included in this Order.

d. Collection System

The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ (General Order) on May 2, 2006, which is not incorporated herein by reference. The General Order requires public agencies that own or operate sanitary sewer systems with greater than 1 mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs), among other requirements and prohibitions.

Furthermore, the General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating SSOs. Public agencies that are discharging wastewater into the Facility were required to obtain enrollment for regulation under the General Order by December 1, 2006.

6. Other Special Provisions - Not Applicable

7. Compliance Schedules

FPUD currently disinfects Facility effluent with chlorine to meet State Health requirements for recycled water. Prior to terminating disinfection of their effluent, FPUD must submit a plan and time schedule that outlines the tasks and approaches to achieve full compliance with bacteria receiving water limitations, contained within the Ocean Plan, outside of the initial dilution zone of the Oceanside OO. The time schedule shall include timelines for design, construction and implementation of any new or improved facilities needed for compliance.

VIII. PUBLIC PARTICIPATION

The San Diego Water Board is considering the issuance of WDRs that will serve as an NPDES permit for the Facility. As a step in the WDR adoption process, the San Diego Water Board has developed tentative WDRs. The San Diego Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The San Diego Water Board has notified FPUD and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity

to submit their written comments and recommendations. Notification was published in the San Diego Union-Tribune and the North County Times on June 15, 2012and posted on the San Diego Water Board web site on June 15, 2012.

B. Written Comments

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

To be fully responded and considered by the San Diego Water Board, written comments must be received at the San Diego Water Board offices by 5:00 p.m. on July 16, 2012.

C. Public Hearing

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

Date:

August 8, 2012

Time:

9:00 AM

Location:

Regional Water Quality Control Board

Regional Board Meeting Room 9174 Sky Park Court, Suite 100

San Diego, CA 92123

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

Please be aware that dates and venues may change. Our Web address is http://www.waterboards.ca.gov/sandiego/board_info/agendas/, where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

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

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

E. Information and Copying

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday

through Friday. Copying of documents may be arranged through the San Diego Water Board by calling (858) 467-2952.

F. Register of Interested Persons

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

G. Additional Information

Requests for additional information or questions regarding this Order should be directed to Mr. Ben Neill at (858) 467-2983 or via email at bneill@waterboards.ca.gov.

ATTACHMENT G – DISCHARGE PROHIBITIONS CONTAINED IN THE 2005 CALIFORNIA OCEAN PLAN AND BASIN PLAN

I. Ocean Plan Discharge Prohibitions

- The Discharge of any radiological chemical, or biological warfare agent or high-level radioactive waste into the ocean is prohibited.
- Waste shall not be discharged to designated Areas of Special Biological Significance except as provided in Chapter III.E. of the Ocean Plan.
- 3. Pipeline discharge of sludge to the ocean is prohibited by federal law; the discharge of municipal and industrial waste sludge directly to the ocean, or into a waste stream that discharges to the ocean, is prohibited. The discharge of sludge digester supernatant directly to the ocean, or to a waste stream that discharges to the ocean without further treatment, is prohibited.
- The by-passing of untreated wastes containing concentrations of pollutants in excess of those of Table A or Table B [of the Ocean Plan] is prohibited.

II. Basin Plan Discharge Prohibitions

- The discharge of waste to waters of the State in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in CWC section 13050, is prohibited.
- The discharge of waste to land, except as authorized by WDRs of the terms described in CWC section 13264 is prohibited.
- The discharge of pollutants or dredged or fill material to waters of the United States except as authorized by an NPDES permit or a dredged or fill material permit (subject to the exemption described in CWC section 13376) is prohibited.
- 4. Discharges of recycled water to lakes or reservoirs used for municipal water supply or to inland surface water tributaries thereto are prohibited, unless this San Diego Water Board issues an NPDES permit authorizing such a discharge; the proposed discharge has been approved by the State of California Department of Public Health and the operating agency of the impacted reservoir; and the discharger has an approved fail-safe long-term disposal alternative.
- 5. The discharge of waste to inland surface waters, except in cases where the quality of the discharge complies with applicable receiving water quality objectives, is prohibited. Allowances for dilution may be made at the discretion of the San Diego Water Board. Consideration would include streamflow data, the degree of treatment provided and safety measures to ensure reliability of facility performance. As an example, discharge of secondary effluent would probably be permitted if streamflow provided 100:1 dilution capability.
- The discharge of waste in a manner causing flow, ponding, or surfacing on lands not owned or under the control of the discharger is prohibited, unless the discharge is authorized by the San Diego Water Board.

- 7. The dumping, deposition, or discharge of waste directly into waters of the State, or adjacent to such waters in any manner which may permit its being transported into the waters, is prohibited unless authorized by the San Diego Water Board.
- 8. Any discharge to a storm water conveyance system that is not composed entirely of storm water is prohibited unless authorized by the San Diego Water Board. [The federal regulations, 40 CFR 122.26(b)(13), define storm water as storm water runoff, snow melt runoff, and surface runoff and drainage. 40 CFR 122.26(b)(2) defines an illicit discharge as any discharge to a storm water conveyance system that is not composed entirely of storm water except discharges pursuant to an NPDES permit and discharges resulting from fire fighting activities.] [Section 122.26 amended at 56 FR 56553, November 5, 1991; 57 FR 11412, April 2, 1992].
- 9. The unauthorized discharge of treated or untreated sewage to waters of the State or to a storm water conveyance system is prohibited.
- 10. The discharge of industrial wastes to conventional septic tank/ subsurface disposal systems, except as authorized by the terms described in CWC section 13264, is prohibited.
- 11. The discharge of radioactive wastes amenable to alternative methods of disposal into the waters of the State is prohibited.
- 12. The discharge of any radiological, chemical, or biological warfare agent into waters of the State is prohibited.
- 13. The discharge of waste into a natural or excavated site below historic water levels is prohibited unless the discharge is authorized by the San Diego Water Board.
- 14. The discharge of sand, silt, clay, or other earthen materials from any activity, including land grading and construction, in quantities which cause deleterious bottom deposits, turbidity or discoloration in waters of the State or which unreasonably affect, or threaten to affect, beneficial uses of such waters is prohibited.
- 15. The discharge of treated or untreated sewage from vessels to Mission Bay, Oceanside Harbor, Dana Point Harbor, or other small boat harbors is prohibited.
- The discharge of untreated sewage from vessels to San Diego Bay is prohibited.
- 17. The discharge of treated sewage from vessels to portions of San Diego Bay that are less than 30 feet deep at MLLW is prohibited.
- 18. The discharge of treated sewage from vessels, which do not have a properly functioning USCG certified Type 1 or Type II marine sanitation device, to portions of San Diego Bay that are greater than 30 feet deep at MLLW is prohibited.