ATTACHMENT F – FACT SHEET

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Attachment F – Fact Sheet

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table 1. Facility Information

WDID	**9 000000175**
Discharger	**South Orange County Wastewater Authority**
Name of Facility	**San Juan Creek Ocean Outfall**
Facility Address	**Pacific Ocean off Dana Point**
Facility Contact, Title and Phone	**Tom Rosales, General Manager (949) 234-5421**
Authorized Persons to Sign and Submit Reports	**Tom Rosales, General Manager**
Mailing Address	**34156 Del Obispo Street Dana Point, CA 92629 Orange County**
Billing Address	**34156 Del Obispo Street Dana Point, CA 92629 Orange County**
Type of Facility	**Municipal POTW**
Major or Minor Facility	**Major**
Threat to Water Quality	**1**
Complexity	**A**
Pretreatment Program	**Yes**
Reclamation Requirements	**Producer and Distributor (regulated under separate WDRs)**
Facility Permitted Flow	**36.385 million gallons per day (MGD)**
Facility Design Flow	**Ocean outfall: 24 MGD (gravity flow) and 107 MGD (pumped flow)**
Watershed	**Pacific Ocean**
Receiving Water	**Pacific Ocean**
Receiving Water Type	**Ocean**

A. The South Orange County Wastewater Authority (SOCWA) (hereinafter Discharger) is a joint powers authority formed to reduce duplication and provide operational efficiency through consolidation. SOCWA is the legal successor to the Aliso Water Management Agency, the South East Regional Reclamation Authority, and the South Orange County Reclamation Authority. SOCWA is comprised of 10 member agencies including the City of Laguna Beach, the City of San Clemente, the City of San Juan Capistrano, El Toro Water District, Emerald Bay Service District, Irvine Ranch Water District, Moulton Niguel Water District (MNWD), Santa Margarita Water District (SMWD), South Coast Water District and Trabuco Canyon Water District.

B. SOCWA operates the San Juan Creek Ocean Outfall (Ocean Outfall), which receives treated effluent from the following municipal wastewater treatment plants; the SOCWA Jay B. Latham Regional Treatment Plant (RTP), the SMWD Chiquita Water Reclamation Plant (WRP), the MNWD 3A Reclamation Plant (RP), and the City of San Clemente RP. In addition, a number of dry-weather nuisance discharges from a number of sources and brine discharges from the City of San Juan Capistrano and the South Coast Water District are also routed to the Ocean Outfall.

C. The Discharger discharges effluent from a variety of sources through the Ocean Outfall to the Pacific Ocean, a water of the United States, and is currently regulated by Order No. 2000-13, which was adopted on February 9, 2000 and expired on February 9, 2005. In accordance with 40 CFR 122.6, the terms of the existing Order automatically continued in effect after the permit expiration date.

D. The Discharger filed a Report of Waste Discharge (RoWD) and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on August 10, 2004. On June 27, 2005, the Discharger submitted an application for amendment of Order No. 2000-13 to allow discharges from an urban runoff treatment process in the City of San Clemente. Comments and a request for additional information related to the request for amendment of the Order were provided to the Discharger on August 8, 2005, and the Discharger submitted a response to the Regional Water Board on August 23, 2005. On December 6, 2005, the Discharger met with the Regional Water Board staff to discuss several issues related to reissuance of Order No. 2000-13. As a result of this meeting, the Discharger submitted additional information on January 9, 2006.

II. FACILITY DESCRIPTION

A. Description of Wastewater and Biosolids Treatment or Controls

Order No. 2000-13 (NPDES Permit No. CA0107417) establishes discharge prohibitions, limitations, and conditions to regulate discharges of effluent from the Ocean Outfall consisting of treated municipal wastewater, a number of untreated dry-weather nuisance flows, and waste brine to the Pacific Ocean. Order No. 2000-13 expired on February 9, 2005 and has been administratively extended until the adoption of this Order.

The Ocean Outfall receives discharges from facilities that provide wastewater treatment services to the following municipalities and areas: the City of San Juan Capistrano (population 33,826), the City of Mission Viejo (population 93,102), the City of San Clemente (population 49,936), the City of Rancho Santa Margarita (population 47,214), Capistrano Beach (population 11,500), and the City of Dana Point (population 18,000). All of these areas are serviced by separate sanitary sewers.

The SOCWA J.B. Latham RTP, located at 34156 Del Obispo Street in the City of Dana Point, adjacent to San Juan Creek, is a conventional activated sludge treatment facility. Wastewater treatment unit operations and processes are screening, grit removal, primary clarification and secondary treatment using an activated sludge process consisting of aeration and clarification. The liquid handling portion of the plant is normally operated as two separate plants, referred to as the 9 MGD side and the 4 MGD side. The plant has chlorination facilities which are not being used at this time. Waste sludge is anaerobically digested and then dewatered using centrifuges. Dewatered biosolids are hauled to a sanitary landfill for disposal. It should be noted that the SOCWA Jay B. Latham RTP also receives for treatment raw municipal wastewater from the SMWD Oso Creek WRP when this treatment facility is off-line. All effluent from the SOCWA Jay B. Latham RTP is discharged to the Pacific Ocean through the Ocean Outfall. The plant's design treatment capacity is 13.0 MGD.

The SOCWA Jay B. Latham RTP also receives nuisance flows from a variety of projects designed to keep dry-weather low-volume stormwater flows in specific storm drains from crossing the beaches to the ocean by diverting the untreated flows to the headworks of the SOCWA Jay B. Latham RTP. The table below summarizes the sources of these untreated dry weather nuisance flows to the SOCWA J.B. Latham RTP.

Table 2. Dry-Weather Nuisance Flows Diverted to the SOCWA J.B. Latham RTP

SOCWA Member Agency	Diversion Facility	Average Flow (gpd)	Flow Limit[1] (gpd)
City of San Juan Capistrano	Alipaz Diversion Facility	38,900	72,000
City of San Clemente (CSC)	City Multiple Facilities	NA	NA[2]
South Coast Water District	Multiple Facilities (including, Beach St., Beach Road, and Camino De Estrella)	8,500	80,000
	North Creek Diversion Facility	26,500	72,000
	Del Obispo Diversion Facilities	15,000	72,000
	Salt Creek	NA	10,000
	Headlands	NA	10,000
Total		**>88,900**	**>244,000**

[1] These are flow limitations placed on these discharges by SOCWA.
[2] The flow limit for these diversions is that they cannot exceed the remaining flow capacity of their treatment plant which is approximately 1.5 – 2 MGD.
NA – Not available

The SMWD Chiquita WRP, located at 28793 Ortego Highway in the city of San Juan Capistrano, is a high-rate trickling filter treatment facility. Wastewater treatment unit operations and processes are screening, grit removal, primary clarification and secondary treatment using a combination of high-rate trickling filtration, recirculation,

solids contact, and secondary clarification. The plant has chlorination facilities which are not being used at this time. Primary and secondary sludges are mixed, thickened, digested, dewatered, and transported either to a privately owned and operated composting facility in Riverside County or to a sanitary landfill for disposal. SMWD constructed advanced wastewater treatment facilities at the SMWD Chiquita WRP to provide recycled water for irrigation. Effluent not sent to the advanced treatment facilities for recycled water is discharged to the Ocean Outfall via the SMWD Chiquita Land Outfall. The plant's design treatment capacity is 9.0 MGD.

The MNWD 3A RP, located at 26801 Camino Capistrano, Mission Viejo, adjacent to Oso Creek, is a conventional activated sludge treatment facility. Wastewater treatment unit operations and processes are screening, aerated grit removal, primary sedimentation, aeration and secondary treatment using an activated sludge process consisting of aeration and clarification. Waste activated sludge is thickened by air flotation, pumped to an anaerobic digester for stabilization and subsequently dewatered using centrifuges. Dewatered sludge is either hauled to a sanitary landfill or to a privately owned and operated composting facility. This plant has chlorinating facilities, but only effluent intended to be used for irrigation is chlorinated. Secondary effluent is either directed to an on-site advanced water reclamation facility for further treatment or is discharged through the Ocean Outfall via the San Juan Basin Authority Bypass, jointly owned by MNWD and SMWD, which connects to the SMWD Chiquita Land Outfall. The design capacity for treatment is 6.0 MGD.

The SMWD Oso Creek WRP, located at 27204 East La Paz Road, Mission Viejo, adjacent to Oso Creek, is an activated biofilter process treatment facility. Wastewater treatment unit operations and processes at the SMWD Oso Creek WRP are microscreening and secondary treatment using a combination of biofilters and clarification. This plant has chlorination facilities, but only effluent intended to be used for irrigation is chlorinated. Waste solids and filter backwash is returned to the Oso Trabuco Interceptor Sewer. Secondary effluent is directed to an onsite advanced water reclamation facility for further treatment and pumped to the Upper Oso Reservoir. There is no connection from the Oso Creek WRP to the Ocean Outfall. In situations when the plant is off-line, the raw wastewater flows to the SOCWA Jay B. Latham RTP, where it is treated and then discharged through the Ocean Outfall. The design capacity for treatment is 3.0 MGD.

The City of San Clemente RP, located at 380 Avenida Pico, San Clemente, is a conventional activated sludge treatment facility. Wastewater treatment and unit operations and processes are screening, grit removal, primary clarification and secondary treatment using an activated sludge process consisting of aeration and clarification. The plant has chlorination facilities, but only effluent intended to be used for irrigation is chlorinated. Settled primary sludges and skimmings are pumped to a two-stage anaerobic digestion process. Waste sludge is thickened, digested, dewatered and transported to a sanitary landfill for disposal. Secondary effluent is either directed to an on-site advanced water reclamation facility for further treatment or

discharged through the Ocean Outfall via the San Clemente Land Outfall. The design capacity for treatment is 6.98 MGD.

Wastewaters from a number of sources are directed to the Ocean Outfall through several means:

- The San Clemente Land Outfall routes treated wastewater from the City of San Clemente Reclamation Plant northwesterly to the junction with the Ocean Outfall. This land outfall is approximately 4.4 miles long with a capacity of 14 MGD.
- The SMWD Chiquita Land Outfall extends from the SMWD Chiquita WRP southwesterly past the junction with the San Juan Basin Authority Bypass, to the junction with the Ocean Outfall. This land outfall is 6 miles long with a capacity of 42 MGD. This land outfall routes all effluent from the SMWD Chiquita WRP to the Ocean Outfall.
- The San Juan Basin Authority Bypass pipeline begins at the SMWD Oso Creek Barrier past the MNWD 3A Reclamation Plant and continues in a southerly direction to the junction with the SMWD Chiquita Land Outfall. This land outfall is 5.9 miles long with a capacity of 6 MGD. This land outfall routes all effluent from the MNWD 3A Reclamation Plant to the Ocean Outfall.

A summary of the flows from the municipal wastewater treatment plants, as reported in the RoWD, is provided in the table below.

Table 3. Effluent Flows for Municipal Wastewater Treatment Plants Contributing to the Ocean Outfall

Treatment Facility	Existing Secondary Treatment Design Capacity (MGD)	2003 Average Discharge Rate to SOCWA San Juan Creek Ocean Outfall (MGD)	January 2001- December 2003 Data	
			Maximum Effluent Flow From Facility (MGD)	Average Effluent Flow From Facility (MGD)
SOCWA Jay B. Latham Regional Treatment Plant	13.0	9.05	14.5	9.34
SMWD Chiquita Reclamation Plant	9.0	5.50	7.36	4.84
MNWS 3A Reclamation Plant	6.0	2.44	5.48	2.23
SMWD Oso Creek Water Reclamation Plant	3.0 [1]	0 [1]	NA	NA

Treatment Facility	Existing Secondary Treatment Design Capacity (MGD)	2003 Average Discharge Rate to SOCWA San Juan Creek Ocean Outfall (MGD)	January 2001- December 2003 Data	
			Maximum Effluent Flow From Facility (MGD)	Average Effluent Flow From Facility (MGD)
City of San Clemente Reclamation Plant	6.98	4.33	6.78	4.26
Total	34.98	21.32	34.12	20.67

[1] Note that SMWD Oso Creek WRP does not discharge treated wastewater directly through the Ocean Outfall; treated water is reclaimed. However, when the reclamation plant is off-line, the raw wastewater is sent to the SOCWA Jay B. Latham RTP for treatment.

NA – Not available

In June 2005, SOCWA applied for authorization to discharge from an urban runoff treatment process in the City of San Clemente. In particular, the City has developed a management program to mitigate the impacts of dry weather nuisance flow from the Segunda Deshecha (M02) Flood Control Channel, which currently flow directly onto the North Beach and directly into the ocean. This management program, funded with a grant from the State Proposition 40 for the Clean Beach Grant Program, involves diversion of dry weather flows through screens, pressure filtration, and then discharge to the San Clemente Land Outfall. The treatment system will be located at the city of San Clemente RP. According to the application, the average flows through the Segunda Deshecha (M02) Flood Control Channel ranged from 0.43 to 1.3 cubic feet per second (cfs); the design is based on 1.5 cfs (1 MGD). The backwash water from the treatment facility will be discharged into the City of San Clemente Reclamation Plant sewer collection system. Depending on availability of funding, the City is also considering the addition of ultraviolet (UV) light disinfection to the treatment system, as well as constructing a pipeline to the North Beach for discharge after treatment (as a secondary method of disposal).

The Ocean Outfall also contains a discharge from the City of San Juan Capistrano Reverse Osmosis (RO) Water Treatment Plant. The treatment plant consists of pretreatment for the removal of iron, manganese, and hardness, followed by RO, aeration, pH adjustment and disinfection. The resulting brine discharge is sent through the Ocean Outfall; estimated flows are 0.73 MGD.

As described in the report of waste discharge, SOCWA also anticipates the future addition of discharges from the South Coast Water District groundwater recovery facility (GRF). According to SOCWA, the GRF is currently under construction, the completion of which is anticipated in March/April 2007. The initial capacity of the GRF will be 976 acre feet of extracted water, producing approximately 800 acre feet of reclaimed water.

At this production capacity, the brine flow to the Ocean Outfall is estimated to be approximately 0.125 MGD. The flow will be directed to the SMWD Chiquita Land Outfall Line.

A summary of the component flows that constitute the total flow from the Ocean Outfall is provided in the table below.

Table 4. Discharges through the San Juan Creek Ocean Outfall

Source	Design Flow (MGD)*	Existing Average Flow (MGD)[1]
Municipal Wastewater Treatment Plants	34.98	21.3
Segunda Deshecha (M02) Flood Control Channel (Anticipated)	1	--
City of San Juan Capistrano RO Water Treatment Plant Brine Discharge	0.73	0.73
South Coast Water District GRF (Anticipated)	0.125	--
Total	36.835	22.03

[1] Source: SOCWA August 10, 2004 RoWD

B. Discharge Points and Receiving Waters

The Discharger operates the Ocean Outfall, which has been in existence since 1978 and extends southwesterly approximately 10,550 feet (ft) offshore in a southwest direction from Doheny State Beach at San Juan Creek. The inshore end of the diffuser is located approximately 10,334 feet offshore at a depth of approximately 100 ft. The Ocean Outfall terminates with a 216 foot diffuser collinear with the rest of the outfall and extends 1,272 feet in a northwesterly direction perpendicular to the rest of the outfall and terminates at Latitude 33°26'10" North, Longitude 117°41'53" West. The 216 foot diffuser pipe is configured with 16 – 2.85 inch ports; the 1,272 foot diffuser pipe is configured with 107 – 3.03 inch ports and two - 5 inch ports at the terminal end. Ports on the diffuser pipes are spaced 24 inches apart on each side of the diffuser pipe and staggered.

The design capacity of the Ocean Outfall is 24 MGD for gravity flow; the design capacity of the Ocean Outfall using pumping facilities is 107 MGD. Effluent pumping to the Ocean Outfall is required when peak flow conditions coincide with extreme high tide conditions. In the previous Order the Discharger was subject to a flow limitation of 30.0 MGD. As reported in the RoWD, the average flow rate discharging through the Ocean Outfall is approximately 20 - 22 MGD; the maximum daily flow was reported as 31 MGD.

For Order No. 2000-13 SOCWA determined the minimum initial dilution for the Ocean Outfall, using the computer model Visual Plumes, to be 100. The Visual Plumes initial dilution factor is based on 30.00 MGD of secondary effluent and 1.05 MGD of brine wastes.

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

Effluent limitations contained in Order No. 2000-13 for major constituents and properties of wastewater for discharges from the Ocean Outfall, and representative monitoring data for January 2000 through November 2005 are provided in the table below.

Table 5. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation[1]			Monitoring Data (From January 2000 – November 2005)	
		Monthly Average (30-day)	Weekly Average (7-day)	Maximum at any time	Mean	Maximum
Flow	MGD	--	--	30	21.3	44.2
Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)	mg/L	25	40	45	7.5	56
	lbs/day	6225	10008	11259	1363	19325
Total Suspended Solids (TSS)	mg/L	30	45	50	11.6	83.2
	lbs/day	7506	11259	12510	2113	28712
pH	pH units	6.0 - 9.0			6.5 [2]	8.2
Grease and Oil	mg/L	25	40	75	3.6	10.7
	lbs/day	6255	10008	18765	655	2184
Settleable Solids	mL/L	1	1.5	3	0.4	7
Turbidity	NTU	75	100	225	5.2	19.6
Acute Toxicity	TU_a	1.5	2	2.5	0.55	1.09

[1] These limitations represent those using an initial dilution factor of 100.
[2] This data point represents the minimum reported pH.

The effluent discharged through the Ocean Outfall has exceeded the flow effluent limitation on 13 occasions during the period February 2001 through February 2006. Based on Flow sample results, the maximum flow effluent limitation was exceeded on February 12, 2001 (31.2 MGD), October 21 and 27, 2004 (30.7 and 39.3 MGD), January 8-11, 2005 (30.2, 41.4, 44.2, 33.9 MGD), February 11, 21-23, 25, 2005 (30.6, 36.5, 34.2, 31, 30.4 MGD), and March 8, 2005 (31.4 MGD). All exceeded flow limitations were attributed to heavy rainfall increasing flow.

The effluent limitations for settleable solids (SS) were exceeded several times over the past 5 years; the weekly (7-day) average was exceeded on 11 occasions, and the maximum limitation was exceeded five times. Based on SS sample results the weekly average effluent limitation was exceeded for the period October 6-8, 2000 (all reported values at 1.6 ml/L), for the period December 24-30, 2002 (reported values ranged form 1.9 ml/L to 2 ml/L), and on September 7, 2005 (1.6 ml/L). The SS maximum value

limitation was exceeded on October 6, 2000 (5 ml/L), November 11, 2002 (3.2 ml/L), December 24, 2002 (7 ml/L), October 4, 2004 (4 ml/L), and September 1, 2005 (5 ml/L). The following explanations were provided by the Discharger for several of the effluent limit exceedances:

- The violation on November 11, 2002 was attributed to periodic episodes of floc in the final effluent of the SMWD Chiquita Reclamation Plant.
- The violation on December 24, 2002 was due to a blower motor malfunction at the J.B. Latham Treatment that created a power failure.
- The violations in October 2004 were due to several days of heavy rainfall creating increased hydraulic loading.
- The violation on September 1, 2005 was attributed to bulking in the secondary clarifiers and solids being lost over the weirs.

Effluent limitations for $CBOD_5$ and TSS were exceeded on one occasion each. $CBOD_5$ and TSS were exceeded on January 9, 2005 (56 mg/L for $CBOD_5$ and 83.2 for TSS). The Discharger stated that the exceeded limitations for TSS and $CBOD_5$ on January 9, 2005 were due to measurable rain causing hydraulic overload.

Order No. 2000-013 also requires that the 30-day average removals of $CBOD_5$ and TSS be 85 percent or greater. All data submitted from January 2000 through February 2006 indicate compliance with the percent removal requirements for $CBOD_5$ and TSS.

Order No. 2000-13 established effluent limitations for toxic pollutants based on water quality objectives of the 1997 Ocean Plan and required monitoring at the intervals shown in Table 6 below.

Table 6. Toxic Pollutant Monitoring Requirements in Order No. 2000-13

Toxic Pollutant from Table B of the Ocean Plan (1997)	Monitoring Frequency
Ammonia	Monthly
Total Chlorine Residual	Daily
Chronic Toxicity	Monthly
Table B pollutants listed with Objectives for the Protection of Marine Aquatic Life from the Ocean Plan (1997) except ammonia, total residual chlorine, and chronic toxicity	Quarterly
All other Table B pollutants from the Ocean Plan (1997)	Semi-Annually

Monitoring of toxic pollutants for the period January 2000 through February 2006 showed the following results:

1. During this period, effluent limitations for toxic pollutants from Table B of the Ocean Plan were not exceeded with one exception. Effluent limitations for total chlorine residual (TCR) exceeded on one occasion. TCR was exceeded on September 21, 2005 (reported value was 1.0 mg/L; daily maximum effluent limitation is 0.808 mg/L).

2. Analytical results reported by the Discharger indicate that the method detection limits used for analyses of several pollutants were, at times, greater than the corresponding effluent limitation and/or the Minimum Level established by the Ocean Plan (2001). These pollutants include mercury, cyanide, acrylonitrile, aldrin, benzidine, bis (2-chloroethyl) ether, chlordane, DDT, 3,3-dichlorobenzidine, dieldrin, heptachlor, hexachlorobenzene, PCBs, and toxaphene.

D. Compliance Summary

As described above, the Discharger has complied with the effluent limitations of Order No. 2000-13 with some exceptions. Instances of non-compliance resulting in monetary penalties are described as follows:

1. The Discharger was issued an Administrative Assessment of Civil Liability containing a $3,000 Mandatory Minimum Penalty on May 30, 2003 for violation of Order No. 2000-13: one violation of the settleable solids effluent limitation on December 24, 2003. The settleable solids violation was a serious violation that required mandatory minimum penalty of $3,000 pursuant to Water Code Section 13385(h).

2. The Discharger was issued an Administrative Assessment of Civil Liability containing a $9,000 Mandatory Minimum Penalty on June 17, 2005 for three violations of Order No. 2000-13: one violation of the effluent limitation for the daily maximum mass emissions rate of $CBOD_5$, one violation of the established effluent limitation for daily maximum mass emissions rate of TSS, one violation of the established effluent limitation for daily maximum concentration of TSS. All three violations were serious violations and required mandatory minimum penalties of $3,000 each pursuant to Water Code Section 13385(h).

On December 7, 2005, a compliance evaluation inspection (CEI) was performed at the SOCWA Jay B. Latham RTP to determine compliance with NPDES permit conditions. A summary of the major findings from the CEI are provided below:

- Sampling of the combined effluent flows from the Ocean Outfall is performed in a sampling vault in the Dohenny State Beach Park through a sampling port in the outfall pipe. According to SOCWA, samples are taken from the effluent pipe by pumping through a ISCO sampler contained in the sampling vault and located approximately 6-8 feet above the sampling port. The reason for using the ISCO sampler to extract samples is employee safety. It was noted however, that use of the ISCO sampler to pump effluent (through plastic tubing) to a sample vessel may not be appropriate for certain parameters (e.g., oil and grease, volatile organics).
- The thermometer located within the influent sample collection cooler for Plant 2 (South Coast Water District) read 6.5 degrees Celsius at the time of the inspection.

The sample preservation requirements contained in 40 CFR Part 136 requires samples to be chilled to no more than 4 degrees Celsius.

On February 28, 2006, a CEI was performed at the SMWD Chiquita RP to determine compliance with NPDES permit conditions. No major issues were identified as a result of the inspection.

On February 28, 2006, a CEI was performed at the MNWS 3A RP to determine compliance with NPDES permit conditions. A summary of the major findings from the CEI are provided below:

- The chain-of-custodies are kept at the contract lab. The operators who collect the samples do not begin to fill out the chain-of-custody until they arrive at the lab with the samples. The accuracy of the chain-of-custodies could be better maintained if they were initiated at the facility when the samples were collected. This is especially true since pH and residual chlorine are analyzed at the contract lab and need to meet a 15 minute holding time.

On December 9, 2005, a compliance evaluation inspection was performed at the City of San Clemente RP to determine compliance with NPDES permit conditions. A summary of the major findings from the CEI are provided below:

- Influent and effluent data summaries are generated on a monthly basis and are provided to SOCWA for use in reporting influent flows and percent removal values. In the month of September 2005 the facility experienced exceedances in the effluent limitations for TSS, SS, and $CBOD_5$ (September 13, 2005: TSS = 159.9 mg/L, SS = 25.0 mg/L, $CBOD_5$ = 60.0 mg/L; and September 14, 2005: TSS = 61.4 mg/L). However, the facility representative did not believe that SOCWA had reported exceedances during that month. Therefore, the facility's exceedances did not result in permit exceedances since the permit limitations apply to the combined effluent in the outfall, as reported by SOCWA.
- The facility has been experiencing plant upsets since some time in 2003. As a result of effluent limitation exceedances caused by the upsets the Regional Water Board issued a Notice of Violation (NOV R9-2004-0289), which required a 120-day continuous monitoring period. The cause of these upsets has yet to be determined, but thorough documentation of the plant upsets has been provided to the Regional Water Board since September 2004. The facility completed its 120-day continuous monitoring period on January 17, 2005 (details are contained in the report to the Water Board dated February 2, 2005). Since that time the facility has continued to generate Incident Report Forms for each upset. Additionally, the facility contracted an engineering firm to conduct an operational assessment of the facility. Recommendations included but were not limited to: changes in staffing, automated DO controls, and new diffusers. The facility had begun to implement some of the staffing changes at the time of the inspection (e.g., an industrial waste inspector had been hired). The facility representative stated that the facility was planning to implement automated DO controls for the aeration basins. Therefore, at the time of

the inspection, it appeared as though the facility was working to minimize plant upsets by improving its process, tracking operational information, and increasing staffing.

E. Planned Changes

Although there are a variety of capital improvements projects planned for each of the contributing municipal wastewater treatments to the Ocean Outfall, there are no major planned changes that would affect capacity of the treatment plants or effluent quality.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the USEPA and Chapter 5.5, Division 7 of the California Water Code (CWC). It shall serve as a NPDES permit for point source discharges from the Discharger's Facilities to the Pacific Ocean at Outfall 001. This Order also contains discharge prohibitions, effluent limitations, discharge specifications, provisions, and other requirements pursuant to the CWC.

B. California Environmental Quality Act (CEQA)

This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.) in accordance with Section 13389 of the CWC.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Board adopted a *Water Quality Control Plan for the San Diego Basin* (hereinafter Basin Plan) on September 8, 1994. The Basin Plan was subsequently approved by the State Water Board on December 13, 1994. Subsequent revisions to the Basin Plan have also been adopted by the Regional Water Board and approved by the State Water Board. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Beneficial uses applicable to the Pacific Ocean are shown in Table 7 below.

Table 7. Basin Plan Beneficial Uses of the Pacific Ocean

Discharge Point	Receiving Water Name	Beneficial Use
Outfall 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; Shellfish Harvesting

The Basin Plan relies primarily on the requirements of the *Water Quality Control Plan for Ocean Waters of California* (Ocean Plan) for protection of the beneficial uses of the State ocean waters. The Basin Plan, however, may contain additional water quality objectives applicable to the Discharger.

On November 16, 2000 the State Water Board adopted a revised Ocean Plan. The revised Ocean Plan became effective on December 3, 2001. The Ocean Plan was amended in April 2005 to address reasonable potential and Areas of Special Biological Significance. The Ocean Plan contains water quality objectives and beneficial uses for the ocean waters of California. The beneficial uses of State ocean waters to be protected are summarized in Table 8 below.

Table 8. Ocean Plan Beneficial Uses of the Pacific Ocean

Discharge Point	Receiving Water Name	Beneficial Use
Outfall 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; Rare and Endangered Species; Marine Habitat; Fish Migration; Fish Spawning and Shellfish Harvesting

In order to protect these beneficial uses, the Ocean Plan establishes water quality objectives (for bacterial, physical, chemical, and biological characteristics and for radioactivity), general requirements for management of waste discharged to the ocean, quality requirements for waste discharges (effluent quality requirements), discharge prohibitions, and general provisions.

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

Requirements of this Order specifically implement the applicable Water Quality Control Plans.

2. **Antidegradation Policy.** 40 CFR 131.12 requires that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16, which incorporates the requirements of the federal antidegradation policy. Resolution No. 68-16 requires that existing water quality is maintained unless degradation is justified based on specific findings. As discussed in detail in this Fact Sheet, the permitted discharge is consistent with the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

3. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. Some effluent limitations in this Order are less stringent than those in the previous Order or have been removed, consistent with the anti-backsliding requirements of the CWA and federal regulations. Technology-based acute toxicity effluent limitations have been replaced with water quality-based acute toxicity effluent limitations consistent with Sections 402(o) and 303(d)(4) of the CWA and 40 CFR 122.44(1). Concentration and mass emission rate effluent limitations for several constituents listed under Table B of the Ocean Plan, including silver, have been removed as a result of new information from a reasonable potential analysis and is consistent with Section 402(o) of the CWA and 40 CFR 122.44(l). Several concentration effluent limitations, like for silver, have been replaced with numerically lower performance goals based on the relaxed water quality objectives that were introduced in the 2001 Ocean Plan. Mass emission rate effluent limitations have been replaced with numerically higher performance goals as a result of greater flowrates stemming from material and alterations or additions to the permitted facilities.

4. **Monitoring and Reporting Requirements.** 40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program (Attachment E) establishes monitoring and reporting requirements to implement federal and State requirements.

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

On June 5 and July 25, 2003, the USEPA approved the list of impaired water bodies, prepared by the State Water Board pursuant to Section 303 (d) of the CWA, which are not expected to meet applicable water quality standards after implementation of technology-based effluent limitations for point sources. The 303(d) list includes the following sections of Pacific Ocean shoreline within the proximity of the Ocean Outfall as impaired for bacteria indicators:

1. 1.0 miles of Pacific Ocean shoreline at San Juan Creek.
2. 119 acres of Pacific Ocean at Dana Point Harbor (impairment located at Baby Beach).
3. 6.3 acres of Pacific Ocean shoreline at the mouth of San Juan Creek.

Impairment has been detected at the shorelines indicated above; however, the receiving waters in the immediate vicinity of the Outfall 001 are not included on the current 303(d) list.

E. Other Plans, Policies 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 Order No. R9-2006-0054, 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 Discharges of Storm Water Associated with Industrial Activity, Excluding Construction Activities. The Discharger shall file a Notice of Intent within 60 days of adoption of this Order (unless already submitted under the previous Order) and comply with Order No. 97-03-DWQ or the Discharger shall provide certification to the Regional Water Board that all storm water is captured and treated on-site and no storm water is discharged or allowed to run off-site from the facility.

3. **Pretreatment.** Discharges of pollutants that may interfere with operations of a POTW are regulated by USEPA's pretreatment regulations at 40 CFR Part 403. These regulations require Dischargers to develop and implement pretreatment programs that impose limitations on industrial users of the POTW if the POTW treats 5 MGD of wastewater or more.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source discharges 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: 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 WQBELs to attain and maintain applicable numeric and narrative water quality objective to protect the beneficial uses of the receiving water. Where numeric water quality objectives have not been established, three options exist to protect water quality using narrative water quality objectives: 1) 40 CFR 122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a); 2) proposed State criteria or a State

policy interpreting narrative objective supplemented with other relevant information may be used; or 3) an indicator parameter may be established.

A. Discharge Prohibitions

Prohibition A.1 of Order No. 2000-13 has been modified to clearly define what types of discharges are prohibited by this Order. The modified prohibition is contained in Section III.A of Order No. R9-2006-0054.

1. Prohibition A requires all discharges from the SOCWA Jay B. Latham Regional Treatment Plant (RTP), the SMWD Chiquita Water Reclamation Plant (WRP), the MNWD 3A Reclamation Plant (RP), and the City of San Clemente RP to be treated by at least a secondary treatment process. The USEPA states that "The biological treatment component of a municipal treatment plant is termed secondary treatment and is usually preceded by simple settling (primary treatment). Secondary treatment standards are established by EPA for publicly owned treatment works (POTWs) and reflect the performance of secondary wastewater treatment plants. These technology-based regulations apply to all municipal wastewater treatment plants and represents the minimum level of effluent quality attainable by secondary treatment, as reflected in terms of 5-day biochemical oxygen demand (BOD_5) and total suspended solids (TSS) removal." (See http://cfpub.epa.gov/npdes/techbasedpermitting/sectreat.cfm?program_id=15). At this time, USEPA has not promulgated any provisions that would allow a discharge of treated municipal wastewater to waters of the US that has not been treated through a secondary treatment process or a process equivalent to secondary treatment, except under bypass and upset conditions recognized under Provisions I.G and I.H of Attachment D – Standard Provisions.

   Prohibition A also prohibits discharge from the SOCWA Jay B. Latham Regional Treatment Plant (RTP), the SMWD Chiquita Water Reclamation Plant (WRP), the MNWD 3A Reclamation Plant (RP), and the City of San Clemente RP that do not comply with the effluent limitations contained in this Order, or a discharge to a location other than the San Juan Creek Ocean Outfall, unless specifically regulated by this Order or separate waste discharge requirements. The Regional Water Board's Order No. 97-52 establishes reclamation requirements for the reuse of effluent form the the SMWD Chiquita Water Reclamation Plant (WRP), the MNWD 3A Reclamation Plant (RP), and the City of San Clemente RP in the San Diego Region. Regional Water Board's Order No. 96-04 prohibits sanitary sewer overflows and also applies to SOCWA.

2. Section III.B of this Order lists additional discharge prohibitions from the Basin Plan. California Water Coe Section 13243 provides that the Regional Water Board, in a water quality control plan or in waste discharge requirements, may specify certain conditions where the discharge of wastes or certain types of wastes that could affect the quality of water s of the state is prohibited. Inclusion of the Basin Plan prohibitions in the Order implements the reuirements of the Basin Plan. The Basin

Plan prohibitions included in this Order are a subset of the complete set of Basin Plan prohibitions. Certain Basin Plan prohibitions did not apply to SOCWA's discharge and were not included in this Order.

3. Prohibitions C, D, and E in Section III of this Order are additional discharge prohibitions from the 2005 California Ocean Plan. Prohibition C prohibits the discharge of waste to Areas of Special Biological Significance. Prohibition D prohibits the discharge of waste sludge and sludge digester supernatant to the ocean. Prohibition E prohibits the discharge of untreated waste that has bypassed all treatment processes, unless excepted in accordance with Ocean Plan Provision III.I. Discharges subject to this prohibition would include the discharge to the ocean of raw municipal wastewater that has not undergone any treatment through any of the treatment plant processes, and sanitary sewer overflows to the ocean.

B. Technology-Based Effluent Limitations

1. Scope and Authority

USEPA regulations at 40 CFR 122.44(a)(1) require permits to include technology-based effluent limitations and standards based on limitations and standards promulgated by the USEPA authorized under Section 301 of the CWA. USEPA promulgated technology-based effluent limitations and standards for publicly owned treatment works (POTWs) as secondary treatment regulations at 40 CFR Part 133.

Section III.B of the Ocean Plan prescribes effluent limitations that apply to POTWs and industrial discharges for which effluent limitations guidelines have not been established pursuant to Sections 301, 302, 304, or 306 of the federal CWA. Specifically Section III.B.3 of the Ocean Plan states that compliance with Table A effluent limitations shall be the minimum level of treatment acceptable under the Ocean Plan, and shall define reasonable treatment and waste control technology.

2. Applicable Technology-Based Effluent Limitations

Pursuant to Sections 301 (b) (1) (B) and 304 (d) (1) of the CWA, USEPA has established standards of performance for secondary treatment at 40 CFR Part 133. Secondary treatment is defined in terms of three parameters – 5-day biochemical oxygen demand (BOD_5), TSS, and pH. The following table summarizes the technology-based requirements for secondary treatment:

Table 9. Summary of Technology-Based Effluent Limitations for Secondary Treatment Facilities Established by USEPA at 40 CFR 133.102

Constituent	Monthly Average	Weekly Average	Percent Removal (%)
BOD_5	30 mg/L	45 mg/L	85
TSS	30 mg/L	45 mg/L	85
pH	6.0 to 9.0 standard units		

Effluent limitations for the parameters BOD_5, TSS, and pH must be included in NPDES permits for POTWs; however, the parameter $CBOD_5$ (5-day carbonaceous biochemical oxygen demand) may be substituted for BOD_5 at the option of the permitting authority. The secondary treatment standards for $CBOD_5$ are 25 mg/L (monthly average), 40 mg/L (weekly average), and 85 percent removal. Consistent with the effluent limitations in the existing Order, limitations for $CBOD_5$ were incorporated into the permit in lieu of BOD_5 limitations.

As described in Section II of this Fact Sheet, SOCWA operates the Ocean Outfall which receives treated effluent from the following municipal wastewater treatment plants; the SOCWA Jay B. Latham RTP, the SMWD Chiquita WRP, the MNWD 3A RP, and the City of San Clemente RP. In accordance with the definition contained in 40 CFR 122.2, each of these wastewater treatment plants is considered a POTW. Further, in accordance with 40 CFR 125.3(a)(1), all POTWs are required to achieve the secondary treatment standards contained in 40 CFR Part 133. Therefore, the permit independently applies the secondary treatment standards to the SOCWA Jay B. Latham RTP, the SMWD Chiquita WRP, the MNWD 3A RP, and the City of San Clemente RP.

Table A of the Ocean Plan establishes the following technology-based effluent limitations for POTWs and industrial discharges not subject to federal effluent limitations guidelines:

Table 10. Summary of Technology-Based Effluent Limitations Included in Table A of the Ocean Plan

Constituent	Monthly Average	Weekly Average	Instantaneous Maximum	Percent Removal (%)
Oil and Grease	25 mg/L	40 mg/L	75 mg/L	
TSS				75 [1]
Settleable Solids	1.0 mL/L	1.5 mL/L	3.0 mL/L	
Turbidity	75	100	225	
pH	6.0 to 9.0 standard units			

[1] Dischargers shall, as a monthly average, remove 75% of TSS from the influent stream before discharging to the ocean, except that the effluent limitation to be met shall not be lower than 60 mg/L.

The Table A effluent limitations will be applied to each of the contributing municipal wastewater treatment plants. However, the TSS percent removal requirement and standards under 40 CFR Part 133 for POTWs are more stringent than the Ocean Plan requirement; the more stringent TSS requirements are included in Order No. R9-2006-0054 for the discharges from the SOCWA Jay B. Latham RTP, the SMWD Chiquita WRP, the MNWD 3A RP, and the City of San Clemente RP. The Discharger had requested that the settleable solids limitations that were also included in Order 2000-13 be excluded from the reissued permit. Their rationale included reference to the San Francisco Regional Water Board's 2003 Basin Plan amendments that clarified that the settleable matter effluent limitation does not apply to secondary and advanced

sewage treatment facilities. The effluent limitations that were amended in Water Quality Control Plan for the San Francisco Bay Region, however, apply to all sewage treatment facilities that discharge to inland surface waters and enclosed bays and estuaries. As described in Section III.C.1 of this Fact Sheet, the Ocean Outfall discharges are subject to the Ocean Plan and the Water Quality Control Plan for the San Diego Basin, neither of which currently includes provisions for excluding the effluent limitations for settleable solids.

The Ocean Plan Table A effluent limitations will also be applied to the industrial discharges to the ocean through the Ocean Outfall, including discharges from the Segunda Deshecha (M02) Flood Control Channel, the City of San Juan RO Water Treatment Plant, and the South Coast Water District GRF. However, due to the nature of the industrial discharges, the 60 mg/L monthly average TSS limitation will be applied in lieu of the 75% removal requirement.

Order No. R9-2006-0054 does not retain the maximum at anytime concentration and mass emission rate limitations for $CBOD_5$ and TSS contained in Order No. 2000-13 and previous permits for the Discharger which were established using best professional judgment. Recent attempts to derive maximum at anytime limitations based on the secondary treatment standards at 40 CFR 133 using appropriate statistical approaches did not yield similar results as the previous maximum at anytime limitations; therefore, based on this new information, retaining the previous maximum at anytime limitations in Order No. R9-2006-0054 is not supported.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

USEPA regulations at 40 CFR 122.44 (d) (1) (i) require permits to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels, which cause, have reasonable potential to cause, or contribute to an excursion above any state water quality standard. The establishment of WQBELs in this Order, based on water quality objectives contained in the Ocean Plan, is in accordance with the USEPA regulations.

2. Applicable Beneficial Uses and Water Quality Objectives

a. Basin Plan

For all ocean waters of the State, the Basin Plan and its subsequent revisions establish the beneficial uses described previously in this Fact Sheet. The Basin Plan includes the following water quality objectives for dissolved oxygen and pH in ocean waters, which have been incorporated into Order R9-2006-0054:

1) Dissolved Oxygen. The dissolved oxygen concentration in ocean waters shall not at any time be depressed more than 10 percent from that which

occurs naturally, as a result of the discharge of oxygen demanding waste materials.

2) pH. The pH of receiving waters shall not be changed at any time more than 0.2 pH units from that which occurs naturally.

b. Ocean Plan

Order No. R9-2006-0054 has been written using the guidance of the Ocean Plan, which was most recently updated in 2001 and amended in April 2005, during the term of Order No. 2000-13.

For all ocean waters of the State, the Ocean Plan establishes the beneficial uses described previously in 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. A water quality objective for acute toxicity was added to the 2005 California Ocean Plan while the acute toxicity technology-based effluent limitation contained in the 1997 Ocean Plan was eliminated. Water quality objectives from the 1997 Ocean Plan were included as receiving water limitations in Order No. 2000-13 and water quality objectives from the 2005 California Ocean Plan are similarly included as receiving water limitations in Order No. R9-2006-0054.

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

1) 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.

2) 30-day average objectives for 20 non-carcinogenic chemicals for the protection of human health.

3) 30-day average objectives for 42 carcinogenic chemicals for the protection of human health.

4) Daily maximum objectives for acute and chronic toxicity.

3. Expression of WQBELS

NPDES regulations at 40 CFR 122.45(d) require that all effluent limitations for POTWs be expressed, unless impracticable, as both average monthly and average weekly effluent limitations (AMEL and AWEL). This Order contains WQBELs that are based on water quality objectives contained in the 2005 California Ocean Plan and approved by USEPA, that are expressed as 6-month median, maximum daily, and instantaneous maximum water quality objectives for a given constituent; the

implementation provision of the Ocean Plan provides procedures for developing 6-month median, maximum daily, and instantaneous maximum effluent limitation from the water quality objectives. The Ocean Plan does not provide procedures for deriving monthly and weekly-average effluent limitations from the water quality objectives, and other technically- and statistically-sound procedures are not available for deriving statistically-equivalent monthly-average and weekly-average effluent limitations from the Ocean Plan objectives that would satisfy the 6-month median, maximum daily, and instantaneous maximum objectives simultaneously. Consequently, this Order does not express effluent limitations in terms of only monthly and weekly averages but contains effluent limitations derived directly from the water quality objectives according to the implementation procedures of the Ocean Plan. Performance goals, discussed in more detail in Fact Sheet Section IV.C and IV.E, are expressed in a similar manner as WQBELs as described above. For similar reasons, effluent limitations and performance goals for constituents with water quality objectives expressed as a 30-day average only or as a maximum daily only are only provided as an average monthly effluent limitation or as a maximum daily effluent limitation, respectively, and not as monthly and weekly average limitations.

The USEPA's *Technical Support Document for Water Quality-based Toxics Control* (TSD; EPA/505/2-90-001, 1991) provides supporting rationale for shorter term effluent limitations such as maximum daily and instantaneous maximum WQBELS. In the TSD, USEPA recommends the use of maximum daily effluent limitations in lieu of AWELs for two reasons: 1) the AWEL is based on secondary treatment standards for POTWs and is not related to assuring achievement of water quality standards, and 2) weekly averages could average out peak toxic concentrations and therefore the effluent's potential for causing acute toxic effects would be missed. The TSD states that a maximum daily limitation would be toxicologically protective of potential acute toxicity impacts.

The MRP for this Order requires the effluent to be monitored for toxic constituents and parameters using a 24-hour composite sample or a grab sample, but not both. As explained in Section VII, Compliance Determination, of this Order, compliance with maximum daily limitations is determined only with composite samples while compliance with instantaneous maximum limitations is determined only with grab samples, in accordance with the Ocean Plan implementation provisions. This means, for example, if a constituent is required to be monitored with a composite sample, then the monitoring result can only be compared to the maximum daily and 6-month median effluent limitations but not the instantaneous maximum limitation.

4. Determining the Need for WQBELs

Order No. 2000-13 contained effluent limitations for non-conventional and toxic pollutant parameters in Table B of the Ocean Plan. For Order No. R9-2006-0054, 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 TSD and the California 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 number 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 Regional Water Board may require monitoring; and 3) Endpoint 3, the RPA is inconclusive, monitoring is required, and an existing effluent limitation may be retained or a permit reopener clause is 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 RPcalc 2.0 software tool developed by the State Water Board was used for conducting a RPA. A 95% confidence level and 95th percentile was assumed. Effluent data provided in the Discharger's monitoring reports from January 2000 to November 2005 were used as the basis for the RPA. No background data for the constituents were available for use in the RPA; the background concentrations were assumed to equal zero for all pollutants except for those contained in the Ocean Plan Table B implementing procedures for arsenic, copper, mercury, silver, and zinc. As described in Section II.B of this fact sheet, for Order No. 2000-13 SOCWA determined the minimum initial dilution for the Ocean Outfall, using the computer model Visual Plumes, to be 100. The Visual Plumes initial dilution factor was based on 30.00 MGD of secondary effluent and 1.05 MGD of brine wastes. Although the Regional Water Board considered reevaluation of the initial dilution factors for reissuance of this permit, inadequate ambient and effluent salinity data were available to provide accurate results. Therefore, the initial dilution of 100 was used for the RPA and calculating effluent limitations for this permit, and monitoring requirements are included to ensure adequate salinity data is available for reevaluation of the initial dilution when the permit is reissued again. Retaining the initial dilution of 100 for use in this permit is considered to be reasonable due the fact that the reported monthly average flows through the Ocean Outfall ranged from 17.4 MGD to 26.9 MGD from the years 2000 through 2005. Conventional pollutants were not a part of the RPA and are included in this Order as described in Section B.2 above. Additional details of the RPA performed are provided in the Regional Water Board records.

Based on the RPA, the Regional Water Board has determined that effluent limitations were required for TCDD equivalents. The RPA for several pollutants (arsenic, copper, nickel, zinc, total chlorine residual, ammonia, and acute toxicity) resulted in Endpoint 2, and, therefore, do not require effluent limitations. For the remaining Table B pollutants, the RPA was inconclusive (Endpoint 3) primarily due to insufficient data points and the fact that most data points were reported below detection levels. Effluent limitations were not retained or included for these constituents. This Order includes desirable maximum effluent concentrations, referred to in this Order as "performance goals", for constituents that do not have reasonable potential (Endpoint 2) or had inconclusive RPA results (Endpoint 3). Performance goals were derived using the WQBEL calculation procedures described in Section IV.C.5 below. Performance goals are discussed further in Section IV.E below.

Tables 16, 17, and 18 of this Fact Sheet lists the effluent limitations and performance goals for all constituents and their corresponding RPA results. The MRP for this Order requires monitoring for constituents with RPA Endpoints 1 for compliance determination and future RPA. The MRP also requires monitoring for constituents with RPA Endpoints 2 or 3 to obtain effluent data that would allow determination of reasonable potential for these constituents in future permit renewals and/or updates.

Conventional and certain non-conventional pollutants (i.e., BOD_5 or $CBOD_5$, TSS, pH, Oil and Grease, settleable solids, and turbidity) were not a part of the reasonable potential analysis, and technology-based effluent limitations for these conventional pollutants are included in this Order as described in Section IV.B.2 of this Fact Sheet. As discussed above, reasonable potential analysis determines the need to include water-quality based effluent limitations that are in addition to technology-based effluent limitations. Effluent limitations for conventional pollutants are required as technology-based standards, and reasonable potential analysis is not necessary to determine if these effluent limitations are required.

5. WQBEL and Performance Goal Calculations

From the Table B water quality objectives of the Ocean Plan, effluent limitations are calculated according to the following equation for all pollutants, and performance goals are similarly calculated, 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)
Cs = background seawater concentration
Dm = minimum probable initial dilution expressed as parts seawater per part wastewater

The performance goal for acute toxicity is calculated according to the following equation:

$Ce = Co + (0.1) Dm (Co – Cs)$

where all variables are as indicated above. This equation applies only when $Dm > 24$.

The Dm is based on observed waste flow characteristics, receiving water density structure, and the assumption that no currents of sufficient strength to influence the initial dilution process flow across the discharge structure. As discussed in Section IV.C.4 above, the minimum initial dilution of 100:1 from the previous Order No. 2000-13, was used for the initial dilution factor, Dm, for the Ocean Outfall.

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

As site-specific water quality data is not available, in accordance with Table B implementing procedures, Cs equals zero for all pollutants, except the following:

Table 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

The WQBELs for TCDD equivalents are determined as follows:

Water quality objectives from the Ocean Plan are:

Table 12. TCDD Equivalents Ocean Plan Objectives

Pollutant	6-Month Median	Daily Maximum	Instantaneous Maximum	30 Day Avg
TCDD Equivalents (µg/L)	--	--	--	3.9×10^{-9}

Using the equation, $Ce = Co + Dm (Co – Cs)$, effluent limitations are calculated as follows before rounding to two significant digits.

$$Ce = (3.9 \times 10^{-9}) + 100 [(3.9 \times 10^{-9}) – 0] = 3.94 \times 10^{-7} \text{ µg/L (30 Day Avg)}$$

Due to the fact that the same initial dilution that was used in the previous order is used, and the water quality objectives for TCDD equivalents have not changed, the concentration-based effluent limitations that are included in Order R9-2006-0054 are the same those contained in Order No. 2000-13.

Based on the RPA, except for TCDD equivalents, the WQBELs established by Order No. 2000-13 are not retained in Order R9-2006-0054. For those pollutants previously limited, non-enforceable performance goals are established in Order R9-2006-0054 using the same equation and methodology described above for TCDD equivalents. Several other constituents were affected by the difference in water quality objectives contained in the 1997 Ocean Plan and those contained in the 2005 California Ocean Plan. The specific differences between the water quality objectives and how they are addressed in Order R9-2006-0054 are described below:

a. The 1997 Ocean Plan did not include water quality objectives for four toxic pollutants, which are included in the Ocean Plan (2005) – chlorodibromomethane, dichlorobromomethane, N-nitrosodi-N-propylamine, and heptachlor epoxide; and therefore, effluent limitations for these pollutants were not established by Order No. 2000-13 and monitoring data was not available for these pollutants. Based on methods contained in the Ocean Plan (2005) and an initial dilution factor of 100, the following performance goals are included in Order No. R9-2006-0054.

Table 13. New Toxic Pollutants and Corresponding Performance Goals Based on the 2005 California Ocean Plan

Pollutant	Units	Monthly Average
Chlorodibromomethane	µg/L	868.6
Dichlorobromomethane	µg/L	626.2
N-nitrosodi-N-propylamine	µg/L	38.38
Heptachlor Epoxide	µg/L	0.002

b. For eight toxic pollutants, water quality objectives are more stringent in the 2005 California Ocean Plan than in the 1997 Ocean Plan. The following table contains performance goals for these eight pollutants, which are based on methods and water quality objectives contained in the 2005 California Ocean Plan. These performance goals are included in Order No. R9-2006-0054.

Table 14. Toxic Pollutant Effluent Limitations or Performance Goals Based on the 2005 California Ocean Plan

Pollutant	Units	Performance Goal Monthly Average
1,1-Dichloroethylene	µg/L	90.9
Isophorone	µg/L	73,730.0
Tetrachloroethylene	µg/L	202.0
Thallium	µg/L	202.0
1,1,2,2-Tetrachloroethane	µg/L	232.3

Pollutant	Units	Performance Goal Monthly Average
1,1,2-Trichloroethane	µg/L	949.4
1,2-Dichloroethane	µg/L	2,828.0
Heptachlor	µg/L	0.005

c. Table B of the Ocean Plan includes objectives for chlorinated and non-chlorinated phenolic compounds but does not define the individual chemical constituents comprising each group. In this Order, chlorinated phenolics are defined as the sum of 2-chlorophenol, 2,4-dichlorophenol, 3-methyl-4-chlorophenol, and pentachlorophenol; non-chlorinated phenolics are defined as the sum of 2-nitrophenol, 4-nitrophenol, and phenol.

6. Mass and Concentration Limits

40 CFR 122.45(f)(1)(ii) states that all permit limitations, standards or prohibitions shall be expressed in terms of mass except under certain circumstances including "when applicable standards and limitations are expressed in terms of other units of measurement." This provision originates from regulations adopted by USEPA on June 7, 1979 as 40 CFR 122.15 (d) which required effluent limitations in terms of mass except under certain circumstances including "where applicable promulgated effluent guideline limitations, standards or prohibitions are expressed in other terms than mass, e.g., as concentration levels." The 1979 provision indicated that concentration was clearly one of the "other terms than mass" and that the provision was limited to technology-based effluent limitations.

The 1979 provision underwent several modifications but achieved the language of the current 40 CFR 122.45 in revised rules promulgated by USEPA on May 19, 1980. The Federal Register Preamble for the revised rule promulgation (45 FR 33342) states "[the revised regulation] now provides permit issuers greater flexibility in using concentration limitations. Whenever appropriate, permits may include a concentration limit in addition to a mass limitation. Limitations expressed exclusively in terms other than mass may be used (1) when applicable effluent guideline limitations are expressed other than in mass; (2) when on a case-by-case basis the mass of the discharge cannot be related to production or other measures of operation, and dilution will not be used as a substitute for treatment; or (3) for pH or other pollutants which cannot appropriately be expressed as mass. For example, total suspended solids discharges from certain mining operations may be unrelated to measures of operation. Finally, a permit can always contain a non-mass limit in addition to a mass limitation, and the permittee must comply with both."

In the case of secondary treatment standards which are expressed as BOD_5 (or $CBOD_5$) and TSS concentrations and technology-based concentration effluent standards for oil and grease under Table A of the Ocean Plan, the need for mass emission rate (MER) limitations that are directly related to protection of ocean waters or proper operation has not been determined. Consequently, MER effluent limitations

for $CBOD_5$, TSS and oil and grease have not been included in this Order; however, if information demonstrating a need for these limitations becomes available in the future, they may be reinstated in this Order.

For effluent limitations and performance goals based on water quality objectives, MER limitations are retained in the revised tentative Order. This is appropriate because the Ocean Plan's Implementation Provisions for Table B require that "[d]ischarge requirements shall also specify effluent limitations in terms of mass emission rate limits using the general formula: Equation 3: lbs/day = 0.00834 x Ce x Q . . . ." The Ocean Plan clearly intended to also limit the discharge of toxic pollutants on a mass-loading basis.

No differentiation is made between discharges during dry-weather and wet-weather periods. To avoid apparent violations of MER effluent limitations when flows to the SOCWA collection system increase during wet weather and sample concentrations are either non-detect (ND) or "detected, not quantified" (DNQ), Provision VII.G of this Order requires that corresponding calculated MERs also be reported as either ND or DNQ, as appropriate.

In the previous Order, a flow of 30.0 MGD was used as the basis for calculating MERs. Consistent with the requirements at 40 CFR 122.45(b), MERs will be based on a total flow of 36.835 MGD. This flow represents a combination of the design flows for POTWs (34.98 MGD), the estimated flow for the City of San Juan Capistrano RO Water Treatment Plant (estimated as 0.73 MGD), the estimated flow for discharges from the Segunda Deshecha (M02) Flood Control Channel (1 MGD), and the estimated flow from the South Coast Water District GRF (0.125 MGD).

7. Whole Effluent Toxicity (WET)

Implementing provisions at Section III.C of the Ocean Plan require that Dischargers shall conduct chronic toxicity testing for ocean waste discharges with minimum initial dilution factors ranging from 100:1 to 350:1, and provide that Regional Water Boards may require that acute toxicity testing be conducted in addition to chronic as necessary for the protection of beneficial uses of ocean waters.

The effluent limitation for chronic toxicity contained in Order No. 2000-13 is retained in this Order although the RPA for chronic toxicity indicated Endpoint 2. The effluent limitation is retained because the RPA for most Ocean Plan Table B toxic pollutants indicated a result of Endpoint 2 or 3, and effluent limitations for these pollutants were not retained. The chronic toxicity effluent limitation is retained to protect water quality from the combination of effluents that may contain several constituents whose toxic effects are additive, synergistic, or antagonistic, although each constituent may not be present in amounts that would be toxic by itself. Based on the effluent limitation for chronic toxicity contained in Order No. 2000-13 and the requirements in the Ocean Plan, a maximum daily effluent limitation of 101 TU_c for chronic toxicity is included in Order No. R9-2006-0054.

The technology-based acute toxicity effluent limitation contained in Order No. 2000-13, as required under the 1997 Ocean Plan, is not retained in Order No. R9-2006-0054. The 2005 California Ocean Plan eliminated the technology-based acute toxicity effluent limitation of the 1997 Ocean Plan and instead includes an acute toxicity water quality objective in Table B. Only a performance goal for acute toxicity is included in this Order based on a reasonable potential analysis result of Endpoint 2 based on the acute toxicity water quality objective.

A toxicity reduction evaluation (TRE) is a site-specific study conducted in a stepwise process designed to identify the causative agent(s) of effluent toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in effluent toxicity. Order No. R9-2006-0054 requires the Discharger to perform a TRE if the Executive Officer determines that toxicity testing shows consistent violation or exceedance of any acute or chronic toxicity limitation or performance goal.

5. Radioactivity

Table B of the Ocean Plan includes an objective for radioactivity which references limitations specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Section 30253 of the CCR. The Ocean Plan also states that these objectives shall apply directly to the undiluted waste effluent. Title 17 CCR does not actually contain limitations but instead references Title 10, Part 20 of the CFR which contains effluent limitations for the discharge of radioactive nuclides in aqueous effluent under Column 2 of its Appendix B, Table 2. Incorporation of those limitations in the Ocean Plan is prospective. The Ocean Plan's radioactivity objective holds all discharges of effluent that could potentially have radioactive materials to the same standards as effluents from facilities that would require a license under Title 17 CCR and Title 10 CFR regulations. It is appropriate to hold effluent from POTWs to the same standards because 10 CFR regulations do allow licensed facilities to dispose of radioactive materials to sanitary sewer systems. Effluent limitations for several important radionuclides taken from Appendix B, Table 2, 10 CFR 20 are provided below.

Table 15. Selected Radioactivity Effluent Limitations (from Table 2, Appendix B, Title 10 CFR Part 20)

Constituent	Units	Daily Maximum
Radium-226	pCi/ L	60
Radium-228	pCi/ L	60
Strontium-90	pCi/ L	500
Tritium	pCi/ L	1,000,000
Uranium	pCi/ L	300

D. Final Effluent Limitations

The following tables list the effluent limitations established by Order No. R9-2006-0054. Where Order No. R9-2006-0054 establishes water quality-based mass emission limitations, a flow of 36.385 MGD (representing the combined design flows from all existing contributions to the Ocean Outfall) and a minimum probable initial dilution factor of 100:1was used.

Table 16a. Effluent Limitations based on Secondary Treatment Standards and Table A of the 2005 California Ocean Plan (SOCWA J.B. Latham TP, SMWD Chiquita WRP, MNWD 3A RP, and City of San Clemente RP)

Constituent	Units	Effluent Limitations					
		Max Daily	Average Monthly	Average Weekly	Instantaneous Min	Instantaneous Max	6 Month Median
CBOD 5-day 20℃	mg/L		25	40			
	%	The average monthly percent removal shall not be less than 85 percent.					
Total Suspended Solids	mg/L		30	45			
	%	The average monthly percent removal shall not be less than 85 percent.					
pH	Standard units				6.0	9.0	
Oil and Grease	mg/L		25	40		75	
Settleable Solids	ml/L		1.0	1.5		3.0	
Turbidity	NTU		75	100		225	

Table 16b. Effluent Limitations based on Table A Technology-Based Standards of the 2005 California Ocean Plan (Segunda Deshecha (M02) Flood Control Channel)

Constituent	Units	Effluent Limitations					
		Max Daily	Average Monthly	Average Weekly	Instantaneous Min	Instantaneous Max	6 Month Median
Total Suspended Solids	mg/L		60				
pH	Standard units				6.0	9.0	
Oil and Grease	mg/L		25	40		75	
Settleable Solids	ml/L		1.0	1.5		3.0	
Turbidity	NTU		75	100		225	

Table 16c. Effluent Limitations based on Table A Technology-Based Standards of the 2005 California Ocean Plan (City of San Juan RO Water Treatment Plant)

Constituent	Units	Effluent Limitations					
		Max Daily	Average Monthly	Average Weekly	Instantaneous Min	Instantaneous Max	6 Month Median
Total Suspended Solids	mg/L		60				
pH	Standard units				6.0	9.0	
Oil and Grease	mg/L		25	40		75	

Constituent	Units	Effluent Limitations					
		Max Daily	Average Monthly	Average Weekly	Instantaneous Min	Instantaneous Max	6 Month Median
Settleable Solids	ml/L		1.0	1.5		3.0	
Turbidity	NTU		75	100		225	

Table 16d. Effluent Limitations based on Table A Technology-Based Standards of the 2005 California Ocean Plan (South Coast Water District GRF)

Constituent	Units	Effluent Limitations					
		Max Daily	Average Monthly	Average Weekly	Instantaneous Min	Instantaneous Max	6 Month Median
Total Suspended Solids	mg/L		60				
	lbs/day					52	
pH	Standard units				6.0	9.0	
Oil and Grease	mg/L		25	40		75	
	lbs/day		26	42		78	
Settleable Solids	ml/L		1.0	1.5		3.0	
Turbidity	NTU		75	100		225	

Table 17. Effluent Limitations based on 2005 California Ocean Plan

Constituent	RPA End Point	Units	Effluent Limitations					
			Max Daily	Average Monthly	Average Weekly	Instantaneous Min	Instantaneous Max	6 Month Median
Chronic Toxicity [4]	2	TU_c	101					
TCDD Equivalents	1	µgL		3.94E-07				
		lbs/day		1.21E-07				

Note: In scientific "E" notation, the number following the "E" indicates the 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 6.1 E–02 represents a value of
6.1×10^{-2} or 0.061, 6.1E+2 represents 6.1×10^{2} or 610, and 6.1E+0 represents 6.1×10^{0} or 6.1.

E. Performance Goals

Performance goals serve to maintain existing treatment levels and effluent quality and supports State and federal antidegradation policies. Additionally, performance goals provide all interested parties with information regarding the expected levels of pollutants in the discharge that should not be exceeded in order to maintain the water quality objectives established in the Ocean Plan. Performance goals are not limitations or standards for the regulation of the discharge. Effluent concentrations above the performance goals will not be considered as violations of the permit but serve as red flags that indicate water quality concerns. Repeated red flags may prompt the Regional Water Board to reopen and amend the permit to replace performance goals for constituents of concern with effluent limitations, or the Regional Water Board may coordinate such actions with the next permit renewal.

Constituents that do not have reasonable potential are listed as performance goals in this Order. The following table lists the performance goals established by Order No. R9-2006-0054. These constituents shall be monitored at M-001, but the results will be used for informational purposes only, not compliance determination.

Table 18. Performance Goals based on 2005 California Ocean Plan

Constituent	RPA End Point	Units	Performance Goals					
			Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
						Min	Max	
Arsenic	2	ug/L	2.93E+03				7.78E+03	5.08E+02
		lbs/day	9.01E+02				2.39E+03	1.56E+02
Cadmium	3	ug/L	4.04E+02				1.01E+03	1.01E+02
		lbs/day	1.24E+02				3.10E+02	3.10E+01
Chromium VI	3	ug/L	8.08E+02				2.02E+03	2.02E+02
		lbs/day	2.48E+02				6.21E+02	6.21E+01
Copper	2	ug/L	1.01E+03				2.83E+03	1.03E+02
		lbs/day	3.11E+02				8.69E+02	3.16E+01
Lead	3	ug/L	8.08E+02				2.02E+03	2.02E+02
		lbs/day	2.48E+02				6.21E+02	6.21E+01
Mercury	3	ug/L	1.61E+01				4.04E+01	3.99E+00
		lbs/day	4.95E+00				1.24E+01	1.23E+00
Nickel	2	ug/L	2.02E+03				5.05E+03	5.05E+02
		lbs/day	6.21E+02				1.55E+03	1.55E+02
Selenium	3	ug/L	6.06E+03				1.52E+04	1.52E+03
		lbs/day	1.86E+03				4.65E+03	4.65E+02
Silver	3	ug/L	2.67E+02				6.91E+02	5.47E+01
		lbs/day	8.20E+01				2.12E+02	1.68E+01
Zinc	2	ug/L	7.28E+03				1.94E+04	1.22E+03
		lbs/day	2.24E+03				5.96E+03	3.75E+02
Cyanide	2	ug/L	4.04E+02				1.01E+03	1.01E+02
		lbs/day	1.24E+02				3.10E+02	3.10E+01

Constituent	RPA End Point	Units	Performance Goals					
			Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
						Min	Max	
Total Chlorine Residual	2	ug/L	8.08E+02				6.06E+03	2.02E+02
		lbs/day	2.48E+02				1.86E+03	6.21E+01
Ammonia (expressed as nitrogen)	2	ug/L	2.42E+05				6.06E+05	6.06E+04
		lbs/day	7.45E+04				1.86E+05	1.86E+04
Acute Toxicity	2	TUa	3.30E+00				NA	NA
Phenolic Compounds (non-chlorinated)	3	ug/L	1.21E+04				3.03E+04	3.03E+03
		lbs/day	3.72E+03				9.31E+03	9.31E+02
Phenolic Compounds (chlorinated)	3	ug/L	4.04E+02				1.01E+03	1.01E+02
		lbs/day	1.24E+02				3.10E+02	3.10E+01
Endosulfan	3	ug/L	1.82E+00				2.73E+00	9.09E-01
		lbs/day	5.58E-01				8.38E-01	2.79E-01
Endrin	3	ug/L	4.04E-01				6.06E-01	2.02E-01
		lbs/day	1.24E-01				1.86E-01	6.21E-02
HCH	3	ug/L	8.08E-01				1.21E+00	4.04E-01
		lbs/day	2.48E-01				3.72E-01	1.24E-01
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. Reference to Section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.							
Acrolein	3	ug/L		2.22E+04				
		lbs/day		6.83E+03				
Antimony	3	ug/L		1.21E+05				
		lbs/day		3.72E+04				
Bis (2-chloroethoxy) Methane	3	ug/L		4.44E+02				
		lbs/day		1.37E+02				

Constituent	RPA End Point	Units	Performance Goals					
			Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
						Min	Max	
Bis (2-chloroisopropyl) Ether	3	ug/L		1.21E+05				
		lbs/day		3.72E+04				
Chlorobenzene	3	ug/L		5.76E+04				
		lbs/day		1.77E+04				
Chromium (III)	3	ug/L		1.92E+07				
		lbs/day		5.90E+06				
Di-n-butyl Phthalate	3	ug/L		3.54E+05				
		lbs/day		1.09E+05				
Dichlorobenzenes	3	ug/L		5.15E+05				
		lbs/day		1.58E+05				
Diethyl Phthalate	3	ug/L		3.33E+06				
		lbs/day		1.02E+06				
Dimethyl Phthalate	3	ug/L		8.28E+07				
		lbs/day		2.54E+07				
4,6-Dinitro-2-Methylphenol	3	ug/L		2.22E+04				
		lbs/day		6.83E+03				
2,4-Dinitrophenol	3	ug/L		4.04E+03				
		lbs/day		1.24E+03				
Ethylbenzene	3	ug/L		4.14E+05				
		lbs/day		1.27E+05				
Fluoranthene	3	ug/L		1.52E+03				
		lbs/day		4.65E+02				
Hexachlorocyclo-pentadiene	3	ug/L		5.86E+03				
		lbs/day		1.80E+03				
Nitrobenzene	3	ug/L		4.95E+02				
		lbs/day		1.52E+02				

Constituent	RPA End Point	Units	Performance Goals					
			Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
						Min	Max	
Thallium	3	ug/L		2.02E+02				
		lbs/day		6.21E+01				
Toluene	3	ug/L		8.59E+06				
		lbs/day		2.64E+06				
Tributyltin	3	ug/L		1.41E-01				
		lbs/day		4.34E-02				
1,1,1-Trichloroethane	3	ug/L		5.45E+07				
		lbs/day		1.68E+07				
Acrylonitrile	3	ug/L		1.01E+01				
		lbs/day		3.10E+00				
Aldrin	3	ug/L		2.22E-03				
		lbs/day		6.83E-04				
Benzene	3	ug/L		5.96E+02				
		lbs/day		1.83E+02				
Benzidine	3	ug/L		6.97E-03				
		lbs/day		2.14E-03				
Beryllium	3	ug/L		3.33E+00				
		lbs/day		1.02E+00				
Bis (2-chloroethyl) Ether	3	ug/L		4.55E+00				
		lbs/day		1.40E+00				
Bis (2-ethlyhexyl) Phthalate	3	ug/L		3.54E+02				
		lbs/day		1.09E+02				
Carbon Tetrachloride	3	ug/L		9.09E+01				
		lbs/day		2.79E+01				
Chlordane	3	ug/L		2.32E-03				
		lbs/day		7.14E-04				

Constituent	RPA End Point	Units	Performance Goals					
			Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
						Min	Max	
Chlorodibromo-methane	3	ug/L		8.69E+02				
		lbs/day		2.67E+02				
Chloroform	3	ug/L		1.31E+04				
		lbs/day		4.03E+03				
DDT	3	ug/L		1.72E-02				
		lbs/day		5.27E-03				
1,4-Dichlorobenzene	3	ug/L		1.82E+03				
		lbs/day		5.58E+02				
3,3'-Dichlorobenzidine	3	ug/L		8.18E-01				
		lbs/day		2.51E-01				
1,2-Dichloroethane	3	ug/L		2.83E+03				
		lbs/day		8.69E+02				
1,1-Dichloroethylene	3	ug/L		9.09E+01				
		lbs/day		2.79E+01				
Dichlorobromo-methane	3	ug/L		6.26E+02				
		lbs/day		1.92E+02				
Dichloromethane	3	ug/L		4.55E+04				
		lbs/day		1.40E+04				
1,3-Dichloropropene	3	ug/L		8.99E+02				
		lbs/day		2.76E+02				
Dieldrin	3	ug/L		4.04E-03				
		lbs/day		1.24E-03				
2,4-Dinitrotoluene	3	ug/L		2.63E+02				
		lbs/day		8.07E+01				
1,2-Diphenylhydrazine	3	ug/L		1.62E+01				
		lbs/day		4.96E+00				

Constituent	RPA End Point	Units	Performance Goals					
			Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
						Min	Max	
Halomethanes	3	ug/L		1.31E+04				
		lbs/day		4.03E+03				
Heptachlor	3	ug/L		5.05E-03				
		lbs/day		1.55E-03				
Heptachlor Epoxide	3	ug/L		2.02E-03				
		lbs/day		6.21E-04				
Hexachlorobenzene	3	ug/L		2.12E-02				
		lbs/day		6.52E-03				
Hexachlorobutadiene	3	ug/L		1.41E+03				
		lbs/day		4.34E+02				
Hexachloroethane	3	ug/L		2.53E+02				
		lbs/day		7.76E+01				
Isophorone	3	ug/L		7.37E+04				
		lbs/day		2.27E+04				
N-Nitroso-dimethylamine	3	ug/L		7.37E+02				
		lbs/day		2.27E+02				
N-Nitrosodi-N-propylamine	3	ug/L		3.84E+01				
		lbs/day		1.18E+01				
N-Nitrosodiphenyl-amine	3	ug/L		2.53E+02				
		lbs/day		7.76E+01				
PAHs	3	ug/L		8.89E-01				
		lbs/day		2.73E-01				
PCBs	3	ug/L		1.92E-03				
		lbs/day		5.90E-04				
1,1,2,2-Tetrachloroethane	3	ug/L		2.32E+02				
		lbs/day		7.14E+01				

Constituent	RPA End Point	Units	Performance Goals					
			Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
						Min	Max	
Tetrachloroethylene	3	ug/L		2.02E+02				
		lbs/day		6.21E+01				
Toxaphene	3	ug/L		2.12E-02				
		lbs/day		6.52E-03				
Trichloroethylene	3	ug/L		2.73E+03				
		lbs/day		8.38E+02				
1,1,2-Trichloroethane	3	ug/L		9.49E+02				
		lbs/day		2.92E+02				
2,4,6-Trichlorophenol	3	ug/L		2.93E+01				
		lbs/day		9.00E+00				
Vinyl Chloride	3	ug/L		3.64E+03				
		lbs/day		1.12E+03				

Note: In scientific "E" notation, the number following the "E" indicates the 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 6.1 E–02 represents a value of
6.1×10^{-2} or 0.061, 6.1E+2 represents 6.1×10^{2} or 610, and 6.1E+0 represents 6.1×10^{0} or 6.1.

F. Antidegradation

Waste Discharge Requirements for SOCWA's discharge through the Ocean Outfall must conform to federal and state antidegradation policies provided at 40 CFR 131.12 and in State 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 Regional 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.

1. Technology-based Effluent Limitations

The technology-based standards for POTW performance are promulgated at 40 CFR Part 133 and expressed as 30-day averages and 7-day averages for BOD_5, $CBOD_5$ and TSS. In previous NPDES permits for SOCWA, including Order No. 2000-13, these standards were incorporated as "Monthly Average (30-day)" and "Weekly Average (7-day)" effluent limitations for $CBOD_5$ and TSS which were enforced by the Regional Water Board as running averages. To comply with 40 CFR 122.45, which requires that effluent limitations be expressed as average weekly and average monthly limitations for POTWs, the $CBOD_5$ and TSS standards have been revised in this current permit as Average Monthly Effluent Limitations (AMELs) and Average Weekly Effluent Limitations (AWELs) that are numerically equal to the previous effluent limitations. As explained in the Compliance Determination section of this Order, compliance with the AMEL and AWEL will be determined by considering the average of sampling results within a calendar month or calendar week, respectively, rather than as running averages. As also further explained in the Compliance Determination section of this Order, a violation of the AMEL or the AWEL would result in a violation for each day of the calendar month or calendar week, respectively. Consequently, the AMEL and AWEL are expected to provide a similar level of incentive for POTWs to operate treatment facilities to be in compliance at all times as the previous "Monthly Average (30-day)" and "Weekly Average (7-day)" running average effluent limitations. The conversion of the $CBOD_5$ and TSS effluent limitations to AMEL and AWEL are not expected to cause a change in the physical nature of the effluent discharged and are not expected to impact beneficial uses nor cause a reduction of the water quality of the receiving water. For these reasons, the Regional Water Board has determined that an antidegradation analysis is not required to consider the possible impacts resulting from the $CBOD_5$ and TSS AMELs and AWELs.

2. Water Quality-based Effluent Limitations

The WQBELs contained in this Order have been modified from previous NPDES permits for the SOCWA (Order No. 2000-13), due to removal of effluent limitations after a RPA. In accordance with the State Water Board's Administrative Procedures Update, the Regional Water Board assessed the potential impact of the modified effluent limitations on existing water quality and the need for an antidegradation analysis as follows:

a. Removal of effluent limitations after a reasonable potential analysis

Effluent limitations were not included in this Order for constituents for which reasonable potential to exceed the water quality objective was not indicated following a reasonable potential analysis although the previous permit included effluent limitations for those constituents. The procedures for conducting the reasonable potential analysis are explained elsewhere in this Fact Sheet. For constituents for which effluent limitations were not included, non-regulatory 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 Regional 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 reasonable potential analysis.

b. Flowrate Increase

The new total permitted flow rate of 36.835 MGD, is an increase over the previous permitted total flowrate of 30.0 MGD. This increased flowrate is based on the actual design flows of the POTWs contributing to the Ocean Outfall and the expected flows from the City of San Juan Capistrano RO Water Treatment Plant, the Segunda Deshecha (M02) Flood Control Channel, and the South Coast Water District GRF. The flow used in the previous permit was based on the expected flow through the outfall. This increase in flow results in a relaxation of the MER effluent limitations, which may indicate a lowering of water quality. This change to use of the design flow of the POTWs as the basis for calculating the MER is based on the NPDES regulations at 40 CFR 122.45(b).Ocean Outfall

In particular for Order No. R9-2006-0054, the MER effluent limitation for TCDD equivalents will be increased from 9.58×10^{-8} pounds per day (lbs/day) to 1.17×10^{-7} lbs/day. This change results in a 19 percent increase in the MER for TCDD equivalents. It should be noted that the allowable dilution did not change and therefore, the concentration-based effluent limitation for TCDD equivalents (3.94×10^{-7} µg/L as a monthly average) remains the same as that contained in Order 2000-13.

The greater MER is expected to result in a lowering of existing water quality by an increment not greater than approximately 19 percent of the monthly average water quality objective (WQO). This lowering of water quality is not expected to be significant and is not expected to cause adverse effects to the overall receiving water. Furthermore, the increase in mass that the effluent may contain assumes a discharge at the concentration of the effluent limitation (3.94×10^{-7} µg/L), whereas historical effluent data for the discharge through the ACOO indicate that the concentration of TCDD equivalents in the effluent discharged are considerably lower. For these reasons, the Regional Board has determined that an antidegradation analysis is not required to consider the possible impacts resulting from the recalculation of MER effluent limitations and consequent relaxation of effluent limitations.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

Receiving water limitations contained in Order No. R9-2006-0054 are derived from the water quality objectives for ocean waters established by the Basin Plan (1994) and the Ocean Plan (2005).

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 of 40 CFR requires all NPDES permits to specify recording and reporting of monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program, 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 Monitoring and Reporting Program for this Facility.

A. Influent Monitoring

Influent monitoring in Order No. R9-2006-0054 is required at each of the municipal wastewater treatment plants that contribute to the Ocean Outfall, including the SOCWA Jay B. Latham RTP, the SMWD Chiquita WRP, the MNWD 3A RP, and the City of San Clemente RP. Monitoring the influent is necessary for determining compliance with the secondary treatment percent removal requirements.

The influent monitoring requirements, with frequencies consistent with those contained in Order No. 2000-13, are summarized in the following table.

Table 19. Influent Monitoring Requirements

Constituent	Units	Sample Type	Sampling Frequency
Flow	MGD	Recorder / Totalizer	Continuous
$CBOD_5$ @ 20º C	mg/L	24 Hr Composite	Weekly
BOD_5 @ 20º C	mg/L	24 Hr Composite	Monthly
TSS	mg/L	24 Hr Composite	Weekly

Influent monitoring for $CBOD_5$ and TSS allows determination of removal efficiencies, which are required by Order No. R9-2006-0054. Sampling for BOD_5 is required to monitor the non-carbonaceous oxygen demand of the effluent from the wastewater treatment plants.

B. Effluent Monitoring

In an effort to standardize monitoring and reporting requirements and in order to support electronic data submittal of Discharger Self-Monitoring Reports, reporting units, definitions, and deadlines specified in the MRP for Order No. R9-2006-0054 have been written in

accordance with the State Water Resource Control Board's Water Quality Permit Standards Team Final Report.

Effluent monitoring has been required for each of the wastewater treatment plants prior to discharge into the Ocean Outfall collection system to determine compliance with the applicable technology-based effluent limitations, including the percent removal requirements for POTWs. Effluent monitoring to determine compliance with WQBELs is required at a location where representative samples of commingled effluent from all contributors to the Ocean Outfall can be taken (the sampling vault in the Dohenny State Beach Park through a sampling port in the outfall pipe). As noted during the recent compliance evaluation inspection at SOCWA, the use of an ISCO sampler to pump effluent (through plastic tubing) to a sample vessel may not be appropriate for certain volatile organics, and SOCWA will be required to develop and implement procedures to ensure the integrity of final effluent samples.

All effluent monitoring frequencies from Order No. 2000-13 are retained by MRP No. R9-2006-0054. Effluent monitoring requirements of MRP No. R9-2006-0054 (Attachment E) should be consulted for greater detail regarding specific monitoring requirements.

C. Whole Effluent Toxicity Testing Requirements

The Discharger shall conduct acute and chronic toxicity testing on 24-hour composite effluent samples collected at Effluent Monitoring Station M-001, as defined in Section II of the MRP (Attachment E). Due to the nature of the variety of discharges that are combined prior to discharge through the Ocean Outfall, acute and chronic toxicity are required to be monitored monthly, consistent with the requirements in the existing permit.

Acute toxicity testing shall be performed using either a marine fish or invertebrate species in accordance with procedures established by the USEPA guidance manual, *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, 5th Edition, October 2002 (EPA-821-R-02-012).

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

A screening period for chronic toxicity shall be conducted every other year for 3 months, using a minimum of three test species with approved test protocols(from the Ocean Plan). Other tests may be used, if they have been approved for such testing by the State Water Board. The test species shall include a fish, an invertebrate, and an aquatic plant. After the screening period, the most sensitive test species shall be used for the monthly testing. Repeat screening periods may be terminated after the first

month if the most sensitive species is the same as found previously to be most sensitive. Dilution and control water should be obtained from an unaffected area of the receiving waters. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay test and reported with test results.

D. Receiving Water Monitoring

1. Surf Zone Water Quality Monitoring

   For the period of January 2000 through December 2005, samples collected at several surf zone stations have relatively frequently showed elevated bacterial levels that exceeded water quality objectives of the Ocean Plan for total and fecal coliform and exceeded recommended levels for enterococcus. Consistent elevated levels of total and fecal coliform and enterococcus were particularly identified at the San Juan Creek monitoring stations (C1 and C2).

   Recognizing that significant water-contact recreation, such as surfing and scuba diving, occurs year-round in ocean waters that may be impacted by the discharge from the Ocean Outfall, the Regional Board adopted a Technical Change Order No. 1 to Order No. 2000-13 which increased the surf zone monitoring frequency to twice per week from the previous minimum frequency of once per week from May 1 through October 31, and once a week from the previous once every other week from November 1 through April 30 of each year. Order and MRP No. R9-2006-0054 retain the requirements of Order No. 2000-13 for surf zone water quality monitoring.

   It should be noted that in a January 9, 2006 letter to the Regional Water Board, SOCWA requested that a more equitable approach to surf zone monitoring be considered. SOCWA particularly requested a reduction in the monitoring frequency and number of surf zone monitoring stations to be consistent with the requirements of other dischargers along the southern coast of California. Although in its letter SOCWA had proposed several possible alternatives to the existing surf zone monitoring requirements, the Regional Water Board does not believe that enough information exists to reduce the surf zone monitoring requirements as part of this Order. However, in order to properly assess the opportunity for more equitable distribution of surf zone monitoring requirements, the Regional Water Board is requiring that SOCWA prepare and submit an analysis of surf zone monitoring alternatives in the vicinity of the Ocean Outfall. This analysis shall address at a minimum, 1) identification of other interested parties that should have responsibilities for participating in surf zone monitoring in the vicinity of the Ocean Outfall; 2) alternative techniques and options to accurately monitor and track the Ocean Outfall discharge plume to verify that the discharge plume does not enter the surf zones; and 3) identification of alternatives for identifying the bacterial source(s) in the vicinity of the mouth of San Juan Creek.

2. Near Shore Water Quality Monitoring

For the sample period of January 2000 through December 2005, samples collected at each of the near shore stations have infrequently exceeded the recommended levels for total coliform, fecal coliform, and enterococcus; most sample results were reported as below the method detection limit for the period.

To continue to assess bacteriological conditions in areas used for body contact activities and where shellfish and/or kelp may be harvested, and to continue to assess aesthetic conditions for general boating and recreational uses, Order and MRP No. R9-2006-0054 retains the requirements of Order No. 2000-13 for near shore water quality monitoring. Particularly, MRP No. R9-2006-0054 establishes monitoring at six near shore locations for total and fecal coliform and enterococcus bacteria in surface samples on a year-round, monthly basis. These stations are located at the 30-foot depth contours and at three locations up-coast and down-coast from the outfall. Enterococcus monitoring may be suspended in accordance with the conditions contained in Appendix E - Monitoring and Reporting Program.

3. Offshore Water Quality Monitoring

For the sample period of January 2000 through December 2005, samples at several of the offshore water quality monitoring stations showed elevated bacteria levels exceeding water quality objectives of the Ocean Plan. This was particularly the case in 2003 and 2004, where several relatively high levels were reported. Most other sample results were reported below the method detection limit for the period of review.

To determine compliance with water quality objectives of the Ocean Plan and to determine if Ocean Outfall discharges cause significant impacts to water quality within the zone of initial dilution, and beyond the zone of initial dilution, MRP No. R9-2006-0054 retains the requirements of Order No. 2000-13 for offshore water quality monitoring. Specifically, MRP No. R9-2006-0054 establishes a schedule of monitoring at seven offshore locations for total and fecal coliform and enterococcus bacteria in surface and mid-depth samples on a year-round, monthly basis. In addition, monitoring requirements at the offshore stations have been included for temperature, dissolved oxygen, salinity, and pH in surface, mid-depth, and bottom samples on a year-round, monthly basis to provide adequate data for evaluating initial dilution.

E. Other Monitoring Requirements

1. Benthic Monitoring

To assess the status of the benthic community and to evaluate the physical and chemical quality of sediments in the receiving water, Order No. R9-2006-0054 retains the requirements of Order No. 2000-13 for benthic monitoring. Specifically, Order No. R9-2006-0054 requires the following monitoring at all offshore stations

during the 4th year of this Order.

a. Sediment Characteristics. Analyses shall be performed on the upper 2 inches of sediment core samples in accordance with the following schedule:

Table 20. Sediment Monitoring Requirements

Determination	Units	Type of Sample	Minimum Frequency
Sulfides	mg/kg	Core	Semiannually
Total Chlorinated Hydrocarbons	mg/kg	Core	Semiannually
BOD_5	mg/kg	Core	Semiannually
COD	mg/kg	Core	Semiannually
Particle Size Distribution	mg/kg	Core	Semiannually
Arsenic	mg/kg	Core	Annually
Cadmium	mg/kg	Core	Annually
Total Chromium	mg/kg	Core	Annually
Copper	mg/kg	Core	Annually
Lead	mg/kg	Core	Annually
Mercury	mg/kg	Core	Annually
Nickel	mg/kg	Core	Annually
Silver	mg/kg	Core	Annually
Zinc	mg/kg	Core	Annually
Cyanide	mg/kg	Core	Annually
Phenolic Compounds (non-chlorinated)	mg/kg	Core	Annually
Chlorinated Phenolics	mg/kg	Core	Annually
Aldrin and Dieldrin	mg/kg	Core	Annually
Chlordane and Related Compounds	mg/kg	Core	Annually
DDT and Derivatives	mg/kg	Core	Annually
Endrin	mg/kg	Core	Annually
HCH	mg/kg	Core	Annually
PCBs	mg/kg	Core	Annually
Toxaphene	mg/kg	Core	Annually
Radioactivity	pCi/kg	Core	Annually

b. Infauna. Samples shall be collected with a Paterson, Smith-McIntyre, or orange-peel type dredge, having an open sampling area of not less than 124 square inches and a sediment capacity of not less than 210 cubic inches. The sediment shall be sifted through a 1-millimeter mesh screen and all organisms shall be identified to as low a taxon as possible.

Table 21. Infauna Monitoring Requirements

Determination	Units	Minimum Frequency
Benthic Biota	Identification and Enumeration	Three grabs; Semiannually during Year 4

If the Discharger does not comply with effluent limitations of the Order, the Regional Water Board may require the Discharger to perform the sediment monitoring, described above, on a year-round basis during the term of Order No. R9-2006-0054.

2. Demersal Fish and Macroinvertebrate Monitoring

MRP No. R9-2006-0054 retains the requirements of Order No. 2000-13 for demersal fish and macroinvertebrate monitoring. Order No. R9-2006-0054 specifically requires the Discharger to establish a 30-meter band transect on the ocean bottom, within the receiving waters. During 12-month period of the 4th year of Order No. R9-2006-0054, the Discharger must perform a survey of demersal fish and macroinvertebrates within the transect. If the Discharger does not comply with effluent limitations of the Order, the Regional Water Board may also require the Discharger to perform this monitoring, one time each year during the term of Order No. R9-2006-0054.

3. Kelp Bed Monitoring

Order and MRP No. R9-2006-0054 retain the requirements of Order No. 2000-13 for kelp bed monitoring. The purpose of this monitoring is to assess the extent to which the discharge of wastes may affect the areal extent and health of coastal kelp beds. Order No. R9-2006-0054 specifically requires the Discharger to participate with other ocean Dischargers in the San Diego Region in an annual regional kelp bed photographic survey.

4. Solids Monitoring

The Discharger 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 in accordance with 40 CFR 122.41 and 122.42, apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D to the Order. Also included are Regional Water Board standard provisions that are included in all permits issued by the Regional Water Board.

B. Special Provisions

1. Re-opener Provisions

   Order No. R9-2006-0054 may be re-opened and modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR Sections 122, 124, and 125.

2. Special Studies and Additional Monitoring Requirements

   a. Treatment Plant Capacity

      The treatment plant capacity study required by Order No. R9-2006-0054 shall serve as an indicator for the Regional Water Board of increasing hydraulic capacity and growth in the service area for each contributing wastewater treatment plant.

   b. Spill Reporting Requirements

      Order No. R9-2006-0054 establishes a reporting protocol for how different types of spills covered by this Order shall be reported to regulatory agencies.

   c. Solids Monitoring

      Order No. R9-2006-0054 retains the wastewater treatment plant solids monitoring requirements from Order No. 2000-13.

   d. Pretreatment Program

      Pursuant to 40 CFR Part 403, pretreatment program implementation requirements established in Order No. 2000-13 are retained by this Order. The pretreatment program implementation requirements are based on the standard permit language provided by USEPA Region 9. In addition to the standard program implementation requirements, Order No. R9-2006-0054 includes requirements for re-evaluation of local limits with respect to the effluent limits and reporting requirements included in this Order as well as all other applicable regulations.

   e. Single Operational Upset

      1) The term “upset” has broad and narrow definitions in *Attachment A – Definitions* because the term is used both to refer to an “upset” in the general sense as any malfunction or operational failure at a treatment facility and also in a more specific sense to refer to an “upset” as defined at 40 CFR 122.41 (n). The determination that the term “upset” has broad and narrow definitions is discussed further below.

2) Regulatory Upset Defense.
Provision 8 of *Attachment D – Standard Provisions* addresses the use of the regulatory upset defense to completely relieve dischargers of liability for violations under specific situations. According to the US EPA Memorandum "Issuance of Guidance Interpreting Single Operational Upset" (September 27, 1989), upset events that fit the definition of "upset" under 40 CFR 122.41 (n) "provide those who violate technology-based effluent limitations . . . with an affirmative defense to allegations of permit noncompliance, if the exceedance results from an exceptional, unintentional incident which is beyond the control of the party who discharges in violation of his permit. A party who successfully claims upset is not legally liable for the exceedances at issue, and has not violated the (Clean Water Act), his NPDES permit, or categorical pretreatment standards." 40 CFR 122.41 (n) states that the regulatory upset defense does not apply to those events caused by operational error, improperly designed treatment facilities, lack of preventive maintenance, or careless or improper operation. Provision 8 of Attachment D specifies the conditions that the Discharger must satisfy to claim the regulatory upset defense.

3) Single Operational Upset Defense.
Compliance Determination (Section VII.N of Order No. R9-2006-0054) addresses how a Discharger may be able to limit his liability in the event of a single operational upset (SOU) resulting in multiple violations. The USEPA Memorandum "Issuance of Guidance Interpreting Single Operational Upset" (September 27, 1989) provides the necessary regulatory guidance in case of SOU except for purposes of California Water Code Section 13385 (h) and (i). The USEPA SOU guidance memo spells out that multiple violations due to an SOU are treated as one violation for each day only. For example, an SOU that results in multiple violations each day over a period of seven days will result in counting seven violations because the multiple violations on each of the seven days are treated as one violation for each day only. If the State or Regional Water Board is taking enforcement in accordance with CWC 13385 (h) and (i), commonly referred to as Mandatory Minimum Penalties, CWC Section 13385 (f)(2) expands a POTW discharger's ability to limit liability in the case of an SOU by allowing all violations that occur within a 30-day period, instead of each day, due to an SOU to be counted as one violation.

The regulatory upset defense completely relieves a discharger of all liability for violations of technology-based effluent limitations but not in cases where the violations are caused by operator error. In contrast, according to the USEPA SOU guidance memo, the SOU defense serves to only limit a discharger's liability for violations but applies to both technology-based and water quality-based effluent limitations even if caused by unknowing and unintentional operator error. For purposes of Mandatory Minimum Penalties in accordance with CWC Section 13385 (f)(2), the SOU defense does not

apply when the upset was caused by operator error and was not due to discharger negligence.

The effect of CWC Section 13385 (f)(2) on reducing a POTW discharger's liability is illustrated in the following example:

> A POTW discharged 20,000 gallons of treated effluent each day over two days, and the effluent quality exceeded the concentration effluent limitations and the mass emission rate limitations of the POTW's NPDES permit for iron and copper on both days. The POTW reported to the Regional Water Board that despite its best efforts, increased filamentous bacteria growth in the aeration tank due to a single operational upset resulted in a slight reduction in settling in the secondary clarifier which in turn resulted in the increased iron and copper content of the effluent. The Regional Water Board determined that four serious violations occurred on each day for a total of eight serious violations over the two days due to a single operational upset. Taking the SOU defense into account according to USEPA guidance, the Regional Water Board would determine that the four violations on each day collapse to one violation on each day and the POTW can be civilly liable for up to $10,000 per day of violation plus up to $10 per gallon discharged over 1,000 gallons [in accordance with CWC Section 13385 (c)] for a total possible maximum civil liability of $410,000 (i.e., $20,000 for two days of violations and $390,000 for the 39,000 gallons discharged over the initial 1,000 gallons). However, if the Regional Water Board determines mandatory minimum penalties in accordance with CWC Sections 13385 (h) and (i), the Regional Water Board must also consider the SOU defense in accordance with CWC Section 13385 (f)(2). In that case, the eight serious violations collapse to one violation with a Mandatory Minimum Penalty of $3,000.

4) Twenty-four Hour Reporting for Upsets.
Provision E.5(b)(2) of *Attachment D – Standard Provisions* requires that "any upset that exceeds any effluent limitation in this Order" must be reported within 24 hours from the time the discharger becomes aware of the circumstances. This standard provision is authorized at 40 CFR 122.41(l)(6)(ii)(B) and is interpreted to require reporting of any upset, in the broad sense, that results in an exceedance of any effluent limitation. The term "upset" in this provision cannot be limited to the meaning of the term "upset" within 40 CFR 122.41 (n), which only applies to exceedances of technology-based effluent limitations, and must be interpreted broadly because an "upset", in the broad sense, can result in exceedance of water quality-based effluent limitations. Therefore, this provision also applies to the reporting of single operational upsets.

VIII. PUBLIC PARTICIPATION

The Regional Water Board is considering the issuance of WDRs that will serve as a NPDES permit for the SOCWA Ocean Outfall. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through publication in the Orange County Register on May 8, 2006 and by letters mailed to interested parties on May 5, 2006.

B. Written Comments

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

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by 5:00 p.m. on June 7, 2006.

C. Public Hearing

The Regional 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: June 14, 2006
Time: 9:00 am
Location: Regional Water Quality Control Board, San Diego
9174 Sky Park Court Suite 100
San Diego, CA 92123

Interested persons are invited to attend. At the public hearing, the Regional 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** 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 Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

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

E. Information and Copying

The Report of Waste Discharge (RoWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the Regional Water Board office at 9174 Sky Park Court, Suite 100, San Diego, CA 92123 at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday, except state holidays. Copying of documents may be arranged through the Regional 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 Regional 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 Joann Lim at (858) 637-5589.