California Regional Water Quality Control Board
Santa Ana Region

September 17, 2004

ITEM: 11

SUBJECT: Waste Discharge Requirements for the Orange County Sanitation District's Reclamation Plant No. 1 and Treatment Plant No. 2, Order No. R8-2004-0062, NPDES Permit No. CA0110604

Time Schedule Order No. R8-2004-0067 for Orange County Sanitation District

DISCUSSION:

On August 13, 2004, the U.S. Environmental Protection Agency, Region IX (USEPA) and California Regional Water Quality Control Board, Santa Ana Region (Regional Board) jointly conducted a public workshop for the re-issuance of an NPDES permit/Waste Discharge Requirements, Order No. R8-2004-0062, NPDES Permit No. CA0110604, to Orange County Sanitation District (OCSD). At the August 13 Board meeting, the Regional Board also conducted a workshop regarding the issuance of a concurrent Time Schedule Order (TSO) No. R8-2004-0067, which specifies a time schedule for compliance with certain terms of the reissued NPDES permit and Waste Discharge Requirements. The purpose of the workshop was to solicit public comment on the proposed NPDES permit/Waste Discharge Requirements and the proposed Time Schedule Order.

The attached Fact Sheet provides detailed information concerning the OCSD facilities and the regulatory basis for the requirements proposed. TSO No. R8-2004-0067 specifies an aggressive schedule for OCSD to achieve compliance with the secondary treatment requirements contained in Order No. R8-2004-0062. This schedule is based on a detailed construction schedule developed by OCSD and requires compliance to be achieved by December 31, 2012. The TSO contains interim compliance dates, as well as interim effluent limits for biochemical oxygen demand (BOD) and suspended solids (SS).

Comments on the proposed permit/waste discharge requirements were received from three parties/agencies: Mr. Jim Colston, on behalf of OCSD; Mr. Don Schulz, on behalf of the Surfrider Foundation (Huntington Beach/Seal Beach Chapter); and Mr. Gerhardt Van Drie. Mr. Van Drie's letter indicates that his comments also address the proposed TSO. Copies of the comment letters are attached, together with written responses.

No changes to the proposed TSO appear to be necessary based on the comments received. No changes to the proposed NPDES permit/Waste Discharge Requirements are recommended in response to the comments by Mr. Van Drie. However, revisions to the draft permit/waste discharge requirements are proposed in response to the comments from Mr. Colston and Mr. Schulz. . These modifications are summarized below.

Jim Colston/OCSD comments:

1. *Revise time frames for pretreatment reporting consistent with 1998 permit.*

   The following dates have been revised in the final Order and permit: (1) Section E.4, paragraph 1 – change "September 1" to "October 31"; and (2) Section E.5, paragraph 1 – change "February 28" to "March 31", and "September 1" to "September 30". In conjunction, the following dates have been revised in the final M&RP and permit: (1) Section D.1, Annual Pretreatment Report due date – change "September 1" to "October 31"; and (2) Section D.1, SIU Compliance due date – change "September 1" to "September 30 (or October 31)".

2. *Remove water quality based effluent limitations for 11 Ocean Plan toxic substances, based on OCSD's interpretation of additional data and how that data should change the reasonable potential evaluation/determination.*

   The EPA and Regional Board evaluated the reasonable potential for Ocean Plan constituents using effluent data provided by OCSD for years 1998–2003. In this evaluation, the EPA and Regional Board used the statistical procedure for determining reasonable potential recommended in Section 3.3.2 of the TSD, as described in permit Findings 17–28 and the draft permit fact sheet. The procedure used by the EPA and Regional Board considered: (1) existing controls at the OCSD treatment facilities, as indicated by the quality of the effluent discharge; (2) the variability of pollutants in the effluent discharge, as statistically estimated using reasonable potential multipliers calculated directly from OCSD's effluent data (see permit Findings 25 and 26); (3) the sensitivity of test species to effluent toxicity, through an evaluation of toxicity test data collected under the 1998 permit that required periodic effluent screening for toxicity using vertebrates and invertebrates to evaluate species sensitivity to effluent toxicants; and (4) the allowable Ocean Plan dilution factor of 180:1 for the discharge (see permit Findings 24 and 26). For the 11 pollutants at issue (i.e., aldrin, benzidine, chordane, 3,3'-dichlorobenzidine, dieldrin, heptachlor, heptachlor epoxide, hexachlorobenzene, PAHs, PCBs, and toxaphene), the EPA and Regional Board determined that because reported effluent detection limits were too high to establish that the OCSD discharge would not exceed applicable Ocean Plan objectives following initial dilution of the effluent (at 180:1) and because these pollutants can be found in POTW effluents, a conservative reasonable potential decision was warranted and effluent limits to protect water quality were prescribed in the draft permit.

   For 3,3'-dichlorobenzidine, benzidine, and toxaphene - Because no sediment or fish tissue data were provided during the response to comments for 3,3'-dichlorobenzidine, benzidine, and toxaphene, and because limited amounts of these chemicals are still used in the U.S. and its territories, effluent limits for these constituents are retained in the final permit. The Regional Board and EPA will reassess this decision based on additional information provided by OCSD, as described in the permit.

For aldrin, dieldrin, heptachlor, and heptachlor epoxide and Chlordane - Although five of these insecticide compounds (excluding Chlordane) are measured at non-detect levels in the OCSD effluent that are higher than the permit limit and water quality objective, OCSD reports that while these compounds are detected in sediments within a few miles of the OCSD outfall 30 and 20 percent (%) of the time, respectively, sediment concentrations for these compounds fall below levels at which toxic effects are likely to occur. There are no 303(d) listings for these pollutants in the vicinity of the discharge. Based on this information, the EPA and Regional Board conclude that there is currently no reasonable potential for aldrin and dieldrin, and heptachlor and heptachlor epoxide in the OCSD discharge to exceed water quality standards; consequently, effluent limits for aldrin, dieldrin, heptachlor, and heptachlor epoxide are not included in the final permit. Also within a few miles of the outfall, OCSD reports that chlordane is detected in sediments 88% of the time and exceeds the threshold level for sensitive species 19% of the time. FDA fish tissue standards for chlordane are not exceeded in fish. Based on this information and because chlordane is known to occur in municipal effluents (e.g., City and County of Honolulu, Honouliuli and Sand Island WWTPs), a conservative reasonable potential decision is warranted and a chlordane effluent limit to protect water quality is retained in the final permit.

For Hexachlorobenzene (HCB) - because: (1) a potential source of HCB is found in chlorination treatment of wastewater; (2) non-detect levels for HCB reported for the OCSD effluent are higher than the permit limit and water quality objective; and (3) HCB is detected in sediments in the vicinity of the outfall, the EPA and Regional Board maintain that a conservative reasonable potential decision is warranted and an HCB effluent limit to protect water quality is retained in the final permit.

For PCBs, PAHs and TCDD equivalents - PCBs persist in the environment, the result of historical uses that no longer occur. They have low water solubility and are generally found in sediments and fish tissue. PAHs are trace organic contaminants that occur naturally in crude oil, coal and other hydrocarbons. Anthropogenic sources include the combustion of hydrocarbons and their presence in fossil fuel products, such as coal-tar pitch and asphalt. PAHs are slightly soluble in water. Binding to particulate matter, they tend to accumulate in sediments and concentrate in biota. When present in sufficient quantity, PAHs are toxic to aquatic life and carcinogenic to humans. The EPA and Regional Board maintain that a conservative reasonable potential decision for these ubiquitous pollutants is warranted and effluent limits for PCBs, PAHs, and TCDD equivalents to protect water quality are retained in the final permit.

3. *Clarify WET testing requirement when most sensitive test species is not available.*

Two sentences have been added at the end of Section B.2.a, paragraph 2, of the final Order and permit. The sentences read "If the most sensitive test species is/are not available, the presence of chronic toxicity shall be estimated using the second most sensitive test species from the toxicity test screening conducted for the current 24-month period. Such changes shall be noted on the discharge monitoring report (DMR)."

4. *Clarify paragraph A.5. of M&RP regarding quality assurance plan language per OCSD's recommended language in comment letter.*

   Paragraph A.5 was replaced with the following language, which is substantively similar to the District's recommendation:

   "The discharger shall have and implement an acceptable written quality assurance (QA) plan for laboratory analyses. For constituents listed in Table 1 – Minimum Levels - Volatile Chemicals; Table 2 – Minimum Levels - Semi Volatile Chemicals; Table 3 – Minimum Levels - Inorganics; Table 4 – Minimum Levels - Pesticides and PCBs, and Ammonia analysis, spike samples shall be performed in duplicate and conducted on a minimum of ten percent (10%) of the samples, or at least one sample per month, whichever is greater. Test precision will be determined by comparing the individual concentrations of the duplicate spike. For Oil and grease, duplicate chemical analyses shall be conducted on a minimum of 10% of the samples, or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. For physical parameters including Total suspended solids, Biochemical oxygen demand, Carbonaceous biochemical oxygen demand, Settleable solids, Turbidity, and pH, duplicate analyses shall be conducted on a minimum of 10% of the samples, or at least one sample per month, whichever is greater. When requested by the Regional Board or EPA, the discharger will participate in the NPDES discharge monitoring report QA performance study."

5. *Clarify data reporting requirements from OCSD's Supervisory Control and Data Acquisition (SCADA) system.*

   Paragraph A.11.h of the M&RP was replaced with: "Electronic data and information regarding influent and effluent flow, pH and other constituents subject to monitoring or effluent limitations generated by the Supervisory Control and Data Acquisition (SCADA) System."

Don Schulz/Surfrider Foundation:

1. *Draft permit, pg. 9, par. 26, ". . . MDL (minimum detection limit) . . ." more accurately stated should be changed to "MDL (method detection limit)", as defined in the Ocean Plan.*

   The draft permit, page 9, Finding 26, ". . . MDL (minimum detection limit) . . ." has been corrected, consistent with the administrative record (i.e., Excel file RP-OCSD_98-03_final.xl), to: ". . . maximum reported detection limit . . . ." Also Footnote 2 has been revised as follows: "Although 1998 - 2003 effluent concentrations for these organic constituents are at non-detect levels, their projected receiving water values based on OCSD's maximum reported detection limit are higher than *Table B* water quality

objectives in the Ocean Plan. These constituents are known to occur in POTW effluents. Consequently, WQBELs are prescribed as conservative safeguards for protecting water quality."

2. *Draft permit, pg. 15, sec. e, "Ocean Plan Table B Effluent Limitation for Protection of Human Health" should be changed to "Ocean Plan Table B Effluent Limitation for Protection of Human Health x Dm (minimum Dilution Factor)", because 180 is the dilution factor for the OCSD discharge.*

   The requested change is not correct as it implies a dilution factor of 180:1 may be applied to the calculated water quality based effluent limitations specified in the table. However, to clarify that a dilution factor of 180:1 was used to calculate effluent limits based on Ocean Plan objectives, the following new footnote has been added following the titles of Tables A.1.d and A.1.e of the Order and permit:

   "The effluent limitations for constituents based on objectives for the protection of aquatic life and human health specified in Table B of the Ocean Plan are calculated using a Dm of 180:1 and the following Ocean Plan equation: Ce = Co + Dm (Co – Cs). "Dm" is the minimum probable initial dilution used to calculate effluent limitations for non-conventional and toxic pollutant parameters, expressed as parts seawater per part wastewater, "Co" is the water quality objective to be met at the completion of initial dilution, "Cs" is the background seawater concentration, and "Ce" is the effluent limitation."

3. *The table values in the permit indicate a higher value of concentration limit precision than may be required.*

   We acknowledge that the number of decimal places in the limits may be unnecessary, given the current state of analytical precision and accuracy. However, as analytical techniques improve over time, they may become more meaningful.

RECOMMENDATION:

Adopt Order No. R8-2004-0062, NPDES No. CA0110604 and Time Schedule Order No. R8-2004-0067, as presented.

Comments were solicited through a public notice printed in the *Orange County Register* on July 21, 2004 and from the following agencies:

U.S. Army District, Los Angeles, Corps of Engineers, Regulatory Branch
U.S. Fish and Wildlife Service - Carlsbad
State Water Resources Control Board, Office of the Chief Counsel – Jorge Leon
State of California, Office of the Attorney General - Marilyn H. Levin, Deputy Attorney General

State Water Resources Control Board, Division of Water Quality - James Maughan
California Department of Health Services, Santa Ana – Cor Shaffer
California Department of Health Services, Carpenteria – John Curphey
California Department of Health Services, Carpenteria - Jeff Stone
State Department of Water Resources - Glendale
State Department of Fish and Game - Long Beach
Santa Ana Watershed Project Authority - Joseph Grindstaff
Santa Ana Watershed Project Authority Member Agencies
Santa Ana River Dischargers Association – Rod Cruze
Orange County Water District - Nira Yamachika
Surfrider Foundation, Huntington/Long Beach Chapter
Orange County Coastkeeper- Garry Brown
Lawyers for Clean Water C/c San Francisco Baykeeper
Dr. Jack Skinner
Defend the Bay- Bob Caustin
Natural Resources Defense Council- David Beckman
City of Anaheim
City of Brea
City of Buena Park
Costa Mesa Sanitary District
City of Cypress
City of Fountain Valley
City of Fullerton
City of Garden Grove
City of Huntington Beach
Irvine Ranch Water District
City of La Habra
City of La Palma
County Sanitation Districts of Los Angeles County
City of Long Beach
Rossmoor/Los Alamitos Area Sewer District
Midway Cities Sanitation District
City of Newport Beach
City of Orange
City of Placentia
City of Santa Ana
City of Seal Beach
City of Stanton
Sunset Beach Sanitary District
City of Tustin
City of Villa Park
City of Westminster
Yorba Linda Water District
U. S. Marine Corps Air Station El Toro
U. S. Marine Corps Air Facility Tustin

Naval Weapons Station Seal Beach
Air Forces Reserve Center Los Alamitos
Mr. Gerhardt Van Drie-724 W. Pine Avenue, El Segundo Ca 90245

California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3348

and

U.S. Environmental Protection Agency
Region IX
75 Hawthorne Street
San Francisco, CA 94105-3901

FACT SHEET

July 21, 2004

The attached pages contain information concerning draft waste discharge requirements and a monitoring and reporting program, collectively, a National Pollutant Discharge Elimination System (NPDES) permit.

A. SUMMARY:

On July 21, 2004, the Regional Water Quality Control Board, Santa Ana Region (hereinafter Regional Board) and U.S. Environmental Protection Agency, Region IX (hereinafter EPA) jointly issued a public notice of proposed actions under Division 7 of the California Water Code and regulations thereunder, and the Clean Water Act (CWA) and regulations thereunder. The Regional Board and EPA are proposing to jointly reissue an NPDES permit and Waste Discharge Requirements to Orange County Sanitation District (hereinafter discharger, permittee, or OCSD) for Reclamation Plant No. 1 and Treatment Plant No. 2, a combined discharge of disinfected treated wastewater through an ocean outfall system to the Pacific Ocean.

Under California's Porter-Cologne Water Quality Control Act, California Regional Water Quality Control Boards issue waste discharge requirements which serve as NPDES permits. The Regional Board intents that its joint issuance of this NPDES permit with EPA will serve as its certification under CWA section 401 that any discharge pursuant to the permit will comply with CWA provisions at 33 U.S.C. 1311, 1312, 1313, 1316, and 1317. A joint public workshop will be held on August 13, 2004, in Santa Ana, California; and a joint public hearing will be held on September 17, 2004, in Loma Linda, California. The Regional Board and EPA will respond to public comments received through the close of the public comment period on September 17, 2004 and will issue a final NPDES permit incorporating applicable federal requirements and State Waste Discharge Requirements.

B. FACILITY DESCRIPTION:

The OCSD presently operates Reclamation Plant No. 1, located in the City of Fountain Valley, and Treatment Plant No. 2, located in Huntington Beach at the mouth of the Santa Ana River. The discharge from these facilities is currently regulated by Order No. 98-5, as modified by Order No. R8-2002-0055 (NPDES Permit No. CA0110604). This Order and permit has an

expiration date of June 8, 2003. Section 122.6, Title 40 (40 CFR) and Section 2235.4, Title 23, California Code of Regulations (CCR) state that an expired permit continues in force until the effective date of a new permit, provided the permittee has timely submitted a complete application for a new permit. On December 2, 2002, OCSD submitted an NPDES permit renewal application. Thus, the discharger's permit has been administratively extended until the Regional Board and EPA act on the new Waste Discharge Requirements and permit.

Reclamation Plant No. 1 is currently designed to treat 108 MGD of primary treated wastewater and 110 MGD of secondary treated effluent (30 MGD trickling filter plant under rehabilitation and 80 MGD conventional air-activated sludge plant). A maximum of 15 MGD of secondary treated effluent may be conveyed to the OCWD's Water Factory 21 where it receives tertiary treatment prior to groundwater recharge (barrier for seawater intrusion) and for direct reuse for irrigation and industrial process water (Green Acres Project). Ferric chloride and polymer can be added upstream of the primary sedimentation basins to provide for chemically enhanced primary treatment. The primary treatment system at Plant No. 1 is being increased to a design capacity of 198 MGD during this permit term. Chlorination facilities at Plant No. 1 provide for disinfection of the treated effluent with sodium hypochlorite (bleach) prior to discharge. Dechlorination occurs at Treatment Plant No. 2. Treated effluent (primary and secondary) not reclaimed is conveyed from Reclamation Plant No. 1 through interplant pipelines to the outfall booster pump complex at Treatment Plant No. 2 and discharged through the ocean outfall. Raw sewage not treated at Reclamation Plant No. 1 is conveyed to Treatment Plant No. 2 for treatment.

Treatment Plant No. 2 is currently designed to treat 168 MGD of primary treated wastewater and 90 MGD of secondary treated effluent (pure oxygen activated sludge). Various chemicals are used to provide for chemically enhanced primary treatment. Disinfection is achieved at various points within Plant No. 2; chlorination facilities use sodium hypochlorite (bleach) and the dechlorination facility uses sodium bisulfite. Blended treated effluent (primary and secondary) from Plant No. 2 is blended with primary and secondary treated effluent from Plant No. 1 and then discharged through the ocean outfall.

The combined discharge of Reclamation Plant No. 1 and Treatment Plant No. 2 is to the Pacific Ocean through an ocean outfall system. Discharge points are described as follows:

Discharge Serial No.	**North Latitude**	**West Longitude**	**Description**
001	33°34'36"	118°00'36"	120" Outfall: Primary discharge point to the Pacific Ocean terminating in a multi-port diffuser, approximately 4.5 miles (7,250 m) offshore from the mouth of the Santa Ana River, at a depth of 195 feet (60 m). The capacity at high tide is 480 MGD.

Discharge Serial No.	North Latitude	West Longitude	Description
002	33°36'56"	17°58'13"	78" Outfall: Emergency discharge point (deactivated ocean outfall) to the Pacific Ocean, approximately 1 mile (2,100 m) offshore from the mouth of the Santa Ana River, at a depth of 65 feet (20 m).
003	33°38'06"	117°57'20"	Two extreme emergency discharge points (overflow) to the Pacific Ocean at the Santa Ana River. The capacity is approximately 130 MGD.

Reclamation Plant No. 1 and Treatment Plant No. 2 receive domestic, commercial, and industrial wastewaters from 32 sewage collection agencies. The discharger has contractual agreements with Irvine Ranch Water District, County Sanitation Districts of Los Angeles County, Orange County Water District (OCWD), and the Santa Ana Watershed Project Authority and Member Agencies. The contractual agreements give the discharger the authority to implement and enforce the approved pretreatment program.

The discharger's wastewater treatment processes currently consist of the following:

RECLAMATION PLANT NO. 1			
Primary Treatment	Secondary Treatment	Disinfection	Solids Handling
Bar screens Aerated grit chambers Sedimentation basins	High-rate trickling filters (under rehabilitation to be completed by 2006) Activated sludge Secondary clarifiers	Chlorination	Dissolved air floatation thickening Anaerobic digestion Dewatering Land application and municipal solid waste landfill

TREATMENT PLANT NO. 2			
Primary Treatment	Secondary Treatment	Disinfection	Solids Handling
Bar screens Aerated grit chambers Sedimentation basins	Activated sludge Secondary clarifiers	Chlorination/ Dechlorination	Dissolved air floatation thickening Anaerobic digestion Dewatering Land application and municipal solid waste landfill

C. BASIS FOR EFFLUENT REQUIREMENTS:

Secondary Treatment Standards and Technology Based Effluent Limitations

Prior to this permit reissuance, the discharger has operated under an NPDES permit which incorporated a variance from federal secondary treatment standards for five-day biochemical oxygen demand (BOD_5) and suspended solids (SS), authorized under CWA section 301(h). On December 2, 2002, the discharger submitted a timely NPDES permit renewal application reflecting the OCSD Board of Directors' July 17, 2002 decision to withdraw the discharger's CWA section 301(h) variance and achieve federal secondary treatment standards at the earliest possible date. The application states that end-of-permit design BOD_5 and SS removal rates are 76 percent and 85 percent, respectively, and that the effluent is chlorinated and dechlorinated prior to discharge through the ocean outfall. End-of-permit design flow rates are 316 MGD of primary treated wastewater and 200 MGD of secondary treated wastewater. This application was updated by the discharger's 2003 supplemental permit renewal application (July 2003) and correspondence of May 13, 2004 from B. Anderson, OCSD General Manager, to W. Nastri, EPA Regional Administrator.

On May 13, 2004, the discharger requested the inclusion of effluent limitations for five-day carbonaceous biochemical oxygen demand ($CBOD_5$), as allowed by secondary treatment regulations at 40 CFR 133.102(a)(4), for the period following the completion of expanded secondary treatment facilities. $CBOD_5$ limitations will apply to the final effluent during partial or full nitrification at OCSD's secondary treatment facilities, where effluent nitrification is being planned to reduce ammonia toxicity associated with wastewater treatment and brine reject flow from the Groundwater Replenishment System (a major regional water reclamation project). As nitrifying bacteria use oxygen to degrade nitrogenous compounds otherwise not significantly removed in the secondary treatment process, higher oxygen demand values for the final effluent will result. Consequently, the use of $CBOD_5$ effluent limits will ensure that federal secondary treatment standards for POTWs are achieved while allowing the discharger to use the treatment process of nitrification to reduce ammonia toxicity in the discharged effluent and comply with Ocean Plan requirements for acute and chronic toxicity.

The draft Order and permit contain the following effluent limitations based on federal secondary treatment standards pursuant to Section 301(b) of the CWA and its implementing regulations:

Constituent	Units	30-day Average	7-day Average
Biochemical Oxygen Demand (5-day) (BOD_5)[1]	mg/l lbs/day	30. 69,555	45. 104,333
		The 30-day average percent removal shall not be less than 85 percent.	
Carbonaceous Biochemical Oxygen Demand (5-day) ($CBOD_5$)	mg/l lbs/day	25. 57,963	40. 92,740
		The 30-day average percent removal shall not be less than 85 percent.	
Suspended Solids (SS)	mg/l lbs/day	30. 69,555	45. 104,333
		The 30-day average percent removal shall not be less than 85 percent.	
pH	pH units	Within limit of 6.0 to 9.0 at all times.	

The discharger's end-of-permit (i.e., 2009) effluent mass emission rates are calculated using an end-of-permit annual average influent flow of 278 MGD. As described in the application, OCSD cannot meet these effluent quality requirements with existing treatment facilities, and full compliance with secondary treatment requirements for all of the flow is not anticipated to occur until 2013. Appendix Q of the application summarizes projected changes in effluent quality and flows associated with the ramping-up of secondary treatment facilities to achieve maximum performance from both existing and new treatment facilities during this permit term.

As described, above, this Order and permit contain effluent limitations based upon federal secondary treatment standards, as required by 40 CFR 125.3 and 40 CFR 133. EPA and the Regional Board also expect that compliance with secondary treatment requirements governing the OCSD discharge will be addressed by a complaint to be filed and a consent decree to be lodged shortly after the effective date of this Order and permit. EPA and the Regional Board expect that the consent decree will establish a schedule by which OCSD will complete the planning, design, construction, and operation of facilities necessary to attain compliance with secondary treatment requirements in this Order and permit, and will establish interim effluent

[1] In lieu of the parameter BOD_5 and the BOD_5 levels specified for effluent quality in this table, the parameter $CBOD_5$ and the $CBOD_5$ levels specified for effluent quality in this table may be substituted and reported by the discharger.

limits for BOD_5 and TSS. Pursuant to 28 CFR 50.7, the public will be given notice and an opportunity to comment upon the consent decree before it becomes effective.

In 1999, the OCSD adopted a comprehensive 20-year master plan of capital facilities, including expansion and rehabilitation, entitled "OCSD Strategic Plan". Four years later, in conjunction with the OCSD Board of Directors' 2002 decision to achieve federal secondary treatment standards, OCSD adopted "Interim Strategic Plan Update", a comprehensive revision to the strategic plan. This strategic plan update addressed the additional needs for refurbishing, rehabilitation, and new construction, in order to provide adequate facilities to upgrade the effluent treatment level to secondary treatment standards, and is the basis for the discharger's December 2002 NPDES permit renewal application.

Water Quality Standards and Water Quality Based Effluent Limitations

A revised *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan) became effective on December 3, 2001. The Ocean Plan contains beneficial uses and water quality objectives for ocean waters of the State. Ocean waters of the State are the territorial marine waters of the State as defined by California law to the extent that these waters are outside of enclosed bays, estuaries, and coastal lagoons. If a discharge outside of the territorial waters of the State could affect the quality of waters of the State, the discharge may be regulated to assure no violation of the Ocean Plan will occur in ocean waters. The requirements contained in the Order and permit are necessary to assure no violation of the Ocean Plan will occur in ocean waters of the State.

A revised *Water Quality Control Plan, Santa Ana River Basin* (Basin Plan) became effective on January 24, 1995. Subsequently, the Basin Plan has been amended by Regional Board Resolution Nos. 97-20, 98-100, 98-101, 99-10, 00-27, and R8-2004-0001. The Basin Plan contains beneficial uses and water quality objectives for waters in the Santa Ana Region. The existing or potential beneficial uses of the Tidal Prism of the Santa Ana River (to within 1,000 feet of Victoria Street) include: water contact recreation; non-contact water recreation; commercial and sportfishing; wildlife habitat; rare, threatened or endangered species; and marine habitat. The Nearshore Zone of the Pacific Ocean is within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline. The existing or potential beneficial uses of the Nearshore Zone include: industrial service supply; navigation; water contact recreation; non-contact water recreation; commercial and sportfishing; preservation of biological habitats of special significance; wildlife habitat; rare, threatened or endangered species; spawning, reproduction, and development; marine habitat; and shellfish harvesting. The Offshore Zone consists of waters between the Nearshore Zone and the limit of ocean waters of the State. The existing or potential beneficial uses of the Offshore Zone of the Pacific Ocean include: industrial service supply; navigation; water contact recreation; non-contact water recreation; commercial and sportfishing; wildlife habitat; rare, threatened or endangered species; spawning, reproduction, and development; and marine habitat. The requirements contained in this Order and permit are necessary to implement the Basin Plan.

On July 19, 2002, the Regional Board determined, and EPA agreed, that it is appropriate to apply water quality standards for bacterial indicators throughout the water column in the Offshore Zone to assure that the OCSD discharge does not pose a threat to water contact recreational uses in both nearshore and offshore waters. The discharger's NPDES permit and Waste Discharge Requirements were amended accordingly by the Regional Board and EPA (Order No. R8-2002-0055). To meet this requirement, OCSD has operated temporary chlorination/dechlorination facilities, using sodium hypochlorite (chlorine bleach) and sodium bisulfite, since August 2002. OCSD is conducting an investigation of alternative long-term disinfection methods for the discharge as part of its Effluent Pathogen Reduction Alternative Plan Study.

Effluent limitations for conventional, non-conventional, and toxic pollutant parameters are established based on Table A effluent limitations (technology based) and Table B water quality objectives in the Ocean Plan. Mass emission rate effluent limitations for these pollutant parameters are based on a projected end-of-permit influent flow of 278 MGD. The minimum probable initial dilution (Dm) used to calculate water quality based effluent limitations for non-conventional and toxic pollutant parameters based on Table B water quality objectives is 180:1. Dm is expressed as parts seawater per part wastewater.

The 1998 permit, as modified in 2002, contains effluent limitations for the following non-conventional and toxic pollutant parameters in Table B of the Ocean Plan: total chlorine residual, acute toxicity, chronic toxicity, aldrin, chlordane, bis(2-ethylhexyl)phthalate, DDT, heptachlor, hexachlorobenzene, PAHs, and toxaphene. For the draft permit, 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 EPA guidance for statistically determining the "reasonable potential" for a discharged pollutant to exceed an objective, as outlined in the revised *Technical Support Document for Water Quality-based Toxics Control* (TSD; EPA/505/2-90-001, 1991). This 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 calculated as the 99 percent confidence level of the 99th percentile 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 Dm), can then be compared to the appropriate objective to determine the potential for an exceedance of that objective and the need for a water quality based effluent limitation.

The Regional Board and EPA examined effluent data provided by the discharger for years 1998 - 2003. A reported maximum effluent value and reported maximum MDL (minimum detection limit) were identified for each pollutant. These data were then used to calculate pollutant-specific reasonable potential multipliers. After considering Dm, projected receiving water concentrations were used to determine that: acute toxicity, chronic toxicity, and 12 organic pollutants[2] (i.e., aldrin, benzidine, chlordane, 3,3'-dichlorobenzidine, dieldrin, heptachlor,

[2] Although 1998 - 2003 effluent concentrations for these organic constituents are at non-detect levels, their projected receiving water values based on OCSD's reported maximum MDLs are higher than Table B water quality objectives in the Ocean Plan. These constituents are known to occur in POTW effluents. Consequently, WQBELs are prescribed as conservative safeguards for protecting water quality.

heptachlor epoxide, hexachlorobenzene, PAHs, PCBs, TCDD equivalents, and toxaphene) showed the potential to exceed their respective objective, and required effluent limitations. Water quality based effluent limitations for these pollutants were calculated using procedures outlined in the Ocean Plan.

As previously described, OCSD has operated temporary chlorination/dechlorination facilities, adding sodium hypochlorite (chlorine bleach) and sodium bisulfite to wastestreams, since August 2002. Because wastewater disinfection with chlorine usually produces a chlorine residual, and because chlorine and its reaction byproducts are highly toxic to aquatic life, water quality based effluent limits for total chlorine residual based on Ocean Plan requirements are included in this permit.

The effluent limitations for constituents based on objectives for the protection of aquatic life and human health specified in Table B of the Ocean Plan are calculated using a Dm of 180:1 and the following Ocean Plan equation: Ce = Co + Dm (Co - Cs). "Ce" is the effluent limitation (mg/l); "Co" is the water quality objective to be met at the completion of initial dilution (mg/l); and "Cs" is the background seawater concentration (mg/l).

The draft Order and permit contain the following technology based effluent limitations based on Table A of the Ocean Plan:

Constituent	**Units**	**30-day Average**	**7-day Average**	**Maximum at any time**
Grease and Oil	mg/l lbs/day	25. 57,963	40. 92,740	75. 173,889
Suspended Solids	n/a	As 30-day average, 75 percent removal from influent stream or 60 mg/l, whichever rate is higher.		
Settleable Solids	Ml/l	1.0	1.5	3.0
Turbidity	NTU	75.	100.	225.
pH	pH units	Within limit of 6.0 to 9.0 at all times.		

The draft Order and permit contain the following water quality based effluent limitations for protection of marine aquatic life based on Table B of the Ocean Plan:

Constituent	Units	6-month Median	Daily Maximum	Instantaneous Maximum
Total Chlorine Residual	mg/l lbs/day	0.36 834	1.45 3,361	10.86 25,179
Acute Toxicity	TUa	n/a	5.7	n/a
Chronic Toxicity	TUc	n/a	181	n/a
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.			

The draft Order and permit contain the following water quality based effluent limitations for protection of human health based on Table B of the Ocean Plan:

Constituent	Units	30-day Average
Aldrin	ug/l lbs/day	0.00398 0.0092
Benzidine	ug/l lbs/day	0.01249 0.0290
Chlordane	ug/l lbs/day	0.00416 0.0097
3,3'-dichlorobenzidine	ug/l lbs/day	1.4661 3.3992
Dieldrin	ug/l lbs/day	0.00724 0.0168
Heptachlor	ug/l lbs/day	0.0091 0.0210
Heptachlor epoxide	ug/l lbs/day	0.0036 0.0084
Hexachlorobenzene	ug/l lbs/day	0.0380 0.0881
PAHs	ug/l	1.5928

Constituent	Units	30-day Average
	lbs/day	3.6929
PCBs	ug/l lbs/day	0.0034 0.0080
TCDD equivalents	ug/l lbs/day	0.000000706 0.000001637
Toxaphene	ug/l lbs/day	0.03801 0.0881

As described above, the draft permit proposes effluent limits for 12 organic constituents: aldrin, benzidine, chlordane, 3,3'-dichlorobenzidine, dieldrin, heptachlor, heptachlor epoxide, hexachlorobenzene, PAHs, PCBs, TCDD equivalents, and toxaphene. The discharger has proposed and the draft permit requires the discharger to conduct a strategic process study evaluating currently available information and collecting additional data to determine the occurrence of these constituents in the OCSD effluent and ocean environment. The results from this study will be used to evaluate the need for pollutant management plans. The Regional Board and EPA may use this information to re-evaluate the need for effluent limitations for the 12 organic constituents during the permit term. Please note that during the public comment period for the draft permit, the Regional Board and EPA may receive and review information related to these constituents. Based on their review and consideration of the administrative record for final permit issuance, the Regional Board and EPA may continue to conclude that a constituent shows the potential to exceed a water quality objective and the water quality based effluent limitation, proposed in the above table, is required in the final permit. Alternatively, the Regional Board and EPA may conclude that a constituent does not show the potential to exceed a water quality objective, and, consequently, no water quality based effluent limitation for that constituent will be required in the final permit. The rational for such decisions will be explained and documented by the Regional Board and EPA in the response to comments for the final permit.

The mass emission effluent limitations (in lbs/day) for all constituents were determined using a projected end-of-permit annual average influent flow of 278 MGD and the following Ocean Plan equation: lbs/day = (8.34) (Ce) (Q). "Ce" is the concentration effluent limitation in mg/l and "Q" is the flow rate in MGD.

D. BIOSOLIDS/SLUDGE AND PRETREATMENT REQUIREMENTS:

The draft permit contains biosolids/sludge management requirements consistent with CWA requirements and 40 CFR 257, 258, and 503. On February 19, 1993, the EPA issued a final rule for the use and disposal of sewage sludge (40 CFR 503). This rule requires that producers of sewage sludge meet certain reporting, handling, and disposal requirements. The State has not been delegated the authority to implement this program, therefore, EPA is the implementing agency.

The draft permit contains pretreatment requirements consistent with applicable effluent limitations, national standards of performance, and toxic and pretreatment effluent standards established pursuant to Sections 208(b), 301, 302, 303(d), 304, 306, 307, 403, 404, 405, and 501 of the CWA, and amendments thereto. This permit contains requirements for the implementation of an effective pretreatment program pursuant to Section 307 of the CWA; 40 CFR 35 and 403; and/or Section 2233, Title 23, California Code of Regulations. The permit application states that 126 significant industrial users and 243 categorical industrial users discharge to the treatment works; OCSD also receives treated waste from remedial activities at the Stringfellow Superfund Site. Under this permit, the discharger will continue to implement its existing nonindustrial source control program and public education program that have been in effect since 1986.

E. INDUSTRIAL STORMWATER REQUIREMENTS:

In accordance with Section 402(p) of the CWA, the EPA has published regulations for stormwater runoff (see also 40 CFR 122, 123, and 124). Under these regulations, industrial facilities, including POTW sites, are required to obtain NPDES permits for stormwater discharges. According to the discharger, stormwater runoff is managed by internal drainage systems at Reclamation Plant No. 1 and Treatment Plant No. 2. Stormwater runoff is captured, treated, and discharged to the Pacific Ocean with the treated wastewater. Accordingly, storm water runoff at Reclamation Plant No. 1 and Treatment Plant No. 2 will be regulated under this permit, and a separate NPDES permit for stormwater discharges from these sites is not required.

F. OCEAN DISCHARGE CRITERIA:

The OCSD discharge is subject to the requirements of Section 403(c) of the CWA and its implementing regulations at 40 CFR 125, Subpart M. These requirements apply to point source discharges to territorial seas, the contiguous zone and oceans, and allow for more stringent effluent limitations or permit conditions when necessary to protect the marine environment. The Regional Board and EPA have considered the impact of the discharge pursuant to Section 403(c) and find that the discharge will not cause unreasonable degradation of the marine environment.

G. MONITORING AND REPORTING PROGRAM:

The draft permit requires frequent influent and effluent monitoring for conventional, non-conventional, and priority toxic pollutants. Biosolids/sludge monitoring, record keeping, and reporting requirements are consistent with federal and State requirements. Pretreatment monitoring, record keeping, and reporting requirements are consistent with applicable NPDES requirements.

Pursuant to 40 CFR 125.123(d)(2), the draft permit includes a monitoring and reporting program which is sufficient to assess the impact of the discharge on water, sediment, and biological quality, including analyses of the bioaccumulation and/or persistent impact on aquatic life due to

the discharge. In 1998, the receiving water monitoring program was revised to reallocate the discharger's monitoring effort into three components to address crucial physical, chemical, and biological processes not addressed by earlier monitoring programs, and provide a regional framework for interpreting discharge-related effects. These three components are retained from the 1998 permit and are described as follows:

- **Core Monitoring.** Shoreline monitoring and offshore water quality, sediment, fish community, and bioaccumulation monitoring are conducted to evaluate compliance with this permit, State water quality standards, and federal criteria.

- **Strategic Process Studies.** Each year, the discharger will conduct strategic process studies that address specific receiving water quality, discharge impacts, and ocean processes in the area of the discharge. The scope of these studies will be determined by the discharger, in coordination with the Regional Board and EPA. Studies will be approved by the Regional Board and EPA prior to implementation by the discharger.

- **Regional Monitoring Activities.** The discharger will participate in regional scale projects in association with groups such as the Southern California Coastal Water Research Project, the Coastal Conservancy, and the Southern California Coastal Ocean Observing System. These projects are designed to provide regional perspectives for the evaluation of wastewater discharges and other sources of contaminants to the Southern California Bight.

H. ANTIDEGRADATION ANALYSIS:

The Regional Board and EPA have considered antidegradation pursuant to 40 CFR 131.12 and State Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*, (known collectively as "antidegradation" policies) and find that the discharge is consistent with those provisions.

Moreover, to address the uncertainty due to potential increases in toxic pollutant loadings from the discharge to the marine environment during the five-year permit term, and to establish a framework for evaluating the need for an antidegradation analysis to determine compliance with State and federal antidegradation requirements at the time of permit reissuance, 12-month average mass emission benchmarks have been established for effluent discharged through Discharge Serial No. 001 [see Monitoring and Reporting Program (M&RP) No. R8-2004-0062.]. The mass emission benchmarks (in metric tons per year; MT/yr) for the OCSD discharge were determined based on 1990 through 1994 effluent concentrations, using the concentration associated with the 95th percentile of the 4-day average distribution of daily effluent concentrations (Ce), the discharger's projected end-of-permit flow of 278 MGD (Q), and the following equation: MT/yr = (Ce ug/l) (Q 10^6 gal/day) (3.785 l/gal) (365 days/yr) (1 MT/10^{12} ug). These mass emission benchmarks are not enforceable water quality based effluent limitations. They may be re-evaluated and revised during the five-year permit term.

I. MAGNUSON-STEVENS AND ENDANGERED SPECIES ACTS:

The EPA's reissuance of the OCSD permit is subject to requirements of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) and Section 7 of the Endangered Species Act (ESA). The EPA is reviewing information related to: (1) essential fish habitat and managed and associated species, and (2) threatened and endangered species and their designated critical habitats, in the vicinity of the OCSD outfalls). Based on this and other relevant information, EPA is evaluating whether there are effects on essential fish habitat and managed and associated species protected under the MSA, or on threatened and endangered species and their designated critical habitats protected under the ESA. (Previous determinations by the National Marine Fisheries Service and U.S. Fish and Wildlife Service (collectively, the Services) have found the discharge consistent with ESA requirements.) Based on the outcome of this analysis, EPA may engage in consultation with the Services during, and subsequent to, this permit reissuance. The EPA may decide that changes to the permit are warranted based on the results of the completed consultation, and a reopener provision to this effect has been included in the permit.

J. INFORMATION AND COPYING:

The Administrative Record, which includes the draft permit, fact sheet, comments received, permit application, and other relevant documents, is available for inspection and copying at the Regional Board and EPA addresses below, Monday through Friday (excluding holidays), between 9:00 a.m. and 3:00 p.m., beginning July 21, 2004 through the close of the public comment period on September 17, 2004. The draft permit can also be viewed at and/or downloaded from the Regional Board's website at *www.swrcb.ca.gov/rwqcb8*, beginning July 21, 2004.

K. PUBLIC WORKSHOP AND PUBLIC HEARING:

Interested persons are invited by the Regional Board and EPA to attend a public workshop and public hearing and express their views on the draft permit. The joint public workshop regarding the draft permit will be held as follows:

DATE:	August 13, 2004
TIME:	9:00 a.m.
PLACE:	City of Santa Ana City Council Chamber 22 Civic Center Plaza Santa Ana, California

The joint public hearing regarding the draft permit will be held as follows:

DATE:	September 17, 2004
TIME:	9:00 a.m.
PLACE:	City Council Chambers of Loma Linda 25541 Barton Road Loma Linda, California

To assure the accuracy of the record, all oral statements should be submitted also in writing. Please note that time limitations of 15 minutes or less will be imposed on presentations, unless otherwise determined by the Regional Board Chair and EPA Hearing Officer. Although the public comment period will remain open through the close of the public hearing on September 17, 2004, persons wishing to comment upon the draft permit are strongly encouraged to submit their comments in writing by August 20, 2004 to facilitate consideration of the comments by the Regional Board and EPA. The Regional Board will consider adoption of State Waste Discharge Requirements at the public hearing on September 17th. If adopted by the Regional Board, State Waste Discharge Requirements will become effective upon issuance of a final determination on the NPDES permit by EPA.

L. WRITTEN COMMENTS:

Interested persons are invited to submit written comments on the draft permit and fact sheet. Written comments should be submitted either in person or by mail to the attention of Jun Martirez at the Regional Board and Robyn Stuber at the EPA, at the following addresses:

Mr. Jun Martirez
California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3348
Telephone: (951) 782-4130

Ms. Robyn Stuber
U.S. Environmental Protection Agency
Region IX, WTR-5
75 Hawthorne Street
San Francisco, CA 94105-3901

Telephone: (415) 972-3524

All timely comments received through the close of the public comment period on September 17, 2004, will be retained and considered in the formulation of the final determination regarding the draft permit.

M. FEDERAL PROCEDURES FOR FINAL PERMIT DECISION:

When a final NPDES permit is issued by EPA, it will become effective 33 days following the date it is mailed to the discharger, unless a request for review is filed. If a request for review of the federal NPDES permit is filed, only those permit conditions that are uncontested will go into effect pending disposition of the request for review. Requests for review of the federal permit must be filed within 33 days following the date the final permit is mailed and must meet the requirements of 40 CFR 124.19. All requests for review of the federal permit should be addressed to the Environmental Appeals Board, as directed in the draft permit findings. Those persons filing a request for review must have filed comments on the draft permit, or participated in the public workshop or hearing. Otherwise, any such request for review may be filed only to the extent of changes from the draft to the final permit decision.

N. REGISTER OF INTERESTED PERSONS:

Any person interested in a particular application or group of applications may leave his name, address, and phone number as part of the file for an application.

California Regional Water Quality Control Board
Santa Ana Region

Terry Tamminen
Secretary for Environmental Protection

Internet Address: http://www.swrcb.ca.gov/rwqcb8
3737 Main Street, Suite 500, Riverside, California 92501-3348
Phone (951) 782-4130 - FAX (951) 781-6288

Arnold Schwarzenegger
Governor

September 14, 2004

Mr. Jim Colston
Orange County Sanitation District
Environmental Compliance Services
P.O. Box 8127
Fountain Valley, CA 92728-8127

Mr. Don Schulz
Surfrider Foundation
Huntington Beach/Seal Beach Chapter
P.O. Box 3087
Long Beach, CA 90803

Mr. Gerhardt Van Drie, R.C.E.
724 W. Pine Ave.
El Segundo, CA 90245

REPONSE TO COMMENTS ON 07/21/04 DRAFT ORDER NO. R8-2004-0062 (NPDES PERMIT NO. CA0110604) AND 07/21/04 DRAFT TIME SCHEDULE ORDER NO. R8-2004-0067 RECEIVED THROUGH AUGUST 20, 2004

Dear Messrs. Colston, Schulz, and Van Drie:

Thank you for your comments to the above-referenced Orders and NPDES permit. The following are our responses to your comments.

Mr. Jim Colston, Orange County Sanitation District – August 20, 2004

1. **Comment:** *The draft NPDES permit requires the District's pretreatment annual reports to be submitted within 60 days from the end of the reporting period. The current permit, issued in 1998, provides 120 days for submittal. Also, the draft permit contains similarly shortened submittal dates for the District's pretreatment semi-annual reports. These changes were proposed to cause the District's reporting cycle to be consistent with reporting by other municipal pretreatment programs in California. The District strongly objects to these changes and views them as impractical, illegal, and unreasonable.*

Response: While the EPA and RWQCB do not necessarily agree with the District's analysis, the pretreatment report submittal dates in the final permit have been restored to reflect those in the 1998 permit. However, the EPA and Regional Board note that numerous other pretreatment programs in California, including a program larger than the

District's, have accepted the 60-day report due date. In addition, there are other EPA Regional Offices that apply the 60-day report deadline to municipal pretreatment programs under their jurisdiction. The EPA and RWQCB are unaware of any other municipality that receives 120 days to submit a pretreatment annual report. During the term of this permit, the EPA and RWQCB will evaluate the District's industry compliance assessment and reporting procedures.

The following dates have been revised in the final Order and permit: (1) Section E.4, paragraph 1 – change "September 1" to "October 31"; and (2) Section E.5, paragraph 1 – change "February 28" to "March 31", and "September 1" to "September 30". In conjunction, the following dates have been revised in the final M&RP and permit: (1) Section D.1, Annual Pretreatment Report due date – change "September 1" to "October 31"; and (2) Section D.1, SIU Compliance due date – change "September 1" to "September 30 (or October 31)".

2. **Comment:** *The approach used by the EPA and Regional Board to determine reasonable potential ignores the general considerations for characterizing effluent required by 40 CFR 122.44(d)(1)(ii) – procedures that account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant in the effluent, the sensitivity of the species to toxicity testing, and dilution of the effluent in the receiving waterbody. The fact sheet does not indicate that the EPA and Regional Board considered any additional information other than the undocumented assertion that the 11 constituents in question (i.e., aldrin, benzidine, chordane, 3,3'-dichlorobenzidine, dieldrin, heptachlor, heptachlor epoxide, hexachlorobenzene, PAHs, PCBs, and toxaphene) are "known" to occur in POTW effluents and that the maximum reported detection limit exceeded the water quality objective. However, the fact sheet recognizes that additional information may be used to further evaluate whether there is reasonable potential for these constituents. A review of OCSD's available effluent, sediment, and fish tissue data presented in this comment letter provide adequate evidence to show that under the federal regulations and TSD there is no reasonable potential for these 11 constitutes. An effluent limit for TCDD equivalents appears necessary based on its reasonable potential analysis and a lack of sediment and fish tissue data.*

Response: The EPA and Regional Board evaluated the reasonable potential for Ocean Plan constituents using effluent data provided by OCSD for years 1998–2003. In this evaluation, the EPA and Regional Board used the statistical procedure for determining reasonable potential recommended in Section 3.3.2 of the TSD, as described in permit Findings 17–28 and the draft permit fact sheet. The procedure used by the EPA and Regional Board considered: (1) existing controls at the OCSD treatment facilities, as indicated by the quality of the effluent discharge; (2) the variability of pollutants in the effluent discharge, as statistically estimated using reasonable potential multipliers calculated directly from OCSD's effluent data (see permit Findings 25 and 26); (3) the sensitivity of test species to effluent toxicity, through an evaluation of toxicity test data collected under the 1998 permit that required periodic effluent screening for toxicity using vertebrates and invertebrates to evaluate species sensitivity to effluent toxicants;

and (4) the allowable Ocean Plan dilution factor of 180:1 for the discharge (see permit Findings 24 and 26). For the 11 pollutants at issue (i.e., aldrin, benzidine, chordane, 3,3'-dichlorobenzidine, dieldrin, heptachlor, heptachlor epoxide, hexachlorobenzene, PAHs, PCBs, and toxaphene), the EPA and Regional Board determined that because reported effluent detection limits were too high to establish that the OCSD discharge would not exceed applicable Ocean Plan objectives following initial dilution of the effluent (at 180:1) and because these pollutants can be found in POTW effluents, a conservative reasonable potential decision was warranted and effluent limits to protect water quality were prescribed in the draft permit.

The fact sheet (page 10 of 15) also provided that this proposed conservative reasonable potential decision might be revisited by the EPA and Regional Board when responding to comments received on the draft permit, should additional data be received during the public comment period. Because OCSD has provided additional, limited data for aldrin, dieldrin, heptachlor, heptachlor epoxide, chlordane, hexachlorbenzene, PCBs and PAHs, the EPA and Regional Board have reviewed this information in formulating a response to OCSD's comment and the decision regarding effluent limits for these constituents in the final permit. Because no sediment or fish tissue data were provided during the response to comments for 3,3'-dichlorobenzidine, benzidine, and toxaphene, and because limited amounts of these chemicals are still used in the U.S. and its territories, effluent limits for these constituents are retained in the final permit. The Regional Board and EPA will reassess this decision based on additional information provided by OCSD, as described in the permit.

Please note that the discussion below includes general summaries taken from chemical profiles developed by the Agency for Toxic Substances and Disease Registry and EPA's priority pollutant persistent bioaccumulative and toxic chemical profiles.

Aldrin and Dieldrin, Heptachlor and Heptachlor epoxide, and Chlordane

In the U.S., aldrin and dieldrin were widely used in agricultural settings as soil insecticides and in public health settings for vector control, until they were banned for all uses in 1987. Aldrin is readily converted to dieldrin in the environment. Heptachlor was extensively used in agricultural and urban settings as an insecticide until use stopped in 1988. Heptachlor epoxide is a breakdown product of heptachlor and is more likely to be found in the environment. Chlordane, an organochlorine insecticide, was widely used in agricultural and urban settings until it was banned in 1988. Because of their stable properties, these insecticide compounds persist in the environment, the result of historical uses that no longer occur. They have low water solubility and can be found in sediments, food crops, and fish and animal tissue.

These five insecticide compounds are measured at non-detect levels in the OCSD effluent that are higher than the permit limit and water quality objective. OCSD reports that while aldrin and dieldrin, and heptachlor and heptachlor epoxide are detected in sediments within a few miles of the OCSD outfall 30 and 20 percent (%) of the time, respectively,

sediment concentrations for these compounds fall below levels at which toxic effects are likely to occur. There are no 303(d) listings for these pollutants in the vicinity of the discharge. Based on this information, the EPA and Regional Board conclude that there is currently no reasonable potential for aldrin and dieldrin, and heptachlor and heptachlor epoxide in the OCSD discharge to exceed water quality standards; consequently, effluent limits for aldrin, dieldrin, heptachlor, and heptachlor epoxide are not included in the final draft permit.

Also within a few miles of the outfall, OCSD reports that chlordane is detected in sediments 88% of the time and exceeds the threshold level for sensitive species 19% of the time. FDA fish tissue standards for chlordane are not exceeded in fish. Based on this information and because chlordane is known to occur in municipal effluents (e.g., City and County of Honolulu, Honouliuli and Sand Island WWTPs), a conservative reasonable potential decision is warranted and a chlordane effluent limit to protect water quality is retained in the final draft permit.

Hexachlorobenzene

Hexachlorobenzene (HCB) was once widely used in agricultural settings as a pesticide and fungicide and for a variety of industrial processes. Although HCB is no longer directly used, it is still found in the environment due to past uses and current activities. HCB continues to be formed as by-product during the chemical manufacturing of solvents, other chlorine-containing compounds, and pesticides. Small amounts of HCB can be produce during combustion processes such as the burning of municipal and hazardous wastes. It may also be produced as a by-product in wastestreams of chlor-alkali and wood preserving plants. HCB has low water solubility and can be found in sediments, food crops, and fish and animal tissue.

OCSD reports that HCB is detected in sediments within a few miles of the OCSD outfall 64% of the time and that sediment concentrations for HCB are below levels at which toxic effects are likely to occur. However, because: (1) a potential source of HCB is found in chlorination treatment of wastewater; (2) non-detect levels for HCB reported for the OCSD effluent are higher than the permit limit and water quality objective; and (3) HCB is detected in sediments in the vicinity of the outfall, the EPA and Regional Board maintain that a conservative reasonable potential decision is warranted and an HCB effluent limit to protect water quality is retained in the final draft permit.

PCBs and PAHs

In the U.S., PCBs, a large group of industrial and commercial chemicals, were widely used as coolants and lubricants in transformers, capacitors and other electronic equipment until the late 1970s when their manufacture was banned. Because of their stable properties, PCBs persist in the environment, the result of historical uses which no longer occur. They have low water solubility and are generally found in sediments and fish tissue. PAHs are trace organic contaminants that occur naturally in crude oil, coal and

other hydrocarbons. Anthropogenic sources include the combustion of hydrocarbons and their presence in fossil fuel products, such as coal-tar pitch and asphalt. PAHs are slightly soluble in water. Binding to particulate matter, they tend to accumulate in sediments and concentrate in biota. When present in sufficient quantity, PAHs are toxic to aquatic life and carcinogenic to humans.

While PCBs were not detected in the OCSD effluent, PAHs were detected in the effluent 5% of the time. Based on information provided by OCSD, both are detected 99% of the time in sediments in the vicinity of the outfall, although these levels are declining over time. While sediment concentrations for PCBs have exceeded the threshold level for sensitive species, fish tissue concentrations have not exceeded FDA standards. Sediment concentrations of PAHs have not exceeded threshold levels. There are no fish tissue data for PAHs. Based on the information summarized above, including data provided by the discharger, the EPA and Regional Board maintain that a conservative reasonable potential decision for these ubiquitous pollutants is warranted and effluent limits for PCBs and PAHs to protect water quality are retained in the final draft permit.

TCDD equivalents

The EPA and Regional Board agree that there is reasonable potential for TCDD equivalents to exceed the water quality objective and an effluent limit for this constituent is retained in the final draft permit.

3. **Comment:** *Draft permit, Section B.2.a, Chronic Toxicity Species and Methods. To clarify testing requirements when monitoring species are unavailable, addition of the following language is recommended: "If the most sensitive species is a marine vertebrate species or a marine alga species, and it is not available, effluent monitoring shall be conducted using an invertebrate species. If the most sensitive species is an invertebrate species, and it is not available, effluent monitoring shall be conducted using an alternate invertebrate species. The discharger shall note any such change when results are reported."*

Response: The EPA and Regional Board agree that clarifying language – related to situations when the most sensitive marine species is unavailable for chronic toxicity testing – should be added to the permit. The following two sentences have been added at the end of Section B.2.a, paragraph 2, of the final Order and permit.

> "If the most sensitive test species is/are not available, the presence of chronic toxicity shall be estimated using the second most sensitive test species from the toxicity test screening conducted for the current 24-month period. Such changes shall be noted on the discharge monitoring report (DMR)."

4. **Comment:** *In order to assure a proper quality assurance program that can be implemented, the District requests the replacement of Section A.5 of the M&RP with the following language: "The discharger shall have and implement an acceptable written quality assurance (QA) plan for laboratory analyses. For constituents listed in Table 1 – Volatile Substances; Table 2 Semi-Volatile Substances; Table 3 – Inorganics; and Table 4 – Pesticides – PCBs and Ammonia analysis, spike samples will be performed in duplicate and conducted on a minimum of ten percent (10%) of the samples, or at least one sample per month, whichever is greater. The test precision will be determined by comparing the individual concentrations of the duplicate spike. Duplicate chemical analyses must be conducted on a minimum of ten percent (10%) of all samples collected for Grease and Oil testing, or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. For the Physical Parameters including Total Suspended Solids, Biochemical oxygen demand, Carbonaceous biochemical oxygen demand, Settleable solids, Turbidity and pH, duplicate analyses must be conducted on a minimum of ten percent (10%) of the samples, or at least one sample per month, whichever is greater. When requested by the Regional Board or EPA, the discharger will participate in the NPDES discharge monitoring report QA performance study.*

Response: The EPA and Regional Board agree and have replaced the language in Section A.5 of the M&RP with the following language substantively similar to the District's recommendation:

> "The discharger shall have and implement an acceptable written quality assurance (QA) plan for laboratory analyses. For constituents listed in Table 1 – Minimum Levels - Volatile Chemicals; Table 2 – Minimum Levels - Semi Volatile Chemicals; Table 3 – Minimum Levels - Inorganics; Table 4 – Minimum Levels - Pesticides and PCBs, and Ammonia analysis, spike samples shall be performed in duplicate and conducted on a minimum of ten percent (10%) of the samples, or at least one sample per month, whichever is greater. Test precision will be determined by comparing the individual concentrations of the duplicate spike. For Oil and grease, duplicate chemical analyses shall be conducted on a minimum of 10% of the samples, or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. For physical parameters including Total suspended solids, Biochemical oxygen demand, Carbonaceous biochemical oxygen demand, Settleable solids, Turbidity, and pH, duplicate analyses shall be conducted on a minimum of 10% of the samples, or at least one sample per month, whichever is greater. When requested by the Regional Board or EPA, the discharger will participate in the NPDES discharge monitoring report QA performance study."

5. **Comment:** *The District's Supervisory Control and Data Acquisition (SCADA) System receives and publishes data from many sources throughout the treatment plants necessary and useful for the proper operation of the facilities. Most of this data is only of transitory value, and as such, it is not stored as an official record of the agency. Paragraphs A.11 and A.11.h of the M&RP are unclear as to which SCADA data must be kept as an official record of the agency for five years. The District believes that it would be unreasonable and of no value for operational or compliance purposes to keep all of this information. It is the District's intent to interpret the language of these paragraphs to mean that the District must maintain, as an official record, data and information required under the Monitoring and Reporting program. In order to clarify these paragraphs, the District recommends the modification of paragraph A.11.h to read as follows: "Electronic data and information regarding influent and effluent flow, pH and other constituents subject to monitoring or effluent limitations generated by the Supervisory Control and Data Acquisition (SCADA) System."*

   Response: The Regional Board and EPA agree with the District and have added the following language at the end of Section A.11.h of the M&RP:

   > "Electronic data and information regarding influent and effluent flow, pH and other constituents subject to monitoring or effluent limitations generated by the Supervisory Control and Data Acquisition (SCADA) System."

6. **Comment:** *In-plant return flows will be a frequent occurrence throughout the period of this permit as the District undertakes a major Capital Improvement Program to upgrade secondary treatment facilities, replace the Plant No. 2 headwork's, and make many other significant changes to the facility. In order to assist the District in completing these activities while properly accounting for all influent flows and constituents, the District requests the addition of the following language to the end of Paragraph B.1 of the M&RP: "In the event that in-plant return flows are unavoidable upstream of the influent sampling point, the discharger shall document and account for any influent changes in water quality which alters the water quality by more than 1% for any conventional pollutant in the monthly monitoring report."*

   Response: The M&RP requires influent sampling above the input of any in-plant return flows to properly evaluate pollutant removal efficiencies of the treatment works and permit compliance. If the situation described by OCSD occurs, the discharger should conduct all sampling necessary to accurately characterize the treatment plant influent and make data adjustments, as appropriate, when reporting on the DMR. All documentation should be retained by OCSD for inspection by the EPA and Regional Board. It is not appropriate or necessary to revise the permit language as requested.

Mr. Don Schulz, Surfrider Foundation - August 17, 2004

7. **Comment:** *Surfrider Foundation commends OCSD's decision to upgrade the facility to provide full secondary treatment of their ocean discharge, as required by this NPDES permit.*

Response: Comment noted.

8. **Comment:** *Draft permit, pg. 9, par. 26, ". . . MDL (minimum detection limit) . . ." more accurately stated should be changed to "MDL (method detection limit)", as defined in the Ocean Plan.*

Response: Draft permit, page 9, Finding 26, ". . . MDL (minimum detection limit) . . ." has been corrected, consistent with the administrative record (i.e., Excel file RP-OCSD_98-03_final.xl), to: ". . . maximum reported detection limit . . . .". Also Footnote 2 has been revised as follows: "Although 1998 - 2003 effluent concentrations for these organic constituents are at non-detect levels, their projected receiving water values based on OCSD's maximum reported detection limits are higher than *Table B* water quality objectives in the Ocean Plan. These constituents are known to occur in POTW effluents. Consequently, WQBELs are prescribed as conservative safeguards for protecting water quality."

9. **Comment:** *Draft permit, pg. 15, sec. e, "Ocean Plan Table B Effluent Limitation for Protection of Human Health" should be changed to "Ocean Plan Table B Effluent Limitation for Protection of Human Health x Dm (minimum Dilution Factor)", because 180 is the dilution factor for the OCSD discharge.*

Response: The requested change is not correct as it implies a dilution factor of 180:1 may be applied to the calculated WQBELs specified in the table. However, to clarify that a dilution factor of 180:1 was used to calculate effluent limits based on Ocean Plan objectives, the following new footnote has been added following the titles of Tables A.1.d and A.1.e of the Order and permit:

> "The effluent limitations for constituents based on objectives for the protection of aquatic life and human health specified in Table B of the Ocean Plan are calculated using a Dm of 180:1 and the following Ocean Plan equation: Ce = Co + Dm (Co – Cs). "Dm" is the minimum probable initial dilution used to calculate effluent limitations for non-conventional and toxic pollutant parameters, expressed as parts seawater per part wastewater, "Co" is the water quality objective to be met at the completion of initial dilution, "Cs" is the background seawater concentration, and "Ce" is the effluent limitation."

In addition, the Order and permit footnotes following this new footnote have been correctly renumbered.

10. **Comment:** *The table values in the permit indicate a higher value of concentration limit precision than may be required.*

Response: We acknowledge that the number of decimal places in the effluent limits may be unnecessary, given the current state of analytical precision and accuracy. However, as analytical techniques improve over time, the number of decimal places in the effluent limits may become more meaningful. No effluent limit values are revised in response to this comment.

11. **Comment:** *Units of bacterial concentration in the permit should be clearly stated as MPN or CFU, as opposed to an absolute value.*

Response: The bacterial requirements in the Order and permit (see Section C.2 of the Order) are derived directly from the Ocean Plan, Chapter II.B, and reporting of bacterial indicator data is required in units of MPN (see Table C-2 of the M&RP). Consequently, it is not necessary to revise the permit language as suggested.

12. **Comment:** *The strategic process study, Evaluation of Trace Organic Constituents, requires the discharger to conduct a research project into more sensitive detection methods. This is a generic issue with all NPDES permits subject to the 2000 Ocean Plan and the burden for this cost should be shared by the EPA, State, and OCSD ratepayers.*

Response: The EPA and Regional Board believe that the evaluation of trace organics using the outlined techniques will provide information necessary to determine whether one or more of these constituents is in fact present in discharged effluent at levels posing the reasonable potential to cause or contribute to exceedances of water quality standards. This and other permits address the problem of evaluating the potential for exceedances of water quality objectives by very low level pollutant concentrations through incorporating other requirements to assess and address the effects of the effluent on receiving water quality. The inclusion of this study in the permit is consistent with the provisions of Ocean Plan Chapter III.C.8.c, and was included in the permit at the request of OCSD (see administrative record, "Comments for M&RP glr.doc" attached to July 9, 2004 e-mail from J. Colston (OCSD) to R. Stuber (EPA)).

Mr. Gerhardt Van Drie, R.C.E. - August 20, 2004

13. **Comment:** *Have OCSD and the Regional Board failed to act properly relative to handling the sewage liquids and solids produced by the residents and businesses of Orange County?*

Response: Prior to this permit reissuance, the discharger has operated under an NPDES permit/Waste Discharge Requirements issued jointly by EPA and the Regional Board that incorporated a variance from federal secondary treatment standards for five-day biochemical oxygen demand (BOD_5) and suspended solids (SS), authorized under CWA section 301(h). OCSD has maintained an excellent overall record of compliance with these requirements, which were considered at public meetings convened by EPA and the Regional Board. Apart from these meetings, OCSD has engaged in an extensive public information and outreach effort in support of its development of a strategic plan for the rehabilitation and improvement of its treatment facilities. In 1999, the OCSD adopted a comprehensive 20-year master plan for capital facilities, including expansion and rehabilitation, entitled "OCSD Strategic Plan". Four years later, in conjunction with the OCSD Board of Directors' 2002 decision to achieve federal secondary treatment standards, OCSD adopted the "Interim Strategic Plan Update", a comprehensive revision to the strategic plan. This strategic plan update addressed the additional needs for refurbishing, rehabilitation, and new construction, in order to provide adequate facilities to upgrade the effluent treatment level to secondary treatment standards. This update is the basis for the discharger's December 2002 NPDES permit renewal application.

On December 2, 2002, the discharger submitted a timely NPDES permit renewal application reflecting the OCSD Board of Directors' July 17, 2002 decision to withdraw the discharger's CWA section 301(h) variance and achieve federal secondary treatment standards at the earliest possible date. The application states that end-of-permit design BOD_5 and SS removal rates are 76 percent and 85 percent, respectively, and that the effluent is chlorinated and dechlorinated prior to discharge through the ocean outfall. End-of-permit design flow rates are 316 MGD of primary treated wastewater and 200 MGD of secondary treated wastewater.

OCSD convened a panel of experts to review OCSD's strategic plan to achieve compliance with federal secondary treatment standards by 2012. This panel agreed that the proposed program is an aggressive and ambitious one, and that compliance prior to 2012 could not reasonably be achieved.

As described in the permit fact sheet and permit findings, the draft Order and permit contain effluent limitations based upon federal secondary treatment standards, as required by 40 CFR 125.3 and 40 CFR 133. The EPA and Regional Board also expect that, in addition to a State-issued time schedule order, compliance with secondary treatment requirements governing the OCSD discharge will be addressed by a complaint to be filed and a consent decree to be lodged shortly after the effective date of this Order and permit. The EPA and Regional Board expect that the consent decree will establish the schedule by which OCSD will complete the planning, design, construction, and operation of facilities necessary to attain compliance with secondary treatment requirements in the Order and permit, and will establish interim effluent limits for BOD_5 and TSS. Pursuant to 28 CFR 50.7, the public will be given notice and an opportunity to comment upon the consent decree before it becomes effective.

14. **Comment:** *The NPDES permit should require OCSD to treat all of its effluent to a quality equal to the Colorado River water that MWD treats for potable water.*

Response: The level of effluent quality for the OCSD discharge requested by the commenter is not required by applicable State and federal statutory and regulatory requirements, which must serve as the basis for NPDES permits issued by the Regional Board and EPA. The bases for effluent quality requirements applicable to the OCSD discharge are fully described in the draft permit fact sheet and permit findings, and are briefly summarized, as follows.

The final NPDES permit requires OCSD to meet technology based treatment requirements for 5-day biochemical oxygen demand, suspended solids, and pH, consistent with federal secondary treatment standards applicable to publicly owned treatment works. These required performance levels, referred to as secondary treatment standards, are specified in CWA section 301(b)(1)(B) and 40 CFR 133. In addition to technology based requirements, the permit includes water quality based effluent limits (WQBELs) and requirements to protect the receiving water body. As described in the administrative record, water quality goals applicable to the receiving water body are found in the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan) and *Water Quality Control Plan, Santa Ana River Basin* (Basin Plan); and procedures for deciding whether or not WQBELs are needed to protect water quality as a result of the OCSD discharge are specified at 40 CFR 122.44(d)(1). The technology and water quality based effluent limits and requirements in the NPDES permit are designed to ensure that applicable State and federal statutory and regulatory requirements are met by the OCSD discharge.

As described in the permit fact sheet and permit findings, the Groundwater Replenishment System (GWRS), a major regional wastewater reclamation project planned by OCSD, is in its construction phase and is scheduled to come online by 2007. At that time, up to approximately 100 MGD of the discharger's secondary treated effluent will be diverted to newly constructed advanced treatment facilities on Orange County Water District's (OCWD's) adjoining property. Part of OCWD's advanced treatment process will include microfiltration and reverse osmosis and discharges from this system will be regulated at a level of quality consistent with applicable State water reclamation requirements. This NPDES permit facilitates implementation of this major regional water reclamation project and minimizes the effects of the resulting ocean discharge on the marine environment.

15. **Comment:** *The Time Schedule Order should require OCSD to immediately operate their existing secondary processes at maximum attainable treatment and flow levels.*

Response: As reflected in the requirements of the draft Time Schedule Order (TSO) No. R8-2004-0067, the EPA and Regional Board expect that OCSD will operate existing equipment in a manner that will optimize effluent quality within the constraints of the complex and extensive treatment plant upgrade activities currently underway. The EPA and Regional Board will continue monitoring OCSD's activities related to treatment upgrades and effluent quality through progress reports, meetings, site visits, etc., once the final permit and TSO/consent decree become effective.

Please note that in addition to the permit changes enumerated above, the paragraph numbering in Section C.4 of the Order and permit has been corrected. We hope this letter has addressed your comments and suggestions. If you should have any further questions, please contact Robyn Stuber at (415) 972-3524, or Jun Martirez at (951) 782-3258.

Sincerely,

Gerard J. Thibeault
Executive Officer

cc: Douglas E. Eberhardt, U.S. Environmental Protection Agency, Region IX, WTR-5

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

Reply to:
WTR-5

September 28, 2004

Mr. Gary Brown
Orange County Coastkeeper
441 Old Newport Blvd., Suite 103
Newport Beach, CA 92663

RESPONSE TO COMMENTS ON 07/21/04 DRAFT ORDER NO. R8-2004-0062 (NPDES PERMIT NO. CA0110604) RECEIVED ON SEPTEMBER 16, 2004

Dear Mr. Brown:

Thank you for your comments on the above-referenced Order and National Pollutant Discharge Elimination System (NPDES) permit. The following are our responses to your comments.

1. **Comment:** *Although a reasonable potential analysis was conducted, no meaningful analysis of loadings and impacts of bioaccumulative/persistent pollutants was conducted in sediments or to quantify the uptake of such pollutants in the ecosystem in the vicinity of the Orange County Sanitation District (OCSD) outfall. Such pollutants can impair designated beneficial uses in receiving waters in the vicinity of the outfall. Rather than undertaking a meaningful analysis of available ambient monitoring data and including effluent limits to prevent impairment resulting from bioaccumulative/persistent pollutants, Regional Board and EPA staff included unenforceable mass emission benchmarks in the permit not found in the Clean Water Act (CWA) or Porter-Cologne Act. These benchmarks have the following problems: (1) they are unenforceable; (2) they have no direct relationship to water quality standards; and (3) they are based on the end-of-permit projected flow of 278 MGD, in violation of antibacksliding requirements. Coastkeeper recommends that 1998-2003 concentration data and data for sediments and biota in the vicinity of the discharge be used to conduct an RPA for bioaccumulative/persistent pollutants discharged by OCSD and found to be causing beneficial use impairments in receiving water in the vicinity of the discharge. Concentration and mass-based effluent limits for these pollutant should be included in the permit.*

   Response: In addition to discharge monitoring, the 1998 permit required OCSD to conduct extensive ambient water column, sediment chemistry, benthic infauna, macroinvertebrate and fish community structure, and fish tissue monitoring.

These data are summarized and discussed in detail in OCSD's NPDES permit application. The EPA and Regional Board reviewed the complete NPDES application and, prior to public notice of the draft permit, determined that the proposed OCSD discharge will not cause unreasonable degradation of the marine environment, pursuant to Section 403(c) of the CWA. In conjunction, the draft permit proposed effluent limits and other permit requirements necessary to ensure no violation of applicable State water quality standards. (See permit Findings 17-28, 33-34, and draft permit fact sheet.) This review included a reasonable potential analysis for bioaccumulative/persistent pollutants listed in Table B of the Ocean Plan.

Moreover, as part of this permit reissuance, EPA and the Regional Board examined California's 2002 303(d) list of impaired waterbodies, as well as water body Total Maximum Daily Loads (TMDLs) previously adopted by the Santa Ana Regional Board, to evaluate whether additional permit controls are needed in response to any impairment of water quality in the vicinity of the discharge, including impairments resulting from bioaccumulative/persistent pollutants. Ocean waters in the vicinity of the discharge are not listed as impaired on the 2002 303(d) list and no TMDLs contain wasteload allocations applicable to the discharge. To ensure continued protection of water quality standards, the draft permit proposes pollutant mass emission benchmarks—in addition to water quality based effluent limits—as recognized quantitative threshold values above which an increase in the discharge of pollutants must be evaluated to determine if there is a resulting lowering of water quality and whether such lowering is allowable under applicable State water quality standards (including State and federal antidegradation policies). EPA and the Regional Board note that the mass emission benchmarks in the 1998 permit were based on a projected end-of-permit flow of 295 mgd. As described in permit Finding 29, the proposed mass emission benchmarks are based on the lower projected end-of-permit influent flow of 278 mgd, a 6 percent reduction from the previous permit. As a result, EPA and the Regional Board believe that the proposed mass emission benchmarks are consistent with antibacksliding requirements at CWA section 402(o) and 40 CFR 122.44(l) because they are as or more stringent than the benchmark values contained in the previous permit.

No permit provisions are changed in response to this comment.

2. **Comment:** *While the permit does not explain how mass emission limits for pollutants were calculated, it states that these effluent limits are based on a projected flow of 278 mgd, five years hence. If this is so, the mass emission limits in the permit allow a significant increase in pollutant loading over the previous permit (based on an increase in flow from 238 mgd to 278 mgd). This increase in mass loadings violates Clean Water Act anti-backsliding requirements. Coastkeeper recommends that EPA and Regional Board staff recalculate pollutant mass emission limits based on water quality criteria and, at minimum, impose limits based on current performance.*

Response: EPA and the Regional Board have explained how the mass emission effluent limits for the discharge were calculated. (See page 5 of the draft permit fact sheet, under Section C, *Bases for Effluent Requirements*, last paragraph.) As described under our response to Comment 1, EPA and the Regional Board wish to clarify that the draft permit proposes a decrease in permitted pollutant mass emissions from the level authorized under the 1998 permit. Consequently, EPA and the Regional Board believe that the proposed mass emission effluent limits are consistent with antibacksliding requirements at CWA sections 402(o) and 303(d) because they are as (or more) stringent than the mass emission rate effluent limits contained in the previous permit. EPA and the Regional Board also note that the addition of full secondary treatment will result in a substantial (>30 percent) reduction in mass emissions for biochemical oxygen demand and suspended solids; substantial reductions are also expected in those toxics amenable to removal by secondary treatment.

No permit provisions are changed in response to this comment.

3. **Comment:** *Finding 35 of the permit states that the permit decision is subject to consultation pursuant to Section 7 of the Endangered Species Act. As noted in Comment 1, the permit contemplates an increase in discharge volume and pollutant mass emissions, and an important change in operations. Despite this, the permit proposes to rely on prior National Marine Fisheries Service and U.S. Fish and Wildlife Service determinations that the discharge will have no effect on endangered species. This reliance on outdated and no longer relevant Services determinations is inappropriate. Coastkeeper recommends that EPA and the Regional Board undertake a new Section 7 consultation.*

Response: As discussed in permit Finding 35 and pages 12-13 of the draft permit fact sheet, the EPA's reissuance of the OCSD permit is subject to requirements of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) and Section 7 of the Endangered Species Act (ESA). Contrary to the commenter's assertion, EPA wishes to clarify that it is not proposing to rely on previous determinations related to OCSD's 301(h) discharge made by the National Marine Fisheries Service and U.S. Fish and Wildlife Service (collectively, the Services). Rather, EPA's current review has focused on whether there are effects related to the higher quality disinfected secondary treated discharge proposed by OCSD's current NPDES application. With this clarification, EPA notes that previous determinations made by the Services have found the lower quality OCSD 301(h) discharge consistent with ESA requirements.

Currently, EPA is reviewing information related to: (1) essential fish habitat and managed and associated species, and (2) threatened and endangered species and their designated critical habitats, in the vicinity of the OCSD outfalls. Based on a review of information provided in the NPDES application and other relevant information, including EPA's recent determination for City and County of San Francisco's Oceanside Treatment Plant (NPDES permit No. CA0037681), EPA

initiated informal consultation with the Services on August 11, 2004. While EPA is reissuing the permit at this time, EPA may decide that changes to this permit are warranted based on the results of the completed consultation. As described in the draft permit findings and draft permit fact sheet, a reopener provision to this effect has been included in the permit.

EPA's decision to issue this permit prior to completion of consultation is consistent with Section 7(d) of the ESA because it does not foreclose either the formulation by the Services, or the implementation by EPA, of any alternatives that might be determined in the consultation to be needed to comply with Section 7(a)(2) of the ESA. If the completion of consultation results in new information warranting different effluent limits or conditions to protect listed species or critical habitat, EPA will modify this permit under 40 CFR 122.62(a)(2) to incorporate those limits or conditions. EPA does not believe, moreover, that issuing this permit pending the completion of consultation poses any risks of concern to species or critical habitat. The limits in this permit are as or more stringent than those in the 1998 permit and the imposition of new limits based on secondary treatment will improve the existing level of protection of water quality and the aquatic environment. Because this permit is more stringent than the previous permit, EPA believes it is better from an environmental standpoint to have the new permit in place pending the completion of consultation than to retain the older, less stringent permit. (See May 10, 2000 memorandum from Michael Cook, EPA Office of Wastewater Management Director to Regional Water Division Directors, entitled *Endangered Species Act (ESA) Consultation and Reissuance of National Pollutant Discharge Elimination System (NPDES) Permits*.)

No permit provisions are changed in response to this comment.

4. **Comment:** *The daily maximum and instantaneous maximum effluent limits for total chlorine residual are extremely high and will result in dead zones in the receiving water. Recent literature on the effects of chlorine discharges indicate that much lower levels are appropriate to protect designated beneficial uses. Since OCSD is upgrading to full secondary treatment, disinfection and dechlorination should be easier and more protective effluent limits can be readily attained. Coastkeeper recommends that EPA and Regional Board staff re-examine proposed chlorine effluent limits, including appropriate levels to protect designated beneficial uses, and apply such limits. To the extent that OCSD cannot attain such limits immediately, the TSO can include interim effluent limits for total residual chlorine.*

Response: The Ocean Plan requires that effluent limits for Table B water quality objectives be imposed in a manner prescribed by the State Board, such that concentrations of water quality objectives shall not be exceeded in the receiving water upon completion of "initial dilution" of the discharge. The State Board prescribes such procedures in Chapter III.C.3 of the Ocean Plan.

These procedures are described on page 8 of the draft permit fact sheet. The proposed water quality based effluent limits for total chlorine residual are calculated in accordance with Ocean Plan procedures and should not exceed applicable water quality objectives upon completion of initial dilution. Furthermore, although the discharger's total residual chlorine limits allow for dilution, because OCSD dechlorinates with sodium bisulfate, chlorine residual is rarely detected in the effluent. Finally, acute and chronic toxicity testing of the effluent further serves to assess compliance with water quality Ocean Plan water quality objectives, including numerical objectives for total chlorine residual.

No permit provisions are changed in response to this comment.

5. **Comment:** *Provision A.2 of the draft permit attempts to create an "emergency" exception to the prohibition on sewage spills. The only defenses to Clean Water Act liability for the discharge of raw sewage are set forth at 40 CFR 122.41(m) and (n) – bypass and upset. The newly created emergency exception contradicts Clean Water Act requirements and creates unnecessary confusion. Spills that would be "allowed" under the emergency exception might well be violations of the Clean Water Act, putting EPA and Regional Board staff and the discharger in a awkward bind. EPA and Regional Board staff are clearly aware of the upset and bypass defense, as these NPDES standard conditions are cited in the permit. Why EPA and Regional Board staff have included this inconsistent and confusing extra defense is unclear. Coastkeeper recommends that EPA and the Regional Board eliminate the "emergency" exception and either quote or cite 40 CFR 122.41(m) and (n).*

Response: The commenter is not correct in construing the "emergency exception" permit language as authorizing the discharge of raw sewage under any circumstances. All the "emergency exception" authorizes is use of specified outfalls under extremely limited circumstances. Effluent discharged through these outfalls (even under emergency circumstances) must comply with discharge specifications and receiving water limits contained in the NPDES permit, unless compliance with those requirements is excused pursuant to the upset or bypass provisions of the permit. The "emergency exception" language is necessary because, in addition to limits governing effluent quality, the NPDES permit contains provisions specifying authorized discharge points. It is appropriate to define whether and under what circumstances OCSD may discharge through a point other than Discharge Serial No. 001 in the unlikely event that an emergency condition makes it impossible for OCSD to discharge all of its treated effluent through the 4.5 mile outfall. One example of such a circumstance would be an earthquake which disables the 4.5 mile outfall delivering wastewater to Discharge Serial No. 001. Since municipal wastewater facilities cannot cease discharging without risking extreme danger to the community, it is appropriate to designate emergency discharge locations in the event that the principal discharge point becomes inoperable.

No permit provisions are changed in response to this comment.

6. **Comment:** *The Order and permit include numerous narrative effluent limits with vague, subjective requirements. For example:*

On p. 17, #4, what does "essentially" mean?

On p. 24, #3c, what does "significantly reduced" mean?

On p. 24, #4b, what does "significantly increased" mean?

Because any level of pollutants degrade the biota, on p. 24, #4c, what does "The concentration of substances, set forth in Table B of the Ocean Plan, in marine sediments shall not be increased to levels which would degrade indigenous biota." mean?

Again, because any level of pollutants degrade the marine environment, on p. 24, #4d, what does "The concentration of organic materials in marine sediments shall not be increased to levels which would degrade marine life." mean?

Coastkeeper recommends that these subjective standards be replaced with objective, readily enforceable effluent limits.

Response: The narrative requirements stipulated on p. 17, #4; p. 24, #3c; p. 24, #4b; p. 24, #4c; and p. 24, #4d implement, verbatim, requirements specified in the Ocean Plan. Appendix I of the Ocean Plan includes definitions for the terms "significant" and "degrade" (given below) which are applied when assessing compliance with these requirements. The term "essentially" is not defined in the Ocean Plan, reflecting the extreme difficulty in specifying pertinent numeric standards and the need for a compliance determination approach that relies on best professional judgment. It should be emphasized that these narrative requirements do not stand alone but are accompanied by other permit limits, conditions, and monitoring requirements, including numeric limits for specific substances, toxicity limits and extensive biological monitoring and assessment requirements. Taken together, these requirements are expected to result in the protection of water quality and beneficial uses.

The commenter may wish to direct this comment regarding Ocean Plan requirements to the State Board for consideration in future triennial review efforts for this Plan.

DEGRADE: Degradation shall be determined by comparison of the waste field and reference site(s) for characteristic species diversity, population density, contamination, growth anomalies, debility, or supplanting of normal species by undesirable plant and animal species. Degradation occurs if there are significant differences in any of three major biotic groups, namely, demersal fish, benthic

invertebrates, or attached algae. Other groups may be evaluated where benthic species are not affected, or are not the only ones affected.

SIGNIFICANT difference is defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.

No permit provisions are changed in response to this comment.

We hope this letter has addressed your comments and suggestions. If you should have any further questions, please contact Robyn Stuber at (415) 972-3524, or Jun Martirez at (951) 782-3258.

Sincerely,

Douglas E. Eberhardt, Chief
CWA Standards and Permits Office

cc: Gerard J. Thibeault
Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3348

Mr. Jim Colston
Orange County Sanitation District
Environmental Compliance Services
P.O. Box 8127
Fountain Valley, CA 92728-8127

Mr. Don Schulz
Surfrider Foundation
Huntington Beach/Seal Beach Chapter
P.O. Box 3087
Long Beach, CA 90803

Mr. Gerhardt Van Drie, R.C.E.
724 W. Pine Ave.
El Segundo, CA 90245

California Regional Water Quality Control Board
Santa Ana Region
and
U.S. Environmental Protection Agency
Region IX

ORDER NO. R8-2004-0062
NPDES NO. CA0110604

Waste Discharge Requirements
and
Authorization to Discharge under the
National Pollutant Discharge Elimination System

for the

Orange County Sanitation District
Reclamation Plant No. 1 and Treatment Plant No. 2

California Regional Water Quality Control Board
Santa Ana Region
and
U.S. Environmental Protection Agency
Region IX

ORDER NO. R8-2004-0062
NPDES NO. CA0110604

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MONITORING AND REPORTING PROGRAM NO. R8-2004-0062

California Regional Water Quality Control Board
Santa Ana Region
and
U.S. Environmental Protection Agency
Region IX

ORDER NO. R8-2004-0062
NPDES NO. CA0110604

Waste Discharge Requirements
and
Authorization to Discharge under the
National Pollutant Discharge Elimination System

for the

Orange County Sanitation District
Reclamation Plant No. 1 and Treatment Plant No. 2

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Regional Board), and the U.S. Environmental Protection Agency, Region IX (hereinafter EPA) find that:

1. The Orange County Sanitation District (OCSD; hereinafter discharger, permittee, or OCSD) presently operates Reclamation Plant No. 1, located in the City of Fountain Valley, and Treatment Plant No. 2, located in Huntington Beach at the mouth of the Santa Ana River (see Attachment "A"). The discharge from these facilities is currently regulated by Order No. 98-5, as modified by Order No. R8-2002-0055 (National Pollutant Discharge Elimination System (NPDES) Permit No. CA0110604). This Order and permit has an expiration date of June 8, 2003. Section 122.6, Title 40 (40 CFR) and section 2235.4, Title 23, California Code of Regulations (CCR) state that an expired permit continues in force until the effective date of a new permit, provided the permittee has timely submitted a complete application for a new permit. On December 2, 2002, OCSD submitted an NPDES permit renewal application. Thus the discharger's permit has been administratively extended until the Regional Board and EPA act on the new WDR and permit. This Order is the reissuance of a WDR and NPDES permit for OCSD.

2. The discharger provides regional treatment and disposal of domestic, commercial, and industrial wastewater for the northern portion of Orange County, California. The OCSD services an area of over 450 square miles and serves approximately 85 percent of the County's estimated population of about 2.4 million people. The discharger's current facilities consist of approximately 620 miles of trunk sewer system and force mains, 17 pump stations, two wastewater treatment plants treating approximately 234 million gallons per day (MGD) of wastewater, and two ocean outfall pipes.

3. Reclamation Plant No. 1 and Treatment Plant No. 2 receive domestic, commercial, and industrial wastewaters from the following sewage collection agencies:

   a. City of Anaheim,
   b. City of Brea,
   c. City of Buena Park,

d. Costa Mesa Sanitary District,
e. City of Cypress,
f. City of Fountain Valley,
g. City of Fullerton,
h. City of Garden Grove,
i. City of Huntington Beach,
j. Irvine Ranch Water District,
k. City of La Habra,
l. City of La Palma,
m. County Sanitation Districts of Los Angeles County,
n. City of Long Beach,
o. Rossmoor/Los Alamitos Area Sewer District,
p. Midway Cities Sanitation District,
q. City of Newport Beach,
r. City of Orange,
s. City of Placentia,
t. City of Santa Ana,
u. Santa Ana Watershed Project Authority and Member Agencies,
v. City of Seal Beach,
w. City of Stanton,
x. Sunset Beach Sanitary District,
y. City of Tustin,
z. City of Villa Park,
aa. City of Westminster,
bb. Yorba Linda Water District,
cc. U.S. Marine Corps Air Station El Toro,
dd. U.S. Marine Corps Air Facility Tustin,
ee. Naval Weapons Station Seal Beach, and
ff. Air Forces Reserve Center Los Alamitos.

4. The discharger has contractual agreements with Irvine Ranch Water District, County Sanitation Districts of Los Angeles County, Orange County Water District (OCWD), and the Santa Ana Watershed Project Authority and Member Agencies. The contractual agreements give the discharger the authority to implement and enforce the approved pretreatment program.

5. The discharger's wastewater treatment processes (see Attachment "B") currently consist of the following:

RECLAMATION PLANT NO. 1			
Primary Treatment	Secondary Treatment	Disinfection	Solids Handling
Bar screens Aerated grit chambers Sedimentation basins	High-rate trickling filters (under rehabilitation to be completed by 2006) Activated sludge Secondary clarifiers	Chlorination	Dissolved air floatation thickening Anaerobic digestion Dewatering Land application and municipal solid waste landfill

TREATMENT PLANT NO. 2			
Primary Treatment	Secondary Treatment	Disinfection	Solids Handling
Bar screens Aerated grit chambers Sedimentation basins	Activated sludge Secondary clarifiers	Chlorination/ dechlorination	Dissolved air floatation thickening Anaerobic digestion Dewatering Land application and municipal solid waste landfill

6. Reclamation Plant No. 1 is currently designed to treat 108 MGD of primary treated wastewater and 110 MGD of secondary treated effluent (30 MGD trickling filter plant under rehabilitation and 80 MGD conventional air-activated sludge plant). A maximum of 15 MGD of secondary treated effluent may be conveyed to the OCWD's Water Factory 21 where it receives tertiary treatment prior to groundwater recharge (barrier for seawater intrusion) and for direct reuse for irrigation and industrial process water (Green Acres Project). Ferric chloride and polymer can be added upstream of the primary sedimentation basins to provide for chemically enhanced primary treatment. The primary treatment system at Plant No. 1 is being increased to a design capacity of 198 MGD during this permit term. Chlorination facilities at Plant No. 1 provide for disinfection of the treated effluent with sodium hypochlorite (bleach) prior to discharge. Dechlorination occurs at Treatment Plant No. 2. Treated effluent (primary and secondary) not reclaimed is conveyed from Reclamation Plant No. 1 through interplant pipelines to the outfall booster pump complex at Treatment Plant No. 2 and discharged through the ocean outfall. Raw sewage not treated at Reclamation Plant No. 1 is conveyed to Treatment Plant No. 2 for treatment.

7. Treatment Plant No. 2 is currently designed to treat 168 MGD of primary treated wastewater and 90 MGD of secondary treated effluent (pure oxygen activated sludge). Various chemicals are used to provide for chemically enhanced primary treatment. Disinfection is achieved at various points within Plant No. 2; chlorination facilities use sodium hypochlorite (bleach) and the dechlorination facility uses sodium bisulfite. Blended treated effluent (primary and secondary) from Plant No. 2 is blended with primary and secondary treated effluent from Plant No. 1 and then discharged through the ocean outfall.

8. The combined discharge of Reclamation Plant No. 1 and Treatment Plant No. 2 is to the Pacific Ocean through an ocean outfall system. Discharge points are described as follows:

Discharge Serial No.	***North Latitude***	***West Longitude***	***Description***
001	33°34'36"	118°00'36"	120" Outfall: Primary discharge point to the Pacific Ocean terminating in a multi-port diffuser, approximately 4.5 miles (7,250 m) offshore from the mouth of the Santa Ana River, at a depth of 195 feet (60 m). The capacity at high tide is 480 MGD.
002	33°36'56"	17°58'13"	78" Outfall: Emergency discharge point (deactivated ocean outfall) to the Pacific Ocean, approximately 1 mile (2,100 m) offshore from the mouth of the Santa Ana River, at a depth of 65 feet (20 m).
003	33°38'06"	117°57'20"	Two extreme emergency discharge points (overflow) to the Pacific Ocean at the Santa Ana River. The capacity is approximately 130 MGD.

9. On December 2, 2002, the discharger submitted an NPDES permit renewal application reflecting the OCSD Board of Directors' July 17, 2002 decision to withdraw the discharger's Clean Water Act (CWA) section 301(h) variance and achieve federal secondary treatment standards at the earliest possible date. The application states that end-of-permit design five-day biochemical oxygen demand (BOD_5) and suspended solids (SS) removal rates are 76 percent and 85 percent, respectively, and that the effluent is chlorinated and dechlorinated prior to discharge through the ocean outfall. End-of-permit design flow rates are 316 MGD of primary treated wastewater and 200 MGD of secondary treated wastewater. This application was updated by the discharger's 2003 supplemental permit renewal application (July 2003) and correspondence of May 13, 2004 from B. Anderson, OCSD General Manager, to W. Nastri, EPA Regional Administrator.

10. On May 13, 2004, the discharger requested the inclusion of effluent limitations for five-day carbonaceous biochemical oxygen demand ($CBOD_5$), as allowed by secondary treatment regulations at 40 CFR 133.102(a)(4), for the period following the completion of expanded secondary treatment facilities. $CBOD_5$ limitations will apply to the final effluent during partial or full nitrification at OCSD's secondary treatment facilities, where effluent nitrification is being planned to reduce ammonia toxicity associated with wastewater treatment and brine reject flow from the Groundwater Replenishment System. As nitrifying bacteria use oxygen to degrade nitrogenous compounds otherwise not significantly removed in the secondary treatment process, higher oxygen demand values for the final effluent will result. Consequently, the use of $CBOD_5$ effluent limits will ensure that federal secondary treatment standards for POTWs are achieved while allowing the discharger to use the treatment process of nitrification to reduce ammonia toxicity in the discharged effluent and comply with Ocean Plan requirements for acute and chronic toxicity.

11. The draft Order and permit contain the following effluent limitations based on federal secondary treatment standards pursuant to Section 301(b) of the CWA and its implementing regulations:

Constituent	***Units***	***30-day Average***	***7-day Average***
Biochemical Oxygen Demand (5-day) (BOD_5)[1]	mg/l lbs/day	30. 69,555	45. 104,333
		The 30-day average percent removal Shall not be less than 85 percent.	
Carbonaceous Biochemical Oxygen Demand (5-day) ($CBOD_5$)	mg/l lbs/day	25. 57,963	40. 92,740
		The 30-day average percent removal shall not be less than 85 percent.	
Suspended Solids (SS)	mg/l lbs/day	30. 69,555	45. 104,333
		The 30-day average percent removal shall not be less than 85 percent.	
pH	pH units	Within limit of 6.0 to 9.0 at all times.	

[1] In lieu of the parameter BOD_5 and the BOD_5 levels specified for effluent quality in this table, the parameter $CBOD_5$ and the $CBOD_5$ levels specified for effluent quality in this table may be substituted and reported by the discharger.

12. The discharger's end-of-permit (i.e., 2009) effluent mass emission rates are calculated using an end-of-permit annual average influent flow of 278 MGD. As described in the application, OCSD cannot meet these effluent quality requirements with existing treatment facilities, and full compliance with secondary treatment requirements for all of the flow is not anticipated to occur until 2013. Appendix Q of the application summarizes projected changes in effluent quality and flows associated with the ramping-up of secondary treatment facilities to achieve maximum performance from both existing and new treatment facilities during this permit term.

13. As described, above, this Order and permit contain effluent limitations based upon federal secondary treatment standards, as required by 40 CFR 125.3 and 40 CFR 133. EPA and the Regional Board also expect that compliance with secondary treatment requirements governing the OCSD discharge will be addressed by a complaint to be filed and a consent decree to be lodged shortly after the effective date of this Order and permit. EPA and the Regional Board expect that the consent decree will establish a schedule by which OCSD will complete the planning, design, construction, and operation of facilities necessary to attain compliance with secondary treatment requirements in this Order and permit, and will establish interim effluent limits for BOD_5 and TSS. Pursuant to 28 CFR 50.7, the public will be given notice and an opportunity to comment upon the consent decree before it becomes effective.

14. In 1999, the OCSD adopted a comprehensive 20-year master plan of capital facilities, including expansion and rehabilitation, entitled "OCSD Strategic Plan". Four years later, in conjunction with the OCSD Board of Directors' 2002 decision to achieve federal secondary treatment standards, OCSD adopted "Interim Strategic Plan Update", a comprehensive revision to the strategic plan. This strategic plan update addressed the additional needs for refurbishing, rehabilitation, and new construction, in order to provide adequate facilities to upgrade the effluent treatment level to secondary treatment standards, and is the basis for the discharger's December 2002 NPDES permit renewal application.

15. The Groundwater Replenishment System (GWRS), a major regional wastewater reclamation project, is in its construction phase and is scheduled to come online by 2007. At that time, up to approximately 100 MGD of the discharger's secondary treated effluent will be diverted to newly constructed advanced treatment facilities on OCWD's adjoining property. Part of OCWD's advanced treatment process (which includes microfiltration and reverse osmosis) will generate filter backwash and concentrates high in salts, ammonia nitrogen, and trace metals. These wastestreams will be returned to OCSD for treatment and ocean disposal. To facilitate implementation of this major regional water reclamation project and minimize the effects of the resulting ocean discharge on the marine environment, the permit contains a reopener provision (see Permit Re-opening, Revision, Revocation and Re-issuance). In addition to the GWRS, the discharger continues to implement programs designed to reduce wastewater flows into its treatment systems. These include ongoing water conservation efforts focusing on permanent installation of water saving plumbing fixtures and programs designed to reduce/eliminate inflow and infiltration to the OCSD sewer collection system. These efforts have the added benefit of ultimately reducing both average dry-weather and peak wet weather

flows, delaying (or eliminating) the need to construct a new ocean outfall for disposal of peak flows.

16. As part of a regional policy to control dry weather urban runoff to Huntington State Beach, the discharger reroutes runoff from stormwater pump stations and storm channels in the City of Huntington Beach and other Orange County coastal cities, into its sanitary sewer system for treatment and disposal, on days when it does not rain. Currently, the discharger accepts 2.5 MGD of dry weather urban runoff from diversion systems operated/managed by the Cities of Huntington Beach and Newport Beach, Orange County Flood Control District, and Irvine Ranch Water District. Due to its limited collection and treatment capacity and designated jurisdictional responsibilities, the discharger is working with State and local agencies in Orange County to establish criteria to prioritize chronic storm drains that warrant a diversion system.

17. A revised Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (Ocean Plan) became effective on December 3, 2001. The Ocean Plan contains beneficial uses and water quality objectives for ocean waters of the State. Ocean waters of the State are the territorial marine waters of the State as defined by California law to the extent that these waters are outside of enclosed bays, estuaries, and coastal lagoons. If a discharge outside of the territorial waters of the State could affect the quality of waters of the State, the discharge may be regulated to assure no violation of the Ocean Plan will occur in ocean waters. The requirements contained in this Order and permit are necessary to assure no violation of the Ocean Plan will occur in ocean waters of the State.

18. A revised Water Quality Control Plan, Santa Ana River Basin (Basin Plan) became effective on January 24, 1995. Subsequently, the Basin Plan has been amended by Regional Board Resolution Nos. 97-20, 98-100, 98-101, 99-10, 00-27, and R8-2004-0001. The Basin Plan contains beneficial uses and water quality objectives for waters in the Santa Ana Region.

19. The existing or potential beneficial uses of the Tidal Prism of the Santa Ana River (to within 1,000 feet of Victoria Street) include:

    a. Water contact recreation,
    b. Non-contact water recreation,
    c. Commercial and sportfishing,
    d. Wildlife habitat,
    e. Rare, threatened or endangered species, and
    f. Marine habitat.

20. The Nearshore Zone of the Pacific Ocean is within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline. The existing or potential beneficial uses of the Nearshore Zone include:

a. Industrial service supply,
b. Navigation,
c. Water contact recreation,
d. Non-contact water recreation,
e. Commercial and sportfishing,
f. Preservation of biological habitats of special significance,
g. Wildlife habitat,
h. Rare, threatened or endangered species,
i. Spawning, reproduction, and development,
j. Marine habitat, and
k. Shellfish harvesting.

21. The Offshore Zone consists of waters between the Nearshore Zone and the limit of ocean waters of the State. The existing or potential beneficial uses of the Offshore Zone of the Pacific Ocean include:

a. Industrial service supply,
b. Navigation,
c. Water contact recreation,
d. Non-contact water recreation,
e. Commercial and sportfishing,
f. Wildlife habitat,
g. Rare, threatened or endangered species,
h. Spawning, reproduction, and development, and
i. Marine habitat.

22. The requirements contained in this Order and permit are necessary to implement the Basin Plan.

23. On July 19, 2002, the Regional Board determined, and EPA agreed, that it is appropriate to apply water quality standards for bacterial indicators throughout the water column in the offshore zone to assure that the OCSD discharge does not pose a threat to water contact recreational uses in both nearshore and offshore waters. The discharger's NPDES permit and Waste Discharge Requirements were amended accordingly by the Regional Board and EPA (Order No. R8-2002-0055). To meet this requirement, OCSD has operated temporary chlorination/dechlorination facilities, using sodium hypochlorite (chlorine bleach) and sodium bisulfite, since August 2002. Because wastewater disinfection with chlorine usually produces a chlorine residual, and because chlorine and its reaction byproducts are toxic to aquatic life, effluent limits for total chlorine residual are included in this Order and permit. OCSD is conducting an investigation of alternative long-term disinfection methods for the discharge as part of its Effluent Pathogen Reduction Alternative Plan Study.

24. Effluent limitations for conventional, non-conventional, and toxic pollutant parameters are established based on Table A effluent limitations and Table B water quality objectives in the Ocean Plan. Mass emission rate effluent limitations for these pollutant parameters are based on a projected end-of-permit influent flow of 278 MGD. The minimum probable initial dilution (Dm) used to calculate effluent limitations for non-conventional and toxic pollutant parameters based on Table B water quality objectives is 180:1. Dm is expressed as parts seawater per part wastewater.

25. The 1998 permit, as modified in 2002, contains effluent limitations for the following non-conventional and toxic pollutant parameters in Table B of the Ocean Plan: total chlorine residual, acute toxicity, chronic toxicity, aldrin, chlordane, bis(2-ethylhexyl)phthalate, DDT, heptachlor, hexachlorobenzene, PAHs, and toxaphene. For the draft permit, 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 EPA guidance for statistically determining the "reasonable potential" for a discharged pollutant to exceed an objective, as outlined in the revised *Technical Support Document for Water Quality-based Toxics Control* (TSD; EPA/505/2-90-001, 1991). This 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 calculated as the 99 percent confidence level of the 99th percentile 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 Dm), 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.

26. The Regional Board and EPA examined effluent data provided by the discharger for years 1998 - 2003. A reported maximum effluent value and maximum reported detection limit were identified for each pollutant. These data were then used to calculate pollutant-specific reasonable potential multipliers. After considering Dm, projected receiving water concentrations were used to determine that: acute toxicity, chronic toxicity, and 8 organic pollutants[2] (i.e., benzidine, chlordane, 3,3'-dichlorobenzidine, hexachlorobenzene, PAHs, PCBs, TCDD equivalents, and toxaphene) showed the potential to exceed their respective objective, and required effluent limitations. Water quality based effluent limitations for these pollutants were calculated using procedures outlined in the Ocean Plan.

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[2] Although 1998 - 2003 effluent concentrations for these organic constituents are at non-detect levels, their projected receiving water values based on OCSD's maximum reported detection limits are higher than *Table B* water quality objectives in the Ocean Plan. These constituents are known to occur in POTW effluents. Consequently, WQBELs are prescribed as conservative safeguards for protecting water quality.

27. As previously described, OCSD has operated temporary chlorination/dechlorination facilities, adding sodium hypochlorite (chlorine bleach) and sodium bisulfite to wastestreams, since August 2002. Because wastewater disinfection with chlorine usually produces a chlorine residual, and because chlorine and its reaction byproducts are highly toxic to aquatic life, effluent limits for total chlorine residual based on Ocean Plan requirements are included in this Order and permit.

28. The Regional Board and EPA have considered antidegradation pursuant to 40 CFR 131.12 and State Board Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality of Waters in California, (known collectively as "antidegradation" policies) and find that the discharge is consistent with those provisions.

29. To address the uncertainty due to potential increases in toxic pollutant loadings from the discharge to the marine environment during the five-year permit term, and to establish a framework for evaluating the need for an antidegradation analysis to determine compliance with State and federal antidegradation requirements at the time of permit reissuance, 12-month average mass emission benchmarks have been established for effluent discharged through Discharge Serial No. 001 [see Monitoring and Reporting Program (M&RP) No. R8-2004-0062.]. The mass emission benchmarks (in metric tons per year; MT/yr) for the OCSD discharge were determined based on 1990 through 1994 effluent concentrations, using the concentration associated with the 95th percentile of the 4-day average distribution of daily effluent concentrations and the discharger's projected end-of-permit flow of 278 MGD. These mass emission benchmarks are not enforceable water quality based effluent limitations. They may be re-evaluated and revised during the five-year permit term.

30. Effluent limitations, national standards of performance, and toxic and pretreatment effluent standards established pursuant to Sections 208(b), 301, 302, 303(d), 304, 306, 307, 403, 404, 405, and 501 of the CWA, and amendments thereto, are applicable to the discharge. This permit contains requirements for the implementation of an effective pretreatment program pursuant to Section 307 of the CWA; 40 CFR 35 and 403); and/or Section 2233, Title 23, CCR. The application states that 126 significant industrial users and 243 categorical industrial users discharge to the treatment works. OCSD also receives treated waste from remedial activities at the Stringfellow Superfund Site.

31. On February 19, 1993, the EPA issued a final rule for the use and disposal of sewage sludge (40 CFR 503). This rule requires that producers of sewage sludge meet certain reporting, handling, and disposal requirements. The State has not been delegated the authority to implement this program, therefore, EPA is the implementing agency.

32. Storm water runoff is managed by internal drainage systems at Reclamation Plant No. 1 and Treatment Plant No. 2. Storm water is captured, treated, and discharged to the Pacific Ocean with the treated wastewater and is regulated under this Order and permit.

33. The OCSD discharge is subject to the requirements of Section 403(c) of the CWA and its implementing regulations at 40 CFR 125, Subpart M. These requirements apply to point source discharges to territorial seas, the contiguous zone and oceans, and allow for more stringent effluent limitations or permit conditions when necessary to protect the marine environment. The Regional Board and EPA have considered the impact of the discharge pursuant to Section 403(c) and find that the discharge will not cause unreasonable degradation of the marine environment.

34. Pursuant to 40 CFR 125.123(d)(2), the draft Order and permit include a monitoring and reporting program which is sufficient to assess the impact of the discharge on water, sediment, and biological quality, including analysis of the bioaccumulation and/or persistent impact on aquatic life due to the discharge. In 1998, the receiving water monitoring program was revised to reallocate the discharger's monitoring effort into three components (i.e., Core Monitoring, Strategic Process Studies, and Regional Monitoring Activities) to address crucial physical, chemical, and biological processes not addressed by earlier monitoring programs, and provide a regional framework for interpreting discharge-related effects. These three components are retained from the 1998 permit and are necessary to evaluate compliance with this permit, federal ocean discharge criteria and State water quality standards, and to assess the effects of the discharge on the marine environment.

35. The EPA's reissuance of the OCSD permit is subject to requirements of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) and Section 7 of the Endangered Species Act (ESA). The EPA is reviewing information related to: (1) essential fish habitat and managed and associated species, and (2) threatened and endangered species and their designated critical habitats, in the vicinity of the OCSD outfalls). Based on this and other relevant information, EPA is evaluating whether there are effects on essential fish habitat and managed and associated species protected under the MSA, or on threatened and endangered species and their designated critical habitats protected under the ESA. (Previous determinations by the National Marine Fisheries Service and U.S. Fish and Wildlife Service (collectively, the Services) have found the discharge consistent with ESA requirements.) Based on the outcome of this analysis, EPA may engage in consultation with the Services during, and subsequent to, this permit reissuance. The EPA may decide that changes to this permit are warranted based on the results of the completed consultation, and a reopener provision to this effect has been included in this permit.

36. The California Coastal Commission has indicated that it is not necessary to obtain a consistency certification pursuant to the Coastal Zone Management Act [16 U.S.C. 1451 *et seq.*] for the issuance of an NPDES permit containing secondary treatment requirements.

37. The Regional Board has determined that its joint issuance of this NPDES permit with the EPA serves as its certification under Section 401 of the CWA that any discharge pursuant to this permit will comply with CWA provisions at 33 U.S.C. 1311, 1312, 1313, 1316, and 1317.

38. In accordance with Section 13389 of the California Water Code [CWC], the issuance of waste discharge requirements for this discharge is exempt from those provisions of the California Environmental Quality Act contained in Chapter 3 (commencing with Section 21100), Division 13 of the Public Resources Code.

39. On July 21, 2004, the Regional Board and EPA notified the discharger and other interested agencies and persons of their intent to prescribe waste discharge requirements and authorization to discharge under the National Pollutant Discharge Elimination System (NPDES) for the discharge, and have provided them with an opportunity to submit their written views and recommendations. A public comment period was held from July 21, 2004 through September 17, 2004.

40. The Regional Board and EPA, at a public workshop on August 13, 2004 and a public hearing on September 17, 2004, heard oral comments pertaining to the discharge.

41. The Regional Board and EPA have considered all written and oral comments submitted during the public comment period pertaining to the discharge.

42. When a final NPDES permit is issued by the EPA, it will become effective 33 days following the date it is mailed to the discharger, unless a request for review is filed. If a request for review of the permit is filed, only those permit conditions which are uncontested will go into effect pending disposition of the request for review. Requests for review must be filed within 33 days following the date the final permit is mailed and must meet the requirements of 40 CFR 124.19. All requests for review should be addressed to the Environmental Appeals Board (EAB) as follows. Requests sent through the U.S. Postal Service (except by Express Mail) must be addressed to the EAB's mailing address, which is: U.S. Environmental Protection Agency; Clerk of the Board; Environmental Appeals Board (MC 1103B); Ariel Rios Building; 1200 Pennsylvania Avenue, N.W.; Washington, D.C. 20460-0001. All filings delivered by hand or courier, including Federal Express, UPS, and U.S. Postal Express Mail, should be directed to the following address: Environmental Appeals Board; U.S. Environmental Protection Agency; Colorado Building; 1341 G Street, N.W., Suite 600; Washington, D.C. 20460. Those persons filing a request for review must have filed comments on the draft permit, or participated in the public hearing. Otherwise, any such request for review may be filed only to the extent of changes from the draft to the final permit decision.

43. This Order serves as an NPDES permit for the discharge of treated effluent by the discharger to the Pacific Ocean pursuant to Section 402 of the CWA, and amendments thereto. This Order is being issued simultaneously with Monitoring and Reporting Program (M&RP) No. R8-2004-0062. This Order and M&RP are considered the NPDES permit for this discharge.

IT IS HEREBY ORDERED that the discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. DISCHARGE SPECIFICATIONS:

1. The discharge of wastes at Discharge Serial No. 001 in excess of the following limitations[3] is prohibited:

   a. Secondary Treatment Effluent Limitations:

Constituent	*Units*	*30-day Average*	*7-day Average*
Biochemical Oxygen Demand (5-day) (BOD_5)[4]	mg/l lbs/day	30. 69,555	45. 104,333
		The 30-day average percent removal shall not be less than 85 percent.	
Carbonaceous Biochemical Oxygen Demand (5-day) ($CBOD_5$)	mg/l lbs/day	25. 57,963	40. 92,740
		The 30-day average percent removal shall not be less than 85 percent.	
Suspended Solids (SS)	mg/l lbs/day	30. 69,555	45. 104,333
		The 30-day average percent removal shall not be less than 85 percent.	

[3] Mass emission rates in Section A.1 of this permit are based on a projected end-of-permit annual average influent flow of 278 MGD.

[4] In lieu of the parameter BOD_5 and the BOD_5 levels specified for effluent quality in this table, the parameter $CBOD_5$ and the $CBOD_5$ levels specified for effluent quality in this table may be substituted and reported by the discharger.

b. Ocean Plan Table A Effluent Limitations:

Constituent	***Units***	***30-day Average***	***7-day Average***	***Maximum at any time***
Grease and Oil	mg/l lbs/day	25. 57,963	40. 92,740	75. 173,889
Suspended Solids	n/a	As 30-day average, 75 percent removal from influent stream or 60 mg/l, whichever rate is higher.		
Settleable Solids	Ml/l	1.0	1.5	3.0
Turbidity	NTU	75.	100.	225.
PH	pH units	Within limit of 6.0 to 9.0 at all times.		

c. Suspended Solids Limitations:

For effluent limitations 1.a and 1.b, the more stringent 30-day average suspended solids limitation shall be controlling.

d. Ocean Plan Table B Effluent Limitations for Protection of Marine Aquatic Life:[5]

Constituent	***Units***	***6-month Median***	***Daily Maximum***	***Instantaneous Maximum***
Total Chlorine Residual	mg/l lbs/day	0.36 834	1.45 3,361	10.86 25,179
Acute Toxicity	TUa	n/a	5.7	n/a
Chronic Toxicity	TUc	n/a	181	n/a
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.			

e. Ocean Plan Table B Effluent Limitations for Protection of Human Health: [5]

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[5] The effluent limitations for constituents based on objectives for the protection of aquatic life and human health specified in Table B of the Ocean Plan are calculated using a Dm of 180:1 and the following Ocean Plan equation: Ce = Co + Dm (Co – Cs). "Dm" is the minimum probable initial dilution used to calculate effluent limitations for non-conventional and toxic pollutant parameters, expressed as parts seawater per part wastewater, "Co" is the water quality objective to be met at the completion of initial dilution, "Cs" is the background seawater concentration, and "Ce" is the effluent limitation.

1) Carcinogens

Constituent	***Units***	***30-day Average***
Benzidine	ug/l lbs/day	0.01249 0.0290
Chlordane[6]	ug/l lbs/day	0.00416 0.0097
3,3'-dichlorobenzidine	ug/l lbs/day	1.4661 3.3992
Hexachlorobenzene	ug/l lbs/day	0.0380 0.0881
PAHs[7]	ug/l lbs/day	1.5928 3.6929
PCBs[8]	ug/l lbs/day	0.0034 0.0080
TCDD equivalents[9]	ug/l lbs/day	0.000000706 0.000001637
Toxaphene	ug/l lbs/day	0.03801 0.0881

6 *Chlordane* shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

7 *PAHs* (polynuclear aromatic hydrocarbons) shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoroanthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene, and pyrene.

8 *PCBs* (polychlorinated biphenyls) shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

9 *TCDD equivalents* shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below:

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

2. The discharge of wastewater to other than Discharge Serial No. 001 is prohibited, except in the event of an emergency. An emergency is a circumstance that precludes discharging all wastewater to Discharge Serial No. 001 despite proper operation and maintenance of the discharger's facilities. Such emergencies are limited to situations such as earthquake, flood, and acts of war or terrorism. In the event of an emergency, the discharger may discharge other than as required by the terms of this permit provided:

    a. The Regional Board Executive Officer and the EPA Director are notified of the pending discharge as soon as possible,

    b. The Executive Officer and the Director agree that an emergency exists,

    c. The discharger takes all steps required by the Executive Officer or the Director to minimize any harm resulting from the discharge,

    d. Discharges through Discharge Serial No. 002 (deactivated ocean outfall) will be maximized before wastewater is discharged through Discharge Serial No. 003 (overflow point to the Santa Ana River), and

    e. The discharger returns the discharge to compliance with the terms of this permit without delay.

3. Waste management systems that discharge to the ocean must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.

4. Waste discharged to the ocean must be essentially free of:

    a. Material that is floatable or will become floatable upon discharge.

    b. Settleable material or substances that may form sediments which will degrade benthic communities or other aquatic life.

    c. Substances which will accumulate to toxic levels in marine waters, sediments or biota.

    d. Substances that significantly decrease the natural light to benthic communities and other marine life.

    e. Materials that result in aesthetically undesirable discoloration of the ocean surface.

5. Waste effluents shall be discharged in a manner which provides sufficient initial dilution to minimize the concentrations of substances not removed in the treatment.

6. Waste that contains pathogenic organisms or viruses should be discharged a sufficient distance from shellfishing and water-contact sports areas to maintain applicable bacterial standards without disinfection. Where conditions are such that an adequate distance cannot be attained, reliable disinfection in conjunction with reasonable separation of the discharge point from the area of use must be provided. Disinfection procedures that do not increase effluent toxicity and that constitute the least environmental and human hazard should be used.

B. TOXICITY REQUIREMENTS:

1. Acute Toxicity

a. Test Species and Methods

The discharger shall conduct quarterly acute toxicity tests on flow-weighted 24-hour composite effluent samples. When conducting toxicity tests in accordance with a specified chronic test methods manual, if daily observations of mortality make it possible to also calculate acute toxicity for the desired exposure period and the dilution series for the toxicity test includes the acute IWC, such method may be used to estimate the 96-hour LC50. The presence of acute toxicity shall be estimated as specified in *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995) using *Atherinops affinis* (topsmelt); and *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA 821-R-02-012, 2002), or *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms* (EPA 821-R-02-014, 2002) using *Mysidopsis bahia* (mysid).

If *Atherinops affinis* in the West Coast chronic test methods manual is not available, the presence of acute toxicity shall be estimated as specified in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA 821-R-02-012, 2002), or *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms* (EPA 821-R-02-014, 2002) using *Menidia beryllina* (silversides).

The discharger shall conduct acute toxicity test screening with a marine vertebrate species and a marine invertebrate species every 24 months for three consecutive months. The first screening shall be conducted in 2004, and rescreening shall be conducted at a different time of year from the previous year's screening. After each screening period, effluent monitoring shall be conducted using the most sensitive test species.

b. Definition of Acute Toxicity

The acute toxicity of the effluent shall be expressed and reported in TUa, where, TUa = 100/96-hour LC50. The Lethal Concentration, 50 Percent (LC50) is the estimate of the percent effluent concentration that causes death in 50 percent of the test population, in the time period prescribed by the toxicity test. In addition, LC50 and EC25 values in percent effluent shall also be reported. For this discharge, acute toxicity is defined as an exceedance of the acute toxicity effluent limitation specified in Discharge Specification A.1.d.

2. Chronic Toxicity

a. Test Species and Methods

The discharger shall conduct monthly chronic toxicity tests on flow-weighted 24-hour composite effluent samples. The presence of chronic toxicity shall be estimated as specified in *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995). If test organisms specified in the West Coast chronic test methods manual are not available, the presence of chronic toxicity shall be estimated as specified in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms* (EPA 821-R-02-014, 2002).

The discharger shall conduct chronic toxicity test screening with a marine vertebrate species, a marine invertebrate species, and a marine alga species, every 24 months for three consecutive months. The first screening shall be conducted in 2004, and rescreening shall be conducted at a different time of year from the previous year's screening. After each screening period, effluent monitoring shall be conducted using the most sensitive test species. If the most sensitive test species is/are not available, the presence of chronic toxicity shall be estimated using the second most sensitive test species from the toxicity test screening conducted for the current 24-month period. Such changes shall be noted on the discharge monitoring report (DMR)

b. Definition of Chronic Toxicity

The chronic toxicity of the effluent shall be expressed and reported in TUc, where TUc = 100/NOEC. The No Observed Effect Concentration (NOEC) is the highest effluent concentration to which organisms are exposed in a chronic test, that causes no observable adverse effect on the test organisms (e.g., the highest concentration of toxicant to which the values for the observed responses are <u>not</u> statistically significantly different from the controls). In addition, NOEC and IC25/EC25 values in percent effluent shall also be reported. For this discharge, chronic toxicity is defined as an exceedance of the chronic toxicity effluent limitation specified in Discharge Specification A.1.d.

3. Quality Assurance

a. A series of five dilutions and a control shall be tested. The series shall include the instream waste concentration (IWC), two dilutions below the IWC, and two dilutions above the IWC (e.g., 12.5, 25, 50, 75, and 100 percent effluent, where IWC = 50). The acute IWC for this discharge is 17.5 percent effluent, and the chronic IWC for this discharge is 0.55 percent effluent.

b. If test organisms are not cultured in-house, concurrent testing with reference toxicants shall be conducted. If organisms are cultured in-house, monthly testing with reference toxicants shall be conducted. Reference toxicant tests shall be conducted using the same test conditions as effluent toxicity tests (i.e., same test duration, etc.).

c. If either the reference toxicant test or the effluent test do not meet all test acceptability criteria as specified in the test methods manual, then the discharger must re-sample and re-test within approximately 14 days.

d. Chronic effluent and reference toxicant tests must meet the upper and lower bounds on test sensitivity, as determined by calculating the Percent Minimum Significant Difference (PMSD) for each test result. Test sensitivity bounds are specified in Table 3-6 of *Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the National Pollutant Discharge Elimination System Program* (EPA/833-R-00-003, June 2000). There are five possible outcomes based on the PMSD result:

1) Unqualified Pass: The test's PMSD is within the bounds in Table 3-6 and there is no significant difference between the means for the control and the IWC treatment. The regulatory authority would conclude that there is no toxicity at the IWC concentration.

2) Unqualified Fail: The test's PMSD is larger than the lower bound (but not greater than the upper bound) in Table 3-6 and there is a significant difference between the means for the control and the IWC treatment. The regulatory authority would conclude that there is toxicity at the IWC concentration.

3) Lacks Test Sensitivity: The test's PMSD exceeds the upper bound in Table 3-6 and there is no significant difference between the means for the control and the IWC treatment. The test is considered invalid. The discharger must re-sample and re-test within approximately 14 days.

4) Lacks Test Sensitivity: The test's PMSD exceeds the upper bound in Table 3-6 and there is a significant difference between the means for the control and the IWC treatment. The test is considered valid. The regulatory authority would conclude that there is toxicity at the IWC concentration.

5) Very Small but Significant Difference: The relative difference (see Section 6.4.2 of EPA/833-R-00-003) between the means for the control and the IWC treatment is smaller than the lower bound in Table 3-6 and this difference is statistically significant. The test is acceptable. The NOEC is determined as described in Sections 6.4.2 and 6.4.3 of EPA/833-R-00-003.

e. Control and dilution water should be receiving water or lab water, as described in the test methods manual. If dilution water is different from culture water, then a second control using culture water shall also be tested.

4. Preparation of Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan

The discharger shall submit to the Regional Board and EPA an initial investigation toxicity reduction evaluation (TRE) workplan [approximately 1-2 pages] within 90 days of the effective date of this permit. This workplan shall describe steps that the discharger intends to follow in the event that toxicity (as defined) is detected, and should include at minimum:

a. A description of the investigation and evaluation techniques that would be used to identify potential causes/sources of toxicity, effluent variability, treatment system efficiency;

b. A description of the facility's method of maximizing in-house treatment efficiency, good housekeeping practices, and a list of all chemicals used in operation of the facility;

c. If a toxicity identification evaluation (TIE) is necessary, who (e.g., contract laboratory, etc.) will conduct the TIE.

5. Additional (Accelerated) Toxicity Testing

a. If toxicity (as defined) is detected, then the discharger shall conduct six additional tests, approximately every 14 days, over a 12-week period. Effluent sampling for the first test of the six additional tests shall commence within approximately 24 hours of receipt of the test results exceeding the acute and/or chronic effluent limitation(s);

b. However, *if implementation of the initial investigation TRE workplan indicates the source of toxicity* (e.g., a temporary plant upset), then the discharger shall conduct only the first test of the six additional tests required above. If toxicity (as defined) is not detected in this first test, the discharger may return to the normal sampling frequency required in M&RP No. R8-2004-0062. If toxicity (as defined) is detected in this first test, then Acute and Chronic Whole Effluent Toxicity Requirement B.6 shall apply.

c. If toxicity (as defined) is not detected in any of the six additional tests required above, then the discharger may return to the normal sampling frequency required in M&RP No. R8-2004-0062.

6. Toxicity Reduction Evaluation/Toxicity Identification Evaluation (TRE/TIE)

   a. If toxicity (as defined) is detected in any of the six additional tests, then, based on an evaluation of the test results and additional available information, the Executive Officer and/or the Director may determine that the discharger shall initiate a TRE, in accordance with the discharger's initial investigation TRE workplan and *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* (EPA 833-B-99-002, 1999). Moreover, the discharger shall expeditiously develop a detailed TRE workplan which includes:

      1) Further actions to investigate/identify the cause(s) of toxicity;

      2) Actions the discharger has taken/will take to mitigate the impact of the discharge, to correct the noncompliance, and to prevent the recurrence of toxicity;

      3) An expeditious schedule under which these actions will be implemented.

   b. As part of this TRE process, the discharger may initiate a TIE using the test methods manuals and TIE Phase I (EPA/600/R-96/054, 1996), Phase II (EPA/600/R-92/080, 1993), and Phase III (EPA/600/R-92/081, 1993) manuals to identify the cause(s) of toxicity.

   c. If a TRE/TIE is initiated prior to completion of the accelerated testing schedule required by Toxicity Requirement B.5, then the accelerated testing schedule may be terminated, or used as necessary in performing the TRE/TIE.

7. Reporting

   a. The discharger shall submit a full report of all toxicity test results, including any toxicity testing required by Toxicity Requirements B.5 and B.6, with the discharge monitoring report (DMR) for the month in which the toxicity tests are conducted. A full report shall consist of: (1) toxicity test results; (2) dates of sample collection and initiation of each toxicity test; (3) acute and/or chronic toxicity effluent limitations. Toxicity test results shall be reported according to the test methods manual chapter on Report Preparation. It is suggested that the discharger submit the data on an electronic disk in the Toxicity Standardized Electronic Reporting Form (TSERF) (*Standardized Electronic Reporting Format for Monitoring Effluent Toxicity: October 1994 Format*, State Water Resources Control Board, 1995).

      If the initial investigation TRE workplan is used to determine that additional (accelerated) toxicity testing is unnecessary, these results shall be submitted with the DMR for the month in which investigations conducted under the TRE workplan occurred.

b. Within approximately 14 days of receipt of test results exceeding an acute and/or chronic toxicity effluent limitation, the discharger shall provide written notification to the Regional Board and EPA of:

1) Findings of the TRE or other investigation to identify the cause(s) of toxicity;

2) Actions the discharger has taken/will take, to mitigate the impact of the discharge and to prevent the recurrence of toxicity;

3) When corrective actions, including a TRE, have not been *completed*, an expeditious schedule under which corrective actions will be implemented; or

4) The reason for not taking corrective action, if no action has been taken.

C. RECEIVING WATER LIMITATIONS:

1. The discharge of waste by the discharger shall not cause a violation of the Ocean Plan water quality objectives for ocean waters specified below. Compliance with these water quality objectives shall be determined from samples collected at stations representative of the area within the waste field where initial dilution is completed.

2. Bacterial Characteristics

a. Water-Contact Standards

Within the Nearshore Zone (i.e., zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline) and Offshore Zone (i.e., waters between Nearshore Zone and limit of State waters), including all kelp beds, the following bacterial objectives shall be maintained throughout the water column:

1) Samples of water from each sampling station shall have a density of total coliform organisms less than 1,000 per 100 ml (10 per ml); provided that not more than 20 percent of the samples at any sampling station, in any 30-day period, may exceed 1,000 per 100 ml (10 per ml), and provided further that no single sample when verified by a repeat sample taken within 48 hours shall exceed 10,000 per 100 ml (100 per ml).

2) The fecal coliform density based on a minimum of not less than five samples for any 30-day period, shall not exceed a geometric mean of 200 per 100 ml nor shall more than 10 percent of the total samples during any 60-day period exceed 400 per 100 ml.

b. Shellfish Harvesting Standards

Within the Nearshore Zone, the following bacterial objectives shall be maintained throughout the water column: The median total coliform density shall not exceed 70 per 100 ml, and not more than 10 percent of the samples shall exceed 230 per 100 ml.

c. Bacterial Assessment and Remedial Action Requirements

The requirements listed below shall be used to determine the occurrence and extent of any impairment of a beneficial use due to bacterial contamination; generate information which can be used in the development of an enterococcus standard; and provide the basis for remedial actions necessary to minimize or eliminate any impairment of a beneficial use.

Measurement of enterococcus density shall be conducted at all stations where measurements of total and fecal coliforms are required. In addition to the requirements of Receiving Water Limitation C.2.a, if a shore station consistently exceeds a coliform objective or exceeds a geometric mean enterococcus density of 24 organisms per 100 ml for a 30-day period or 12 organisms per 100 ml for a six-month period, the Regional Board may require the discharger to conduct or participate in a survey to determine if the discharge is the source of the contamination. The geometric mean shall be a moving average based on no less than five samples per month, spaced evenly over the time interval. When a sanitary survey identifies a controllable source of indicator organisms associated with a discharge of sewage, the Regional Board may require the discharger and any other responsible party identified by the Regional Board to control the source.

3. Physical Characteristics

a. Floating particulates and grease and oil shall not be visible.

b. The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean surface.

c. Natural light shall not be significantly reduced at any point outside the initial dilution zone as a result of the discharge of waste.

d. The rate of deposition of inert solids and the characteristics of inert solids in ocean sediments shall not be changed such that benthic communities are degraded.

4. Chemical Characteristics

a. The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste materials.

b. The pH shall not be changed at any time more than 0.2 units from that which occurs naturally.

c. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions.

d. The concentration of substances, set forth in Table B of the Ocean Plan, in marine sediments shall not be increased to levels which would degrade indigenous biota.

e. The concentration of organic materials in marine sediments shall not be increased to levels which would degrade marine life.

f. Nutrient materials shall not cause objectionable aquatic growths or degrade indigenous biota.

g. The concentrations of substances, set forth in Table B of the Ocean Plan, shall not be exceeded in the area within the waste field where initial dilution is completed.

5. Biological Characteristics

a. Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded.

b. The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered.

c. The concentration of organic materials in fish, shellfish, or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.

6. Radioactivity

Discharge of radioactive waste shall not degrade marine life.

D. BIOSOLIDS/SLUDGE REQUIREMENTS:

1. General Requirements

a. All biosolids generated by the discharger shall be used or disposed of in compliance with applicable portions of 40 CFR 257, 258, and 503, and any applicable portions of the California Biosolids General Order (*State Water Resources Control Board Water Quality Order No. 2000-10-DWQ, General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities*), or site-specific waste discharge requirements issued by Regional Boards for land application sites in jurisdiction(s) in which biosolids from OCSD's treatment facilities are applied.

b. The discharger is responsible for assuring that all biosolids produced by OCSD's treatment facilities are used or disposed of in accordance with these rules, whether the discharger uses or disposes of the biosolids, itself, or transfers them to another party for further treatment, use, or disposal. The discharger is responsible for informing subsequent preparers, appliers, and disposers of the requirements that must be met under these rules.

c. Duty to mitigate: The discharger shall take all reasonable steps to prevent or minimize any biosolids use or disposal which has a likelihood of adversely affecting human health or the environment.

d. No biosolids shall be allowed to enter wetlands or other waters of the United States.

e. Biosolids treatment, storage, and use or disposal shall not contaminate groundwater. No biosolids, whether Class B or Class A, shall be land applied in excess of the agronomic rate, except when authorized in writing by EPA for specific land reclamation projects.

f. Biosolids treatment, storage, and use or disposal shall be performed in a manner as to minimize nuisances, such as objectionable odors or flies.

g. The discharger shall assure that haulers transporting biosolids off site for treatment, storage, use, or disposal take all necessary measures to keep the biosolids contained.

h. If biosolids are stored for over two years from the time they are generated, the discharger must ensure compliance with all requirements for surface disposal under 40 CFR 503 Subpart C, or must submit a written notification to EPA with the information in 40 CFR 503.20(b) demonstrating the need for longer temporary storage.

i. Any biosolids treatment, disposal, or storage site shall have facilities adequate to divert surface runoff from adjacent areas, to protect the site boundaries from erosion, and to prevent any conditions that would cause drainage from materials in the site to escape from the site. Adequate protection is defined as protection from at least a 100-year storm and from the highest tidal stage that may occur.

2. Inspection and Entry

The EPA, Regional Board, and other Regional Boards and State agencies where the discharger's biosolids are applied and/or treated, or an authorized representative thereof, upon the presentation of credentials, shall be allowed by the discharger, directly or through contractual arrangements with their biosolids management contractors, to:

a. Enter upon all premises where biosolids produced by OCSD treatment facilities are treated, stored, used, or disposed, either by the discharger or by another party to whom OCSD transfers the biosolids for treatment, storage, use, or disposal;

b. Have access to and copy any records that must be kept under the conditions of this permit or 40 CFR 503 by the discharger or by another party to whom OCSD transfers the biosolids for further treatment, storage, use, or disposal;

c. Inspect any facilities, equipment (including monitoring and control equipment), practices, or operations used in biosolids treatment, storage, use, or disposal by the discharger, or by another party to whom OCSD transfers the biosolids for treatment, use, or disposal.

3. Monitoring Requirements

a. A representative sample shall be collected and analyzed on a monthly basis for pollutants required under the applicable portions of 40 CFR 503, organic nitrogen, and ammonium nitrogen. The results shall be reported on a 100% dry weight basis.

b. Prior to land application, the discharger shall demonstrate that the biosolids meet Class A or Class B pathogen reduction levels by one of the methods listed in 40 CFR 503.32. If pathogen reduction is demonstrated using a Process to Significantly/Further Reduce Pathogens, the discharger shall maintain daily records of the operating parameters used to achieve this reduction.

c. For biosolids that are land applied or placed in a surface disposal site, the discharger shall track and keep records of the operational parameters used to achieve Vector Attraction Reduction requirements in 40 CFR 503.33(b).

d. Biosolids shall be monitored semi-annually for all pollutants listed under Section 307(a) of the CWA. Results shall be expressed in mg pollutant per kg biosolids on a 100% dry weight basis.

e. For all Class B biosolids and all Class A biosolids except for composted Class A biosolids, that are land-applied, plant available nitrogen (PAN) in biosolids shall be calculated and field loadings of PAN calculated from this.

4. Notification Requirements

The discharger, either directly or through contractual arrangements with their biosolids management contractors, shall comply with the following notification requirements:

a. Notification of non-compliance: The discharger shall notify EPA and the applicable Regional Board or State agency of any non-compliance within 24 hours, by phone or e-mail, if the non-compliance may seriously endanger public health or the environment. A written report shall also be submitted within 5 working days of knowing the non-compliance. For other instances of non-compliance, the discharger shall notify the EPA and Regional Board of the non-compliance in writing within 5 working days of becoming aware of the non-compliance. The discharger shall require their biosolids management contractors to notify the EPA and Regional Board of any non-compliance within the same timeframes.

b. The following is required for all Class B biosolids and Class A biosolids except for composted Class A biosolids:

1) If biosolids are shipped to another State or to Indian Lands, the discharger must send 30 days prior notice of the shipment to the EPA and permitting authorities in the receiving State or Indian Land.

2) The discharger shall notify the EPA and applicable State agency by e-mail, or have its contractors notify the EPA and applicable State agency, at least 24 hours prior to changing the field being applied to, of the field change, including location of new field, rate of application, and crop to be planted on that field.

3) Following completion of application to any field, in the case where actual plant available nitrogen (PAN) exceeds targeted PAN, the discharger shall submit or have its contractor submit an explanation of the exceedance within 7 days of completion of the field.

c. If the discharger or the persons it contracts with for biosolids use or disposal receive complaints of health problems associated with biosolids treatment, use, or disposal, the EPA and applicable County Public Health Department staff shall be notified of complaints within 48 hours.

d. The discharger shall notify the EPA and applicable State agencies at least 60 days prior to starting a new use or disposal practice.

5. Reporting Requirements

a. The discharger shall submit an annual biosolids report to the EPA, Regional Board, and all other Regional Boards, State agencies, and Tribal agencies where biosolids are applied, by February 19 of each year, for the period covering the previous calendar year. The report shall include:

1) The amount of biosolids generated that year, in dry metric tons, and the amount used or disposed by each use/disposal practice. For contracted use or disposal, the volume taken by each contractor shall be reported.

2) The results of all monitoring required under Monitoring Requirements, above. All results must be reported on a 100% dry weight basis. Any fecal coliform analyses shall include results of individual grab samples and calculated geometric means (for Class B biosolids) for the sampling period. Locations of sample collection shall be reported.

3) Documentation of those operational parameters used to demonstrate compliance with pathogen reduction and vector attraction reduction, and certifications.

4) For sites to which Class B biosolids or Class A biosolids (except for Class A compost) have been applied: name of each field; location, ownership, size in acres; actual dates of applications, seedings, harvesting; number of truckloads to each field; actual tonnage applied to field, in actual and dry weight; calculated Plant Available Nitrogen before and after application; copies of applier's certifications of management practices; copies of applier's certifications of site restrictions.

5) Reports shall be submitted to:

Regional Biosolids Coordinator
U.S. Environmental Protection Agency
Region 9, WTR-7
75 Hawthorne Street
San Francisco, CA 94105-3901

California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3348

E. PRETREATMENT REQUIREMENTS:

1. The discharger shall be responsible and liable for the performance of all Control Authority pretreatment requirements contained in 40 CFR 403, including any subsequent regulatory revisions. Where 40 CFR 403 or subsequent revision places mandatory actions upon the discharger as Control Authority but does not specify a timetable for completion of the actions, the discharger shall complete the required actions within six months from the issuance date of this permit or the effective date of the 40 CFR 403 revisions, whichever comes later. For violations of pretreatment requirements, the discharger shall be subject to enforcement actions, penalties, fines and other remedies by the EPA or other appropriate parties, as provided in the CWA, and by the State under the Porter-Cologne Water Quality Control Act. The EPA and State may initiate enforcement action against a nondomestic user for noncompliance with applicable standards and requirements as provided in the CWA and the Porter-Cologne Water Quality Control Act.

2. The discharger shall enforce the requirements promulgated under Sections 307(b), 307(c), 307(d) and 402(b) of the CWA with timely, appropriate and effective enforcement actions. The discharger shall require all nondomestic users to comply with Federal Categorical Standards and shall take enforcement actions against those users who do not comply with the standards. Such enforcement actions shall be consistent with an enforcement response plan, developed pursuant to 40 CFR 403.8(f)(5). The discharger shall ensure that all nondomestic users subject to the Federal Categorical Standards achieve compliance no later than the date specified in those requirements or, in the case of a new nondomestic user, upon commencement of the discharge.

3. The discharger shall perform the pretreatment functions as required in 40 CFR 403 including, but not limited to:

    a. Implement the necessary legal authorities as provided in 40 CFR 403.8(f)(1);

    b. Enforce the pretreatment requirements under 40 CFR 403.5 and 403.6;

    c. Implement the programmatic functions as provided in 40 CFR 403.8(f)(2); and

    d. Provide the requisite funding and personnel to implement the pretreatment program as provided in 40 CFR 403.8(f)(3).

4. The discharger shall submit annually to the EPA and Regional Board a report describing its pretreatment activities over the previous year. In the event the discharger is not in compliance with any conditions or requirements of this permit, then the discharger shall also include the reasons for noncompliance and state how and when the discharger shall comply with such conditions and requirements. This annual report shall cover operations from July 1 through June 30 and is due on October 31 of each year. The report shall contain, but not be limited to, the following information:

a. A summary of analytical results from representative, flow proportioned, 24-hour composite sampling of the discharger's influent and effluent for those pollutants the EPA has identified under Section 307(a) of the CWA which are known or suspected to be discharged by nondomestic users. This will consist of wastewater sampling and analysis in accordance with the minimum frequency of analysis stated in M&RP No. R8-2004-0062. The discharger is not required to sample and analyze for asbestos. The discharger shall also provide any influent or effluent monitoring data for nonpriority pollutants which the discharger believes may be causing or contributing to interference or pass through. Sampling and analysis shall be performed with the techniques prescribed in 40 CFR 136.

b. A discussion of Upset, Interference or Pass Through incidents, if any, at Reclamation Plant No. 1 and/or Treatment Plant No. 2, which the discharger knows or suspects were caused by nondomestic users of the POTW system. The discussion shall include the reasons why the incidents occurred, the corrective actions taken and, if known, the name and address of the nondomestic user(s) responsible. The discussion shall also include a review of the applicable pollutant limitations to determine whether any additional limitations, or changes to existing requirements, may be necessary to prevent pass through or interference;

c. An updated list of the discharger's Significant Industrial Users (SIUs) including their names and addresses, and a list of deletions, additions and SIU name changes keyed to the previously submitted list. The discharger shall provide a brief explanation for each change. The list shall identify the SIUs subject to Federal Categorical Standards by specifying which set(s) of standards are applicable to each SIU. The list shall also indicate which SIUs are subject to local limits;

d. The discharger shall characterize the compliance status of each SIU by providing a list or table which includes the following information:

1) Name of the SIU;
2) Category, if subject to Federal Categorical Standards;
3) The type of wastewater treatment or control processes in place;
4) The number of samples taken by the POTW during the year;
5) The number of samples taken by the SIU during the year;
6) For an SIU subject to discharge requirements for total toxic organics, whether all required certifications were provided;
7) A list of the standards violated during the year. Identify whether the violations were for categorical standards or local limits;
8) Whether the facility is in significant noncompliance (SNC) as defined at 40 CFR 403.8(f)(2)(vii) at any time during the year; and
9) A summary of enforcement or other actions taken during the year to return the SIU to compliance. Describe the type of action, final compliance date, and the amount of fines and penalties collected, if any. Describe any proposed actions for bringing the SIU into compliance;

e. A brief description of any programs the discharger implements to reduce pollutants from nondomestic users that are not classified as SIUs;

f. A brief description of any significant changes in operating the pretreatment program which differ from the previous year including, but not limited to, changes concerning the program's administrative structure, local limits, monitoring program or monitoring frequencies, legal authority, enforcement policy, funding levels, or staffing levels;

g. A summary of the annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases; and

h. A summary of activities to involve and inform the public of the program including a copy of the newspaper notice, if any, required under 40 CFR 403.8(f)(2)(vii).

5. The discharger shall submit semi-annual SIU compliance status reports to the EPA and Regional Board. The reports shall cover the periods from July 1 through December 31, and January 1 through June 30. The report for the period from July 1 through December 31 shall be submitted by March 31. The report for the period from January 1 through June 30 shall be submitted by September 30, or may be included in the annual report. The reports shall contain:

a. The name and address of all SIUs which violated any discharge or reporting requirements during that reporting period;

b. A description of the violations including whether any discharge violations were for categorical standards or local limits;

c. A description of the enforcement or other actions that were taken to remedy the noncompliance; and

d. The status of active enforcement and other actions taken in response to SIU noncompliance identified in previous reports.

F. <u>COMPLIANCE DETERMINATION:</u>

1. The 12-month average shall apply as a moving arithmetic mean of daily values for any 365-day period in which daily values represent grab or flow-weighted average concentrations within a 24-hour period.

2. The 6-month median shall apply as a moving median of daily values for any 180-day period in which daily values represent grab or flow-weighted average concentrations within a 24-hour period.

3. The 30-day average shall apply as an arithmetic mean of daily values for any 30-day period in which daily values represent grab or flow-weighted average concentrations within a 24-hour period.

4. The 7-day average shall apply as an arithmetic mean of daily values for any 7-day period in which daily values represent grab or flow-weighted average concentrations within a 24-hour period.

5. The daily maximum shall apply as a maximum of daily values for any 1-day period in which daily values represent grab or flow-weighted average concentrations within a 24-hour period.

6. The instantaneous maximum shall apply as a maximum of daily values for any 1-day period in which daily values represent grab or flow-weighted average concentrations with a 24-hour period.

7. If only one sample is collected during the time period associated with an effluent limitation or water quality objective (e.g., 30-day average or 6-month median), the single measurement shall be used to determine compliance for the entire time period.

8. Compliance with mass emission effluent limitations shall be obtained from the following calculation for any calendar day: Mass Emission Rate (lbs/day) = $8.34 \times C \times Q$; where C and Q are the constituent concentration in mg/l and flow rate in MGD, respectively.

9. *Compliance with Single-Constituent Effluent Limitations.* The discharger is out of compliance with an effluent limitation if the concentration of the pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level.

10. *Compliance with Effluent Limitations Expressed as a Sum of Several Constituents.* The discharger is out of compliance with an effluent limitation which applies to the sum of a group of chemicals (e.g., PCBs) if the sum of the individual pollutant concentrations is greater than the effluent limitation. Individual pollutants of the group will be considered to have a concentration of zero if the constituent is reported as ND or DNQ.

11. *Multiple Sample Reduction.* The concentration of the pollutant in the effluent may be estimated from the result of a single sample analysis or by a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses when all sample results are quantifiable (i.e., greater than or equal to the reported Minimum Level). When one or more sample results are reported as ND or DNQ, the central tendency concentration of the pollutant shall be the median (middle) value of the multiple samples. If, in an even number of samples, one or both of the middle values is ND or DNQ, the median will be the lower of the two middle values.

12. Pursuant to 40 CFR 401.17, the discharger shall be in compliance with the pH limitation specified under Discharge Specification A.1.b, provided that both of the following conditions are satisfied: (1) the total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and (2) no individual excursion from the range of pH values shall exceed 60 minutes.

13. For the Offshore Zone, compliance with Receiving Water Limitation C.2.a.2 shall be determined by sampling and analyzing for *Escherichia coli* using the Colilert™ Method[10]. When this method is used in lieu of a standard fecal coliform test, values for *E. coli* shall be multiplied by 110% to determine compliance with fecal coliform receiving water limitations.

14. [40 CFR 122.41(n)] *Upset* means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. *Effect of an upset.* An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of the *conditions necessary for a demonstration of upset* (see below) are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. *Conditions necessary for a demonstration of upset.* A discharger who wishes to establish the affirmative defense of an upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

    a. An upset occurred and that the discharger can identify the cause(s) of the upset;

    b. The permitted facility was at the time being properly operated; and

    c. The discharger submitted notice of the upset as required under Required Notices and Reports provision G.5.f.2; and

    d. The discharger complied with any remedial measures required under Provision H.13.

    Burden of proof. In any enforcement proceeding the discharger seeking to establish the occurrence of upset has the burden of proof.

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[10] Because of sample holding time considerations, it is not practical to require a standard fecal coliform test for samples collected in the Offshore Zone. Studies confirm that Colilert™ *E. coli* results are 90% of fecal coliform densities measured using a standard fecal coliform test.

G. REQUIRED NOTICES AND REPORTS:

1. [40 CFR 122.41 (k)/CWA (309(c)(4)] *Signatory requirement.* All applications, reports, or information submitted to the Executive Officer and/or Director shall be signed and certified. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or by both. For the second conviction, punishment shall be by a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or by both. The requirements of 40 CFR 122.22 are incorporated into this permit by reference.

2. [40 CFR 122.41.(h)] *Duty to provide information.* The discharger shall furnish to the Executive Officer and/or the Director, within a reasonable time, any information which the Executive Officer and/or Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The discharger shall also furnish to the Executive Officer and/or Director upon request, copies of records required to be kept by this permit.

3. Except for data determined to be confidential under Section 308 of the CWA, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Regional Board and EPA. As required by the CWA, effluent data shall not be considered confidential. Knowingly making any false statements on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the CWA and Section 13387 of the CWC.

4. [40 CFR 122.41(j)(5) *Monitoring and records.* The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring devise or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

5. [40 CFR 122.41(l)] *Reporting requirements.*

   a. *Planned changes.* The discharger shall give notice to the Executive Officer and the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

      1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or

2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1).

3) The alteration or addition results in a significant change in the discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

b. *Anticipated noncompliance.* The discharger shall give advance notice to the Executive Officer and the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

c. *Transfers.* This permit is not transferable to any person except after notice to the Executive Officer and Director. The Executive Officer and Director may require modification or revocation and reissuance of the permit to change the name of the discharger and incorporate such other requirements as may be necessary under the CWA. The provisions of 40 CFR 122.61 are incorporated into this permit by reference.

d. *Monitoring reports.* Monitoring results shall be reported at the intervals specified elsewhere in this permit.

1) Monitoring results must be reported on a DMR or forms provided by the Executive Officer and/or the Director for reporting results of monitoring of sludge use or disposal practices.

2) If the discharger monitors any pollutant more frequently than required by this permit using test procedures approved under 40 CFR 136 or, in the case of sludge use or disposal, approved under 40 CFR 503, or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Executive Officer and/or the Director.

3) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit by the Executive Officer and the Director.

e. *Compliance schedules.* Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

f. *Twenty-four hour reporting.* The discharger shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally to the Executive Officer (951/782-4130), EPA (415/972-3505), and, if appropriate, the Office of Emergency Services (800/852-7550), within 24 hours from the time the discharger becomes aware of the circumstances. A written submission shall also be provided within 5 working days of the time the discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The following information shall be included as information which must be reported within 24 hours under this paragraph:

1) Any unanticipated bypass which exceeds any effluent limitation in this permit [See 40 CFR 122.41(m)(3)(ii)];

2) Any upset which exceeds any effluent limitation in the permit;

3) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Executive Officer and the Director in the permit to be reported with 24 hours [See 40 CFR 122.44(g)].

4) The Executive Officer and/or the Director may waive the written report on a case-by-case basis for reports under Required Notices and Reports provision G.5.f if the oral report has been received within 24 hours.

g. *Other noncompliance.* The discharger shall report all instances of noncompliance not reported under Required Notices and Reports provision G.5.d-f, at the time monitoring reports are submitted. The reports shall contain the information listed in Required Notices and Reports provision G.5.f.

h. *Other information.* Where the discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Executive Officer and/or Director, it shall promptly submit such facts or information.

6. [40 CFR 122.42(b)] *Publicly owned treatment works.* The discharger must provide adequate notice to the Executive Officer and the Director of the following:

a. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to Section 301 or 306 of the CWA if it were directly discharging those pollutants; and

b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of this permit.

c. For purposes of Required Notices and Reports provision G.6.a-b, adequate notice shall include information on (1) the quality and quantity of effluent introduced into the POTW, and (2) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

7. The discharger shall file with the Regional Board within 120 days after the effective date of this permit an updated technical report on the discharger's preventive (failsafe) and contingency (response and cleanup) plans for controlling accidental discharges and for minimizing the effect of such events. This technical report shall:

   a. Identify the possible sources of accidental loss, untreated waste bypass, and contaminated drainage. Loading and storage areas, power outage, waste treatment outage, and failure of process equipment, tanks, and collection system sewer pipes and pump stations should be considered;

   b. Evaluate the effectiveness of present facilities and procedures and when they become operational. Describe facilities and procedures needed for effective preventive and contingency plans;

   c. Describe any new facilities and procedures needed. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational;

   d. Describe proposed and completed training programs and schedules to train and familiarize plant operating personnel with the discharger's preventative (failsafe) and contingency (response and cleanup) plans for controlling accidental discharges and for minimizing the effects of such events. [Sections 13267(b) and 13268 of the CWC]

8. The discharger shall file with the Regional Board within 180 days of the effective date of this permit an updated Storm Water Management Plan.

9. The discharger shall file a written report with the Regional Board within ninety (90) days after the average dry-weather waste flow for any month equals or exceeds 75 percent of the design capacity of waste treatment and/or disposal facilities. The discharger's senior administrative officer shall sign a letter which transmits that report and certifies that the policy making body is adequately informed about it. The report shall include:

   a. Average daily flow for the month, the date on which the instantaneous peak flow occurred, the rate of that peak flow, and the total flow for the day;

   b. The discharger's best estimate of when the average daily dry-weather flow rate will equal or exceed the design capacity of the facilities; and

c. The discharger's intended schedule for studies, design, and other steps needed to provide additional capacity for this waste treatment and/or disposal facilities before the waste flow rate equals the capacity of present units. [Sections 13260, 13267(b), and 13268 of the CWC]

10. The discharger shall file with the Regional Board a Report of Waste Discharge at least 180 days before making any material change in the character, location, or volume of the discharge. A material change includes, but is not limited to, the following:

a. Adding a major industrial waste discharge to a discharge of essentially domestic sewage, or adding a new process or product by an industrial facility resulting in a change in the character of the waste;

b. Significantly changing the disposal method or location, such as changing the disposal to another drainage area or waterbody;

c. Significantly changing the method of treatment;

d. Increasing the treatment plant design capacity beyond that specified in this Order and permit.

H. PROVISIONS:

1. This Order shall serve as an NPDES permit pursuant to Section 402 of the CWA, or amendments thereto. This Order and NPDES permit shall become effective 33 days from the date of signature by the EPA Director, on OCTOBER 31, 2004.

2. Order No. 98-5 and M&RP No. 98-5, as modified by Order No. R8-2002-0055, are hereby rescinded.

3. This permit expires OCTOBER 30, 2009. The discharger must file a Report of Waste Discharge in accordance with Title 23, Division 3, Chapter 9 of the CCR not later than 180 days in advance of such expiration date. The Report of Waste Discharge shall serve as the application for issuance of new waste discharge requirements. [40 CFR 122.41(b)] *Duty to reapply.* If the discharger wishes to continue an activity regulated by this permit after the expiration date of this permit, the discharger must apply for and obtain a new permit.

4. The discharger shall provide safeguards to assure that, should there be reduction, loss, or failure of electric power, the discharger shall comply with the terms and conditions of this permit. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means.

5. The discharger shall comply with M&RP No. R8-2004-0062.

6. The discharger shall maintain a copy of this permit at the site so that it is available to site operating personnel at all times. Key operating personnel shall be familiar with its content.

7. [40 CFR 122.41(a)] *Duty to comply.* The discharger must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the CWA and the CWC and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Subparagraphs (1), (2), and (3) of 40 CFR 122.41(a) are incorporated into this permit by reference.

8. The provisions of this permit are severable, and if any provision of this permit, or the application of any provisions of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby. [Section 512 of the CWA]

9. [40 CFR 122.41(g)] *Property rights.* This permit does not convey any property rights of any sort, or any exclusive privilege.

10. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, nor protect the discharger from its liabilities under federal, State, or local laws, nor guarantee the discharger a capacity right in the receiving waters.

11. In the event of any change in control or ownership of land or waste discharge facility presently owned or controlled by the discharger, the discharger shall notify the succeeding owner or operator of the existence of this permit by letter, a copy of which shall be forwarded to the Regional Board and EPA.

12. Neither the treatment nor the discharge of wastes shall cause a nuisance or pollution as defined in Section 13050 of the CWC.

13. [40 CFR 122.41(d)] *Duty to mitigate.* The discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

14. The discharger shall take all reasonable steps to minimize any adverse impact to receiving waters resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

15. [40 CFR 122.41(c)] *Need to halt or reduce activity not a defense.* It shall not be a defense for a discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

16. The discharger's wastewater treatment plants shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Grade of Operator Certification, Section 3680, Article 3, Chapter 26, Division 3, Title 23, CCR. The discharger shall report annually to the Regional Board and EPA a roster of such plant personnel, including job titles, duties, and level of State certification for each individual.

17. [40 CFR 122.41(m)] *Bypass* means the intentional diversion of waste streams from any portion of a treatment facility. *Severe property damage* means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. *Bypass not exceeding limitations*. The discharger may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is essential maintenance to assure efficient operation. These bypasses are not subject to Provision H.17.a-b (see below).

    a. *Notice*:

        1) *Anticipated bypass*. If the discharger knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

        2) *Unanticipated bypass*. The discharger shall submit notice of an unanticipated bypass as required in Required Notices and Reports provision G.5.f.

    b. *Prohibition of bypass*:

        1) Bypass is prohibited, and the Executive Officer and the Director may take enforcement action against the discharger for bypass, unless:

            a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

            b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment down time or preventive maintenance; and

            c) The discharger submitted notices as required under Provision H.17.a.

2) The Executive Officer and the Director may approve an anticipated bypass, after considering its adverse effects, if the Executive Officer and the Director determine that it will meet the three conditions listed in Provision H.17.b.1.

18. [40 CFR 122.41(e)] *Proper operation and maintenance.* The discharger shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a discharger only when the operation is necessary to achieve compliance with the conditions of this permit.

19. The discharger shall develop an "Operation and Maintenance Manual" (O&M Manual). If an O&M Manual has been developed, the discharger shall update it as necessary to conform with latest plant changes and requirements. The O&M Manual shall be readily available to operating personnel onsite. The O&M Manual shall include the following:

    a. Description of the treatment plant table of organization showing the number of employees, duties and qualifications and plant attendance schedules (daily, weekends and holidays, part-time, etc.). The description should include documentation that the personnel are knowledgeable and qualified to operate the treatment facility so as to achieve the required level of treatment at all times.

    b. Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.

    c. Description of laboratory and quality assurance procedures.

    d. Process and equipment inspection and maintenance schedules.

    e. Description of safeguards to assure that, should there be reduction, loss, or failure of electric power, the discharger will be able to comply with the terms and conditions of this permit.

    f. Description of preventive (fail-safe) and contingency (response and cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. These plans shall identify the possible sources (such as loading and storage areas, power outage, waste treatment unit failure, process equipment failure, tank and piping failure) of accidental discharges, untreated or partially treated waste bypass, and polluted drainage.

20. Collected screenings, sludge, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer and the Director.

21. [40 CFR 122.41(i)] *Inspection and entry.* The discharger shall allow the Executive Officer and/or the Director, or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon presentation of credentials and other documents as may be required by law, to:

    a. Enter upon the discharger's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

    b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

    c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

    d. Photograph, sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the CWA, any substances or parameters at any location.

22. Pollutant Minimization Program

    a. Pollutant Minimization Program Goal

    The goal of the Pollutant Minimization Program (PMP) is to reduce all potential sources of a pollutant through pollutant minimization (control) strategies, including pollution prevention measures, in order to maintain the effluent concentration at or below the effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The completion and implementation of a PMP, required in accordance with Section 13263.3(d) of the CWC will fulfill the PMP requirements of this permit provision.

    b. Determining the Need for a PMP

        1) The discharger must develop and conduct a PMP if all of the following conditions are true: (a) the calculated effluent limitation is less than the reported ML; (b) the concentration of the pollutant is reported as DNQ; and (c) there is evidence showing that the pollutant is present in the effluent above the calculated effluent limitation.

        2) Alternatively, the discharger must develop and conduct a PMP if all of the following conditions are true: (a) the calculated effluent limitation is less than the MDL; (b) the concentration of the pollutant is reported as ND; and (c) there is evidence showing that the pollutant is present in the effluent above the calculated effluent limitation.

c. Elements of a PMP

The PMP program shall include actions and submittals acceptable to the Regional Board and EPA including, but not limited to, the following:

1) An annual review and semi-annual monitoring of potential sources of the reportable pollutant, which may include fish tissue monitoring and other bio-uptake sampling;

2) Quarterly monitoring for the reportable pollutant in the influent to the wastewater treatment system;

3) Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable pollutant in the effluent at or below the calculated effluent limitation;

4) Implementation of appropriate cost-effective control measures for the pollutant, consistent with the control strategy; and

5) An annual status report that shall be sent to the Regional Board and EPA including: (a) all PMP monitoring results for the previous year; (b) a list of potential sources of the reportable pollutant; (c) a summary of all action taken in accordance with the control strategy; and (d) a description of actions to be taken in the following year.

23. Any significant change in waste flow shall be cause for reevaluating effluent limitations.

24. Ocean Plan Discharge Prohibitions:

a. The discharge of any radiological, chemical, or biological warfare agent or high-level radioactive waste into the ocean is prohibited.

b. Waste shall not be discharged to designated Areas of Special Biological Significance.

c. Pipeline discharge of sludge to the ocean is prohibited by federal law; the discharge of municipal and industrial waste sludge directly to the ocean, or into a waste stream that discharges to the ocean is prohibited by the Ocean Plan. The discharge of sludge digester supernatant directly to the ocean, or to a waste stream that discharges to the ocean without further treatment, is prohibited. The treatment, use and disposal of sewage sludge shall be carried out in the manner found to have the least adverse impact on the total natural and human environment.

d. The by-passing of untreated wastes containing concentrations of pollutants in excess of those of Table A or Table B of the Ocean Plan to the ocean is prohibited.

I. SPECIAL PROVISIONS:

1. The discharger will continue to implement its existing nonindustrial source control program and public education program that have been in effect since 1986. The nonindustrial source control program will be supplemented with an updated survey of industrial and nonindustrial contaminant sources. These programs are described in *Nonindustrial Source Control Program - Final Report* (CSDOC, 1987).

2. To address the uncertainty due to potential increases in toxic pollutant loadings from the discharge to the marine environment during the five-year permit term, and to establish a framework for evaluating the need for an antidegradation analysis to determine compliance with State and federal antidegradation requirements at the time of permit reissuance, 12-month average mass emission benchmarks have been established for the discharge (see M&RP No. R8-2004-0062). These mass emissions benchmarks are calculated based on the EPA's evaluation of 1990 through 1994 effluent concentrations, using the concentration associated with the 95th percentile of the 4-day average distribution of daily effluent concentrations and the discharger's projected end-of-permit flow of 278 MGD. These mass emission benchmarks are not enforceable water quality based effluent limitations. They may be re-evaluated and revised during the five-year permit term.

3. The discharger shall make monitoring data accessible to the public via the Internet. By January 1, 2005, the discharger shall submit an updated report that identifies the discharger's plans and activities for making monitoring data accessible to the public via the Internet. This report shall be updated as appropriate to include changes in implementation schedules. The Regional Board shall be informed of any change, in writing, within 30 days of the change.

J. PERMIT RE-OPENING, REVISION, REVOCATION, AND REISSUANCE:

1. [40 CFR 122.41(f)] *Permit actions*. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the discharger for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

2. This permit may be reopened and modified in accordance with the requirements set forth at 40 CFR 122 and 124 to:

   a. Address any changes in State or federal plans, policies or regulations which would affect the quality requirements for the discharges (e.g., Ocean Plan updates, BEACH Act regulations, etc.);

b. Include effluent limitations for pollutants determined to be present in significant amounts in the discharge;

c. Include appropriate conditions or limitations to address demonstrated effluent toxicity based on newly available information;

d. Re-evaluate the need for Ocean Plan Table B water quality based effluent limitations for protection of human health based on newly available information.

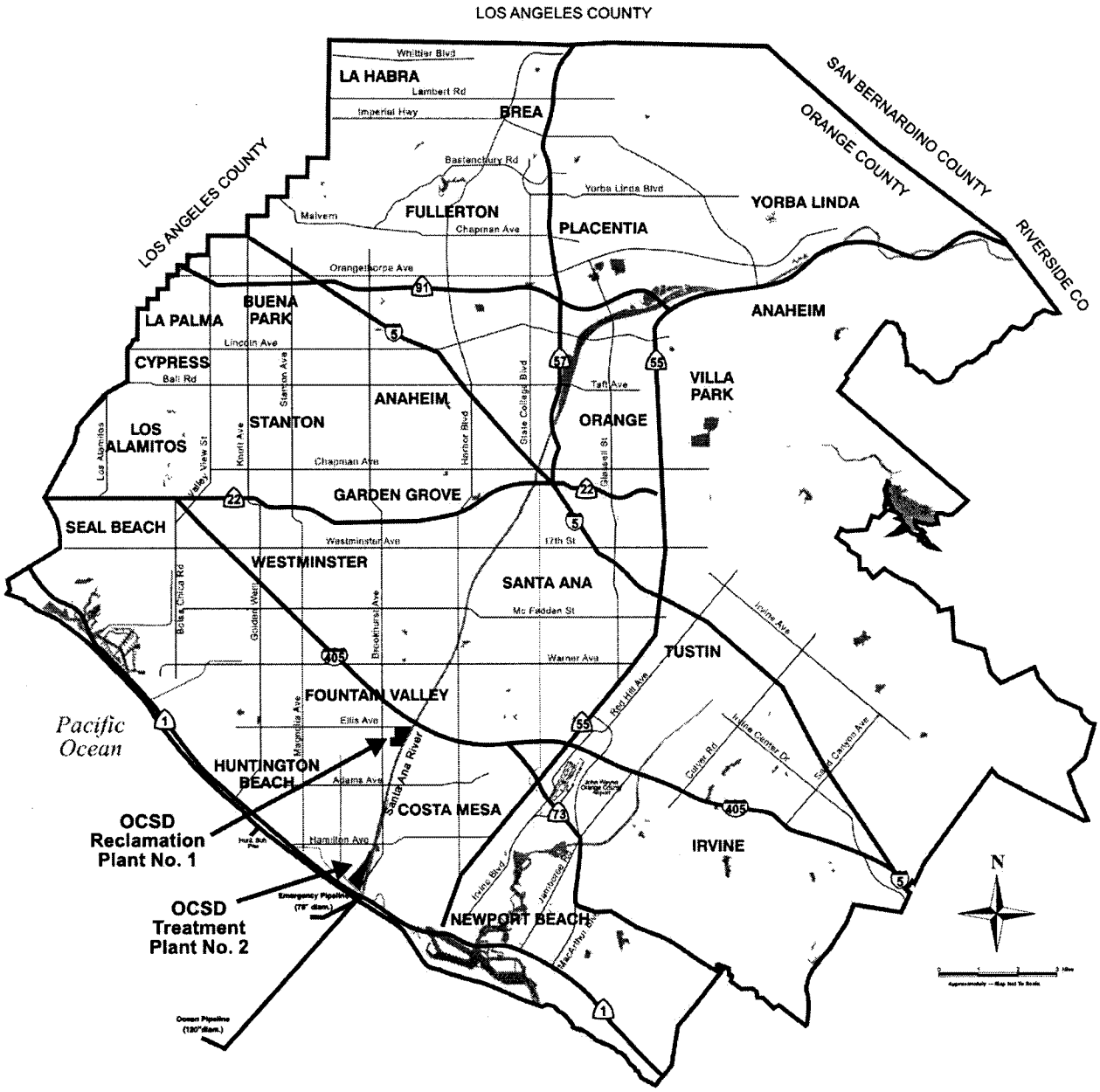
e. Revise mass emission benchmarks contained in M&RP No. R8-2004-0062.

3. M&RP No. R8-2004-0062 may be modified by the Executive Officer and EPA to enable the discharger to participate in comprehensive regional monitoring activities conducted in the Southern California Bight during the term of this permit. The intent of regional monitoring activities is to maximize the efforts of all monitoring partners using a cost-effective monitoring design and to best utilize the pooled scientific resources of the region. During these coordinated monitoring efforts, the discharger's sampling and analytical effort may be reallocated to provide a regional assessment of the impact of wastewater discharges to the Southern California Bight. Anticipated modifications to the monitoring program will be coordinated so as to provide a comprehensive picture of the ecological and statistical significance of monitoring results and to determine cumulative impacts of various pollutant sources. If predictable relationships among the biological, water quality and effluent monitoring variables can be demonstrated, it may be appropriate to decrease the discharger's monitoring effort. Conversely, the monitoring program may be intensified if it appears that the objectives cannot be achieved through the discharger's existing monitoring program. These changes will improve the overall effectiveness of monitoring in the Southern California Bight. Minor changes may be made without further public notice.

4. This permit may be modified, or revoked and reissued, based on the results of Magnuson-Stevens Fishery Conservation and Management Act and/or Endangered Species Act Section 7 consultation(s) with the National Marine Fisheries Service and/or U.S. Fish and Wildlife Service.

5. The Regional Board may reopen these Waste Discharge Requirements to consider making conforming changes to Order No. R8-2004-0062 in the event the EPA issues, after September 17, 2004, a version of NPDES Permit No. CA0110604 that contains revisions based on its consideration of comments timely submitted.

ATTACHMENT "A"



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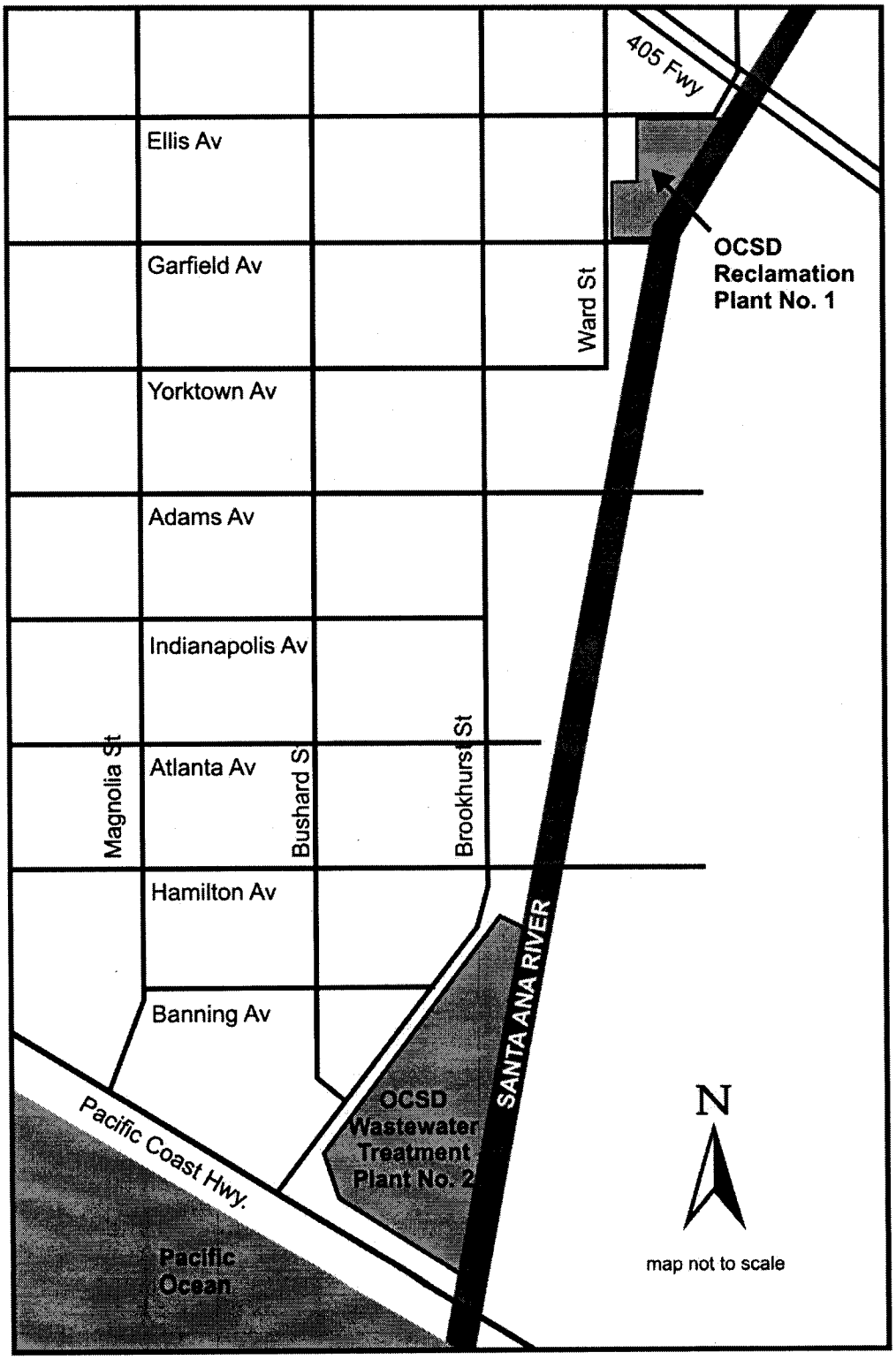

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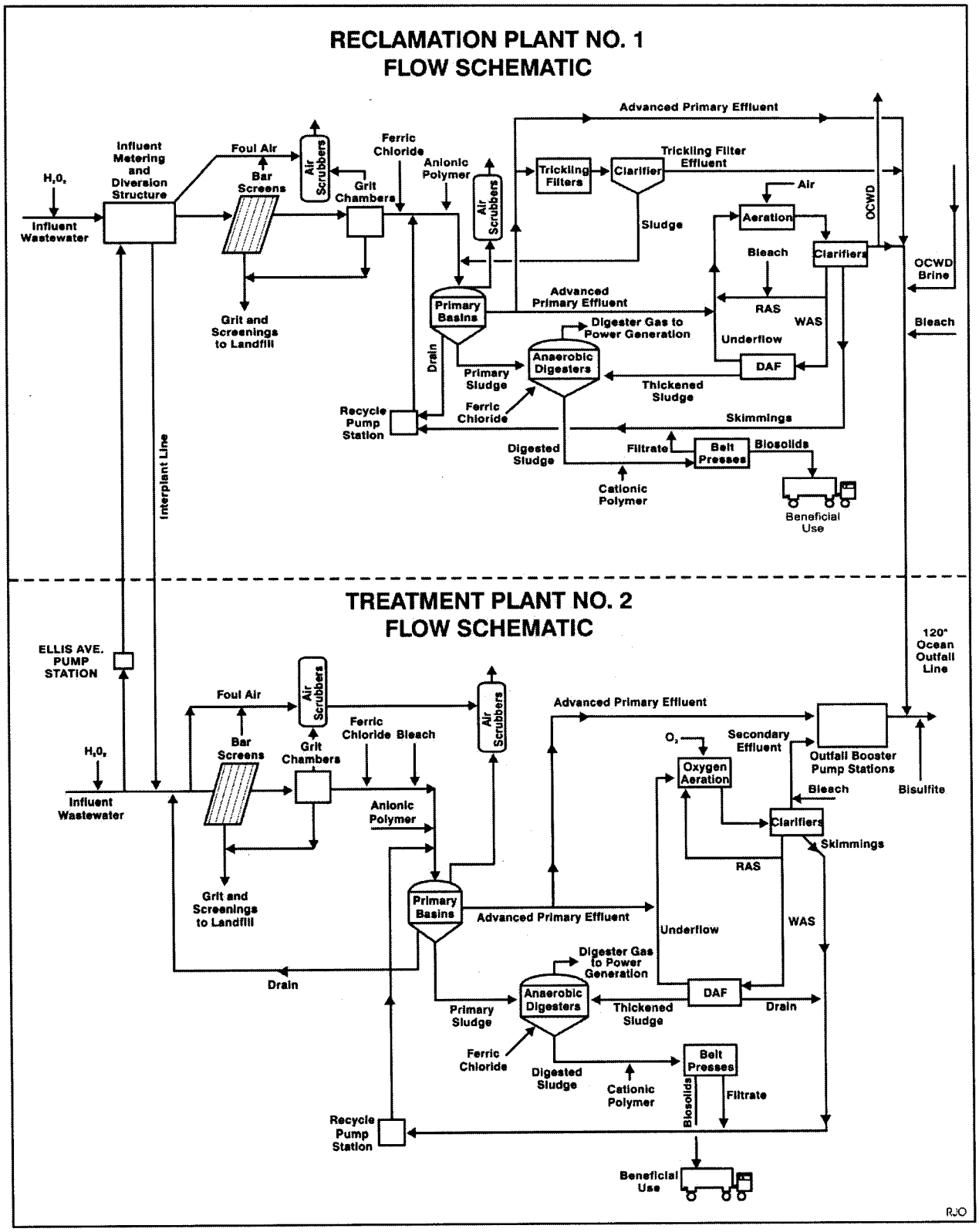

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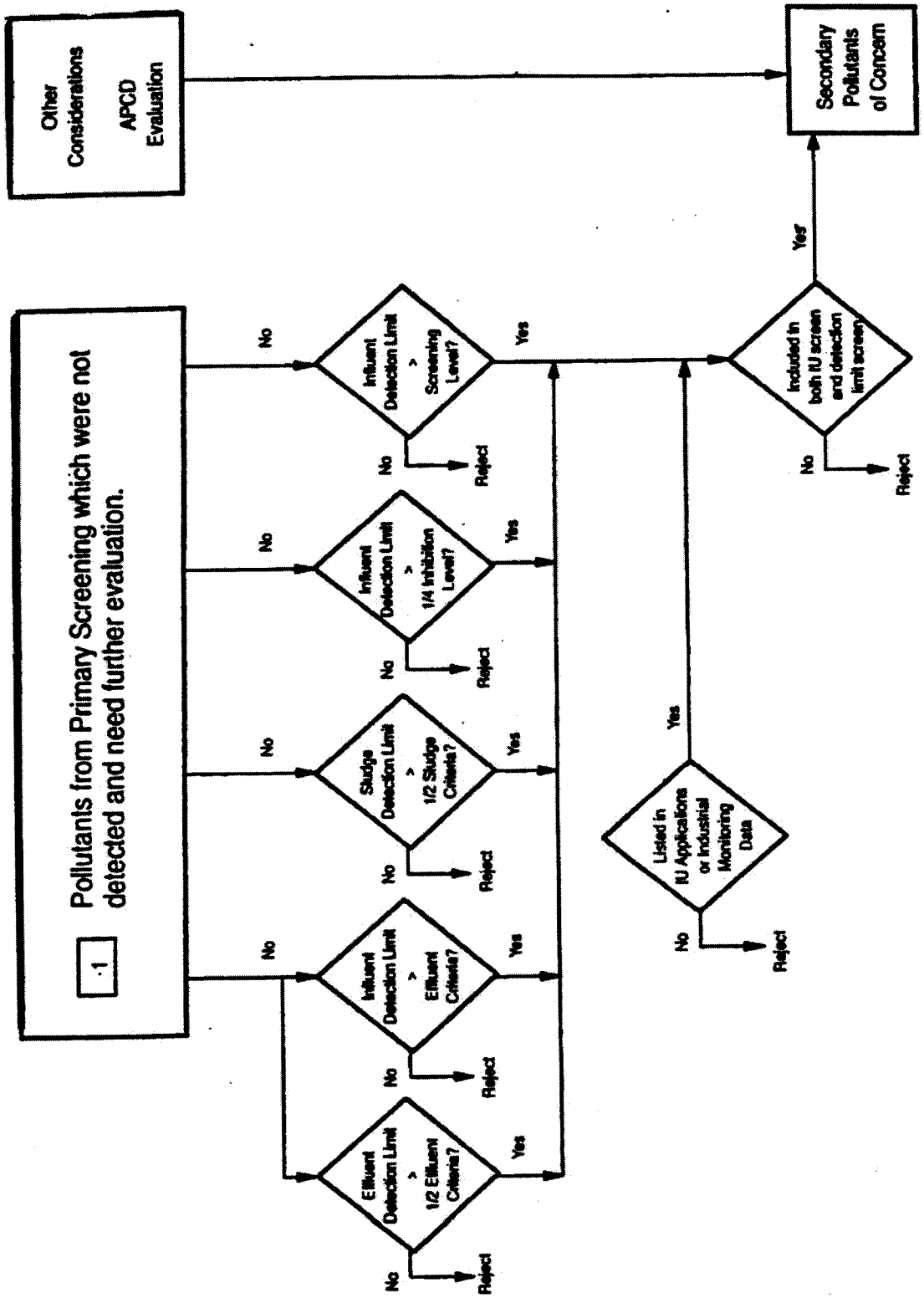

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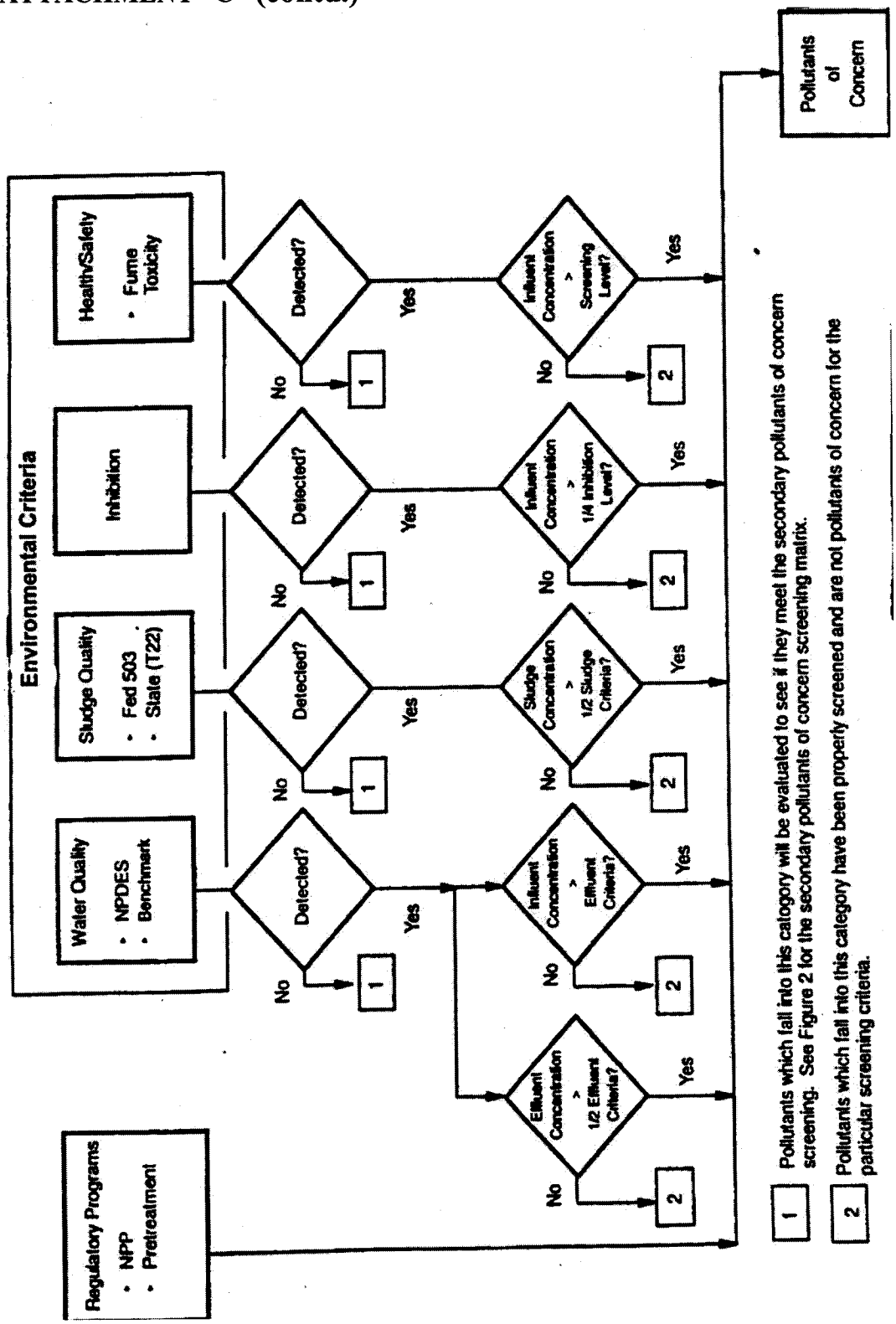

I, Gerard J. Thibeault, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of Order No. R8-2004-0062 adopted by the California Regional Water Quality Control Board, Santa Ana Region, on September 17, 2004.

Gerard J. Thibeault, Executive Officer
California Regional Water Quality Control Board
Santa Ana Region

I, Alexis Strauss, Director, do hereby certify that the foregoing is a full, true, and correct copy NPDES Permit No. CA0110604 issued by the U.S. Environmental Protection Agency Region IX, on 29 September, 2004.

Alexis Strauss, Director
Water Division
U.S. Environmental Protection Agency
Region IX

For the Regional Administrator

California Regional Water Quality Control Board
Santa Ana Region

and

U.S. Environmental Protection Agency
Region IX

MONITORING AND REPORTING PROGRAM NO. R8-2004-0062
NPDES NO. CA0110604

for the

Orange County Sanitation District
Reclamation Plant No. 1 and Treatment Plant No. 2

California Regional Water Quality Control Board
Santa Ana Region
and
U.S. Environmental Protection Agency
Region IX

MONITORING AND REPORTING PROGRAM NO. R8-2004-0062
NPDES NO. CA0110604

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California Regional Water Quality Control Board
Santa Ana Region
and
U.S. Environmental Protection Agency
Region IX

MONITORING AND REPORTING PROGRAM NO. R8-2004-0062
NPDES NO. CA0110604

for the

Orange County Sanitation District
Reclamation Plant No. 1 and Treatment Plant No. 2

NPDES Permit No. CA0110604 is comprised of two documents, Order No. R8-2004-0062 (Waste Discharge Requirements and Authorization to Discharge under the NPDES) and Monitoring and Reporting Program (M&RP) No. R8-2004-0062. The following sections of Order No. R8-2004-0062 are incorporated into this M&RP: Compliance Determination; Required Notices and Reports; Provisions; Special Provisions; and Permit Re-Opening, Revision, Revocation, and Reissuance. M&RP No. R8-2004-0062 supersedes and entirely replaces M&RP No. 98-5, as modified by Order No. R8-2002-0055.

A. MONITORING AND REPORTING REQUIREMENTS:

1. All influent, effluent, sludge/biosolids, and pretreatment sampling, preservation, and analyses shall be performed in accordance with the most recent edition of 40 CFR 136 and 40 CFR 503, or alternative test procedures approved by EPA under 40 CFR 136, unless otherwise specified in this permit. In addition, the Regional Board and EPA may specify test methods which are more sensitive than those specified under 40 CFR 136 or 40 CFR 503. All receiving water monitoring sampling, preservation, and analyses shall be performed in accordance with methods specified in this permit, or by methods specified and/or approved by the Regional Board and EPA.

2. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the California Department of Health Services, or at laboratories approved by the Regional Board Executive Officer.

3. In conformance with federal regulations at 40 CFR 122.45(c), monitoring for all permit effluent limitations, standards, or prohibitions for metals shall be conducted using the total recoverable method, except for Chromium VI where the dissolved method may be used. For effluent and receiving water monitoring:

a. The discharger shall require its testing laboratory to calibrate the analytical system down to the minimum level (ML)[i] specified in Attachment "A" for priority pollutants with effluent limitations in this permit, unless an alternative ML is approved by the Regional Board Executive Officer and EPA. When there is more than one ML value for a given chemical, the discharger shall use an ML value and associated analytical method, listed in Attachment "A", that is below the effluent limitation. If no ML value is below the effluent limitation, then the lowest ML value and associated analytical method shall be used. Any internal quality control data associated with the sample must be reported when requested by the Regional Board Executive Officer or EPA. The Regional Board and EPA will reject laboratory data if quality control data is unavailable or unacceptable.

b. The discharger must report with each sample result the reported ML and the laboratory's current Method Detection Limit (MDL)[ii]. The discharger must report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

1) Sample results greater than or equal to the reported ML shall be reported "as measured" by the laboratory (i.e., the measured chemical concentration in the sample).

2) Sample results less than the reported ML, but greater than or equal to the laboratory's MDL, must be reported as "Detected, but Not Quantified" or "DNQ". The laboratory must write the estimated chemical concentration of the sample next to "DNQ", as well as the words "Estimated Concentration" (may be shortened to "Est. Conc.").

3) Sample results less than the laboratory's MDL must be reported as "Not Detected" or "ND".

c. The discharger shall submit to the Regional Board and EPA all reports necessary to determine compliance with priority toxic pollutant effluent limitations and shall follow the chemical nomenclature and sequential order of constituents shown in Attachment "B". The discharger shall report with each sample result:

1) The ML or PQL[iii] listed in Attachment "A" or "C", respectively, achieved by the laboratory; and

2) The laboratory's current MDL, as determined by procedures found in the most recent edition of 40 CFR 136.

d. For receiving water monitoring and for priority pollutants without effluent limitations, the discharger shall require its testing laboratory to quantify constituent concentrations to the lowest achievable MDL as determined by the procedure found in the most recent edition of 40 CFR 136. In situations where the most stringent applicable receiving water objective, as specified in the Ocean Plan, is below the ML value specified in Attachment "A" and the discharger cannot achieve an MDL value for that pollutant below the ML value, the discharger shall submit justification why a lower MDL value cannot be achieved. Justification shall be submitted together with monthly monitoring reports.

4. For non-priority pollutant monitoring, analytical data shall be reported with identification of quantitation levels and method detection limits, as determined by procedures found in the most recent edition of 40 CFR 136.

5. The discharger shall have and implement an acceptable written quality assurance (QA) plan for laboratory analyses. For constituents listed in Table 1 – Minimum Levels - Volatile Chemicals; Table 2 – Minimum Levels - Semi Volatile Chemicals; Table 3 – Minimum Levels - Inorganics; Table 4 – Minimum Levels - Pesticides and PCBs, and Ammonia analysis, spike samples shall be performed in duplicate and conducted on a minimum of ten percent (10%) of the samples, or at least one sample per month, whichever is greater. Test precision will be determined by comparing the individual concentrations of the duplicate spike. For Oil and grease, duplicate chemical analyses shall be conducted on a minimum of 10% of the samples, or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. For physical parameters including Total suspended solids, Biochemical oxygen demand, Carbonaceous biochemical oxygen demand, Settleable solids, Turbidity, and pH, duplicate analyses shall be conducted on a minimum of 10% of the samples, or at least one sample per month, whichever is greater. When requested by the Regional Board or EPA, the discharger will participate in the NPDES discharge monitoring report QA performance study.

6. The results of all monitoring required by this permit shall be reported to the Regional Board and EPA, and shall be submitted in a format acceptable by the Regional Board and EPA that allows direct comparison with the limitations and requirements of this permit. Specific reporting formats may include preprinted forms and/or electronic media. Electronic receiving water monitoring data should be in STORET format, or in an alternative format specified by the Regional Board and EPA. A CD-ROM accompanied with a signed cover letter may serve as the official receiving water monitoring data submittal.

7. The discharger shall tabulate the monitoring data to clearly illustrate compliance and/or noncompliance with the requirements of this permit.

8. For 2,3,7,8-TCDD monitoring, the discharger shall multiply each measured or estimated congener concentration by its respective toxic equivalency factor (TEF), as shown below, and report the sum of these values. The discharger shall use EPA's Method 1613 for dioxin and furans. The discharger shall report the analytical results of the monitoring for each congener, including the quantifiable limit (approved reporting limit) and the method detection limit, and the measured or estimated concentration.

Toxic Equivalency Factors for 2,3,7,8-TCDD Equivalents	
Congener	***TEF***
2,3,7,8-TetraCDD	1
1,2,3,7,8-PentaCDD	1.0
1,2,3,4,7,8-HexaCDD	0.1
1,2,3,6,7,8-HexaCDD	0.1
1,2,3,7,8,9-HexaCDD	0.1
1,2,3,4,6,7,8-HeptaCDD	0.01
OctaCDD	0.0001
2,3,7,8-TetraCDF	0.1
1,2,3,7,8-PentaCDF	0.05
2,3,4,7,8-PentaCDF	0.5
1,2,3,4,7,8-HexaCDF	0.1
1,2,3,6,7,8-HexaCDF	0.1
1,2,3,7,8,9-HexaCDF	0.1
2,3,4,6,7,8-HexaCDF	0.1
1,2,3,4,6,7,8-HeptaCDF	0.01
1,2,3,4,7,8,9-HeptaCDF	0.01
OctaCDF	0.0001

9. For every item of monitoring data where the requirements are not met, the monitoring report shall include a statement discussing the reasons for noncompliance, and of the actions undertaken or proposed which will bring the discharge into full compliance with requirements at the earliest time, and an estimate of the date when the discharger will be in compliance. The discharger shall notify the Regional Board and EPA by letter when compliance with the time schedule has been achieved.

10. By March 1 of each year, the discharger shall submit an annual receiving water monitoring report to the Regional Board and EPA. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. In addition, the discharger shall discuss the compliance record and the corrective actions taken or planned which may be needed to bring the discharge into full compliance with the permit. The annual report shall include a summary of the quality assurance (QA) activities for the previous year.

11. [40 CFR 122.41(j)] *Monitoring and records*. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least *5* years (or longer, as required by 40 CFR part 503), from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Board Executive Officer or EPA at any time. Records of monitoring information shall include:

    a. The date, exact place, and time of sampling or measurements;

    b. The individual(s) who performed the sampling or measurements;

    c. *The laboratory which performed the analyses*;

    d. The date(s) analyses were performed;

    e. The individual(s) who performed the analyses;

    f. The analytical techniques or methods used, *including any modifications*; and

    g. The results of such analyses, *including*:

        1) Units of measurement;

        2) Minimum reporting limit for the analysis (minimum level, practical quantitation level);

        3) Results less than the reporting limit but above the method detection limit;

        4) Data qualifiers and a description of the qualifiers;

        5) Quality control test results (and a written copy of the laboratory quality assurance plan);

        6) Dilution factors, if used; and

        7) Sample matrix type; and

h. Electronic data and information regarding influent and effluent flow, pH and other constituents subject to monitoring or effluent limitations generated by the Supervisory Control And Data Acquisition (SCADA) System.

12. The flow measurement system shall be calibrated at least once per year, or more frequently, to ensure continued accuracy.

13. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. In the event that continuous monitoring equipment is out of service for greater than a 24-hour period, the discharger shall obtain a representative grab sample each day the equipment is out of service. The discharger shall correct the cause(s) of failure of the continuous monitoring equipment as soon as practicable. In its monitoring report, the discharger shall specify the period(s) during which the equipment was out of service and if the problem has not been corrected, identify the steps which the discharger is taking or proposes to take to bring the equipment back into service and the schedule for these actions.

14. Monitoring and reporting shall be in accordance with the following:

a. Monitoring and reporting of influent, effluent, biosolids/sludge, and pretreatment shall be done, at a minimum, on an annual basis, or more frequently, depending on the nature and effect of the sewage sludge use or disposal practice, or as specified in this permit.

b. The results of any sample analysis taken more frequently than required at the locations specified in this permit shall be reported to the Regional Board and EPA.

c. A "grab" sample is defined as any individual sample collected in less than 15 minutes.

d. A "composite" sample is defined as a combination of no fewer than eight individual samples obtained over the specified sampling period. The volume of each individual sample shall be proportional to the discharge flow rate at the time of sampling. The compositing period shall equal the specific sampling period, or 24 hours, if no period is specified.

e. Daily samples shall be collected on each day of the week.

f. 7-days/month sampling shall be arranged so that each day of the week is represented and that every week is represented each month.

g. Monthly samples shall be collected on any representative day of each month, unless other schedules are specified in this permit.

h. Quarterly, semi-annual, and annual samples shall be collected in accordance with the schedules specified in this permit.

i. During the term of this permit, certified analytical standards for individual chemicals used to determine the concentration of a constituent defined as the sum of a group of chemicals (e.g., chlordane) may become unavailable. When such a standard becomes unavailable, the discharger shall notify the Regional Board, the State Board's Quality Assurance Program, and EPA and shall report sample results for that constituent based on the sum of analytical results for the remaining chemicals with available certified standards.

15. All reports shall be signed by either a principal executive officer or ranking elected or appointed official or a duly authorized representative of a principal executive officer or ranking elected or appointed official. A duly authorized representative of a principal executive officer or ranking elected or appointed official may sign the reports only if:

a. The authorization is made in writing by a principal executive officer or ranking elected or appointed official;

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

c. The written authorization is submitted to the Regional Board and EPA.

Each person signing a report required by this permit or other information requested by the Regional Board or EPA shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

16. The discharger, unless otherwise specified elsewhere in this permit, shall deliver a copy of each monitoring report in the appropriate format to:

a. California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3348

b. U.S. Environmental Protection Agency
CWA Compliance Office, WTR-7
ATT: NPDES/DMR
75 Hawthorne Street
San Francisco, CA 94105-3901

B. INFLUENT AND EFFLUENT MONITORING:

1. Influent samples shall be taken at each point of inflow to the reclamation/treatment plants, upstream of any in-plant return flows, and shall be representative of influent to Reclamation Plant No. 1 and Treatment Plant No. 2. The date and time of sampling (as appropriate) shall be reported with the analytical values determined.

2. Effluent samples shall be taken downstream of the last addition of waste to the treatment or discharge works where a representative sample may be obtained prior to mixing with the receiving waters. The date and time of sampling (as appropriate) shall be reported with the analytical values determined.

3. The following shall constitute the influent and effluent monitoring programs, except for settleable solids, turbidity, pH, acute toxicity, chronic toxicity, total chlorine residual, and TCDD equivalents which shall be monitored only in the effluent:

Table B-1. Influent and effluent monitoring.

Constituent	*Units*	*Type of Sample*	*Minimum Frequency of Sampling and Analysis*
Flow rate	MGD	Record/Totalizer	Continuous
Biochemical oxygen demand (5-day)	mg/l	24-hr Composite	Daily
Carbonaceous biochemical oxygen demand (5-day)	mg/l	24-hr Composite	Daily
Grease and oil	mg/l	Grab[iv]	Monthly
Total suspended solids	mg/l	24-hr Composite	Daily
Settleable solids	ml/l	Grab	Daily
Turbidity	NTU	24-hr Composite	Monthly
PH	units	Grab	Monthly
Arsenic	ug/l	24-hr Composite	Monthly
Cadmium (see A.3)	ug/l	24-hr Composite	Monthly

Constituent	***Units***	***Type of Sample***	***Minimum Frequency of Sampling and Analysis***
Chromium (VI)[v]	ug/l	24-hr Composite	Monthly
Copper (see A.3)	ug/l	24-hr Composite	Monthly
Lead (see A.3)	ug/l	24-hr Composite	Monthly
Mercury (see A.3)	ug/l	24-hr Composite	Monthly
Nickel (see A.3)	ug/l	24-hr Composite	Monthly
Selenium (see A.3)	ug/l	24-hr Composite	Monthly
Silver (see A.3)	ug/l	24-hr Composite	Monthly
Zinc (see A.3)	ug/l	24-hr Composite	Monthly
Cyanide[vi]	ug/l	24-hr Composite	Monthly
Total chlorine residual	mg/l	Grab	Every 12 hours
Ammonia (as N)	mg/l	24-hr Composite	7-days/month
Acute toxicity	TUa	24-hr Composite	Quarterly
Chronic toxicity	TUc	24-hr Composite	Monthly
Phenolic compounds (non-chlorinated)	ug/l	24-hr Composite	Monthly
Chlorinated Phenolics	ug/l	24-hr Composite	Monthly
Endosulfan[vii]	ug/l	24-hr Composite	Monthly
Endrin	ug/l	24-hr Composite	Monthly
HCH[viii]	ug/l	24-hr Composite	Monthly
Radioactivity	pci/l	24-hr Composite	Monthly
Acrolein	ug/l	Grab	Quarterly
Antimony	ug/l	24-hr Composite	Monthly
Bis(2-chloroethoxy) methane	ug/l	24-hr Composite	Monthly
Bis(2-chloroisopropyl) ether	ug/l	24-hr Composite	Monthly
Chlorobenzene	ug/l	Grab	Quarterly
Di-n-butyl phthalate	ug/l	24-hr Composite	Monthly
Dichlorobenzenes[ix]	ug/l	24-hr Composite	Monthly

Constituent	***Units***	***Type of Sample***	***Minimum Frequency of Sampling and Analysis***
Diethyl phthalate	ug/l	24-hr Composite	Monthly
Dimethyl phthalate	ug/l	24-hr Composite	Monthly
4,6-dinitro-2-methylphenol	ug/l	24-hr Composite	Monthly
2,4-dinitrophenol	ug/l	24-hr Composite	Monthly
Ethylbenzene	ug/l	Grab	Quarterly
Fluoranthene	ug/l	24-hr Composite	Monthly
Hexachlorocyclopentadiene	ug/l	24-hr Composite	Monthly
Nitrobenzene	ug/l	24-hr Composite	Monthly
Thallium	ug/l	24-hr Composite	Monthly
Toluene	ug/l	Grab	Quarterly
1,1,1-trichloroethane	ug/l	Grab	Quarterly
Acrylonitrile	ug/l	Grab	Quarterly
Aldrin	ug/l	24-hr Composite	Monthly
Benzene	ug/l	Grab	Quarterly
Benzidine	ug/l	24-hr Composite	Monthly
Beryllium	ug/l	24-hr Composite	Monthly
Bis(2-chloroethyl) ether	ug/l	24-hr Composite	Monthly
Bis(2-ethylhexyl) phthalate	ug/l	24-hr Composite	Monthly
Carbon tetrachloride	ug/l	Grab	Quarterly
Chlordane[x]	ug/l	24-hr Composite	Monthlyr
Chlorodibromomethane	ug/l	Grab	Quarterly
Chloroform	ug/l	Grab	Quarterly
DDT[xi]	ug/l	24-hr Composite	Monthly
1,4-dichlorobenzene	ug/l	24-hr Composite	Monthly
3,3-dichlorobenzidine	ug/l	24-hr Composite	Monthly
1,2-dichloroethane	ug/l	Grab	Quarterly

Constituent	***Units***	***Type of Sample***	***Minimum Frequency of Sampling and Analysis***
1,1-dichloroethylene	ug/l	Grab	Quarterly
Dichlorobromomethane	ug/l	Grab	Quarterly
Dichloromethane	ug/l	Grab	Quarterly
1,3-dichloropropene	ug/l	Grab	Quarterly
Dieldrin	ug/l	24-hr Composite	Monthly
2,4-dinitrotoluene	ug/l	24-hr Composite	Monthly
1,2-diphenylhydrazine	ug/l	24-hr Composite	Monthly
Halomethanes[xii]	ug/l	Grab	Monthly
Heptachlor	ug/l	24-hr Composite	Monthly
Heptachlor epoxide	ug/l	24-hr Composite	Monthly
Hexachlorobenzene	ug/l	24-hr Composite	Monthly
Hexachlorobutadiene	ug/l	24-hr Composite	Monthly
Hexachloroethane	ug/l	24-hr Composite	Monthly
Isophorone	ug/l	24-hr Composite	Monthly
N-nitrosodimethylamine	ug/l	24-hr Composite	Monthly
N-nitrosodi-N-propylamine	ug/l	24-hr Composite	Monthly
N-nitrosodiphenylamine	ug/l	24-hr Composite	Monthly
PAHs[xiii]	ug/l	24-hr Composite	Monthly
PCBs[xiv]	ug/l	24-hr Composite	Monthly
TCDD equivalents	ug/l	24-hr Composite	Quarterly
1,1,2,2-tetrachloroethane	ug/l	Grab	Quarterly
Tetrachloroethylene	ug/l	Grab	Quarterly
Toxaphene	ug/l	24-hr Composite	Monthly
Trichloroethylene	ug/l	Grab	Quarterly
1,1,2-trichloroethane	ug/l	Grab	Quarterly
2,4,6-trichlorophenol	ug/l	24-hr Composite	Monthly

Constituent	***Units***	***Type of Sample***	***Minimum Frequency of Sampling and Analysis***
Vinyl chloride	ug/l	Grab	Quarterly
Remaining priority pollutants (See Attachment "A")	ug/l	24-hr Composite, unless otherwise specified in 40 CFR 136	Quarterly

4. The following Mass Emission Benchmarks, in metric tons per year (MT/yr), have been established for the discharge. The discharger shall monitor and report the mass emission rate for all constituents that have mass emission benchmarks. For each constituent, the 12-month average mass emission rate and the concentration and flow used to calculate that mass emission rate shall be reported in the annual pretreatment report and the annual receiving water monitoring report.

TABLE B-2. 12-Month Average Effluent Mass Emission Benchmarks.

Ocean Plan Constituent	***12-month Average (MT/yr)***	***Ocean Plan Constituent***	***12-month Average (MT/yr)***
Aquatic Life Objectives		***Human Health Objectives (Noncarcinogens)***	
Arsenic	1.92	Acrolein	24.96
Cadmium	0.55	Antimony	19.20
Chromium (VI)	2.94	Bis(2-chloroethoxy) methane	15.4
Copper	31.52	Bis(2-chloroisopropyl) ether	15.4
Lead	1.29	Chlorobenzene	1.91
Mercury	0.08	Di-n-butyl phthalate	15.39
Nickel	10.55	Dichlorobenzenes	15.4
Selenium	1.92	Diethyl phthalate	13.65
Silver	2.67	Dimethyl phthalate	7.68
Zinc	40.70	4,6-dinitro-2-methylphenol	76.81
Cyanide	7.75	2,4-dinitrophenol	76.81
Phenolic compounds (non-chlorinated)	218	Ethylbenzene	1.92
Chlorinated phenolics	27.6	Fluoranthene	7.68
Endosulfan	0.23	Hexachlorocyclopentadiene	15.4
Endrin	0.04	Nitrobenzene	7.68
HCH	0.30	Thallium	3.84
		Toluene	3.98

Ocean Plan Constituent	***12-month Average (MT/yr)***	***Ocean Plan Constituent***	***12-month Average (MT/yr)***
Aquatic Life Objectives		***Human Health Objectives (Noncarcinogens)***	
		1,1,1-trichloroethane	7.13
Human Health Objectives (Carcinogens)			
Acrylonitrile	18.06	1,2-diphenylhydrazine	15.4
Aldrin	0.08	Halomethanes	13.44
Benzene	3.23	Heptachlor + Heptachlor epoxide	0.08
Benzidine	76.81	Hexachlorobenzene	7.68
Beryllium	1.92	Hexachlorobutadiene	15.4
Bis(2-chloroethyl) ether	15.4	Hexachloroethane	7.68
Bis(2-ethylhexyl) phthalate	36.67	Isophorone	7.68
Carbon tetrachloride	1.92	N-nitrosodimethylamine	4.61
Chlordane	0.76	N-nitrosodiphenylamine	7.68
Chloroform	2.74	PAHs	99.854
DDT	0.26	PCBs	13.44
1,4-dichlorobenzene	7.68	TCDD equivalents	19.21
3,3-dichlorobenzidine	4.989	1,1,2,2-tetrachloroethane	1.92
1,2-dichloroethane	1.92	Tetrachloroethylene	1.92
1,1-dichloroethylene	1.92	Toxaphene	1.92
Dichloromethane	19.2	Trichloroethylene	1.92
1,3-dichloropropene	1.92	1,1,2-trichoroethane	1.92
Dieldrin	0.08	2,4,6-trichlorophenol	7.68
2,4-dinitrotoluene	7.68	Vinyl chloride	3.84

C. RECEIVING WATER MONITORING:

The following three components shall constitute the receiving water monitoring program:

- **Core Monitoring:** Shoreline monitoring and offshore water quality, sediment, fish community, and bioaccumulation monitoring are conducted to evaluate compliance with this permit, State water quality standards, and federal criteria;

- **Strategic Process Studies:** Each year, the discharger will conduct strategic process studies that address specific receiving water quality, discharge impacts, and ocean processes in the area of the discharge. The scope of these studies will be determined by the discharger, in coordination with the Regional Board and EPA. Studies will be approved by the Regional Board and EPA prior to implementation by the discharger.

- **Regional Monitoring Activities:** The discharger will participate in regional scale projects in association with groups such as the Southern California Coastal Water Research Project (SCCWRP), the Coastal Conservancy, and the Southern California Coastal Ocean Observing System (SCCOOS). These projects are designed to provide regional perspectives for the evaluation of wastewater discharges and other sources of contaminants to the Southern California Bight.

1. **Core Monitoring - Water Quality.** *The water quality monitoring program is designed to answer two principle questions: Are water column physical and chemical parameters within the ranges that ensure ecosystem protection? and What is the fate of the discharge plume?*

   Offshore water quality monitoring data are used to determine compliance with receiving water limitations, State water quality standards, and to assist in the interpretation of biological data. The Ocean Plan establishes quantitative water quality objectives for bacterial indicators, light transmittance, dissolved oxygen, pH, etc., as well as qualitative objectives for floating particulates, grease and oil, discoloration of the ocean surface, etc. Ammonia measurements are intended primarily to evaluate nutrient criteria, but will also be used to track the submerged wastewater plume. Coliform bacteria (total and *E. coli*) measurements are used to determine compliance with offshore water contact standards.

   The primary sampling approach for water quality shall be multiple-day studies carried out over a large grid of 29 stations centered on the outfall (Figure 1). The station grid covers approximately 72 km^2 (12 km × 6 km) adjacent to the coastline of Huntington Beach and Newport Beach. The 29 stations (Table D-1) shall be sampled three days per quarter. The stations shall be located and numbered as listed below.

Table C-1. Offshore Water Quality Monitoring Stations.

Station	*Latitude*	*Longitude*	*Depth*	*Discrete depths (m)*
2403*	33° 38.765'	118° 03.072'	21	1, 5, 10, 15, 19
2404	33° 37.875'	118° 03.808'	29	1, 5, 10, 15, 27
2405	33° 36.986	118° 04.544'	37	1, 5, 10, 15, 30, 35
2406	33° 36.096'	118° 05.280'	60	1, 5, 10, 15, 30, 45, 58
2303*	33° 37.537'	118° 00.936'	21	1, 5, 10, 15, 19
2304	33° 36.649'	118° 01.674'	29	1, 5, 10, 15, 27
2305	33° 35.760'	118° 02.412'	38	1, 5, 10, 15, 30, 36
2306	33° 34.871'	118° 03.149'	114	1, 5, 10, 15, 30, 45, 60
2203*	33° 36.313'	117° 58.810'	25	1, 5, 10, 15, 23
2204	33° 35.423'	117° 59.546'	39	1, 5, 10, 15, 30, 37
2205	33° 34.534'	118° 00.282'	57	1, 5, 10, 15, 30, 45, 55
2206	33° 33.644'	118° 01.018'	185	1, 5, 10, 15, 30, 45, 60
2103*	33° 35.089'	117° 56.678'	110	1, 5, 10, 15, 30, 45, 60
2104*	33° 34.199'	117° 57.414'	143	1, 5, 10, 15, 30, 45, 60
2105	33° 33.309'	117° 58.150'	280	1, 5, 10, 15, 30, 45, 60
2106	33° 32.420'	117° 58.885'	309	1, 5, 10, 15, 30, 45, 60
C2*	33° 36.125'	117° 56.014'	56	1, 5, 10, 15, 30, 45, 54
2351*	33° 38.151'	118° 02.001'	21	1, 5, 10, 15, 19
2352	33° 37.262'	118° 02.739'	29	CTD only
2353	33° 36.373'	118° 03.477'	37	CTD only
2354	33° 35.484'	118° 04.214'	123	CTD only
2223*	33° 36.934'	117° 59.871'	22	1, 5, 10, 15, 20
2224	33° 36.035'	118° 00.608'	31	CTD only
2225	33° 35.146'	118° 01.346'	47	CTD only
2226	33° 34.257'	118° 02.083'	135	CTD only
2183*	33° 35.701'	117° 57.744'	36	1, 5, 10, 15, 30, 34
2184	33° 34.811'	117° 58.480'	51	CTD only
2185	33° 33.922'	117° .59.215'	114	CTD only
2186	33° 33.032'	117° 59.951'	247	CTD only

Station 2205 is the nominal Zone of Initial Dilution (ZID) boundary station. Reference stations are determined using either current direction or the presence/absence of plume indicators (e.g., ammonia). The nominal inshore reference stations are 2404 and 2104. The nominal offshore reference stations are 2406 and 2105. Reference conditions shall be confirmed during each survey.

At each station, a secchi disk shall be used to assess transparency and visual observations of surface waters shall be noted. Dissolved oxygen (DO), temperature, salinity, light transmittance, photosynthetic active radiation (PAR), chlorophyll-*a*, and pH shall be measured at 1 m intervals throughout the entire water column to 2 m above the bottom at each station using a CTD with attached meters (for DO, light transmittance, PAR, chlorophyll-*a*, pH). All station depths shall be surveyed for actual bottom depth. At stations greater than 75 m, profiles shall be sampled to a maximum depth of 75 m. Grab samples for ammonia-nitrogen will be collected at 17 of the 29 offshore stations at discrete depths from 1 m below surface, 5 m, 10 m, 15 m, etc., to 2 m above the bottom or to a maximum depth of 60 m. Sampling for bacteriological indicators is discussed in the next section.

Table C-2. Offshore Water Quality Monitoring.

Constituent	***Units***	***Sample Type***	***Sample Depth***	***Sample Frequency***
Surface observations	n/a	Visual	Surface	3x / quarter
Transparency	meters	Secchi disc	Surface to extinction depth	3x / quarter
Dissolved oxygen	mg/l	Water column profile	1 m interval; from 1 m below surface to 2 m above bottom, (75 m maximum depth)	3x / quarter
Temperature	°C			
Salinity	psu			
Light transmittance	% transmittance			
PAR	µEinsteins sec^{-1} cm^{-2}			
Chlorophyll-*a*	ug/l			
PH	pH units			
Ammonia-nitrogen	mg/l	Grab	5 m intervals; from 1 m below surface to 2 m above bottom, (60 m maximum depth)	3x / quarter

Constituent	***Units***	***Sample Type***	***Sample Depth***	***Sample Frequency***
Total coliform organisms	MPN	Grab	5 m intervals; from 1 m below surface to 2 m above bottom, (60 m maximum depth)	5x / quarter
Escherichia coli	MPN	Grab		5x / quarter
Enterococci	MPN	Grab		5x / quarter

2. **Core Monitoring – Microbiological.** *The microbiological monitoring program is designed to answer two basic questions: Does sewage effluent reach water contact recreation zones? and Are densities of bacteria in water contact recreation zones below levels that will ensure public safety?*

The Regional Board has determined that the surface waters of the Offshore Zone, are used for water contact recreation. However the Regional Board and EPA have determined that it is appropriate to apply bacterial standards throughout the water column in the Offshore Zone to assure that the discharge does not pose a threat to water contact recreational uses.

For the purposes of determining compliance with Receiving Water Limitation C.2.a.1, five samples for total coliform organisms and *Escherichia coli* shall be collected at nine offshore water quality stations (2403, 2351, 2303, 2223, 2203, 2183, 2103, 2104, and C2). Seven of these nine stations form a row parallel to the coast and perpendicular to the outfall alignment (Figure 1). Stations 2104 and C2 are located downcoast near Newport Canyon. On a quarterly basis, bacterial samples shall be collected five times within a 30-day period at discrete depths from 1 m, 5 m, 10 m, 15 m below the surface, etc., to 2 m above the bottom, or a maximum depth of 60 m. Consistent with Ocean Plan requirements, enterococci samples shall also be collected at all stations where total and fecal coliform are required.

Shoreline bacterial monitoring assesses bacteriological conditions in areas used for water contact recreation (e.g., swimming, etc.) and where shellfish may be harvested for human consumption. Monitoring results are used to assess compliance with water quality standards. Total coliform organisms, fecal coliform organisms, and enterococci shall be sampled at 17 shoreline stations (Table C-3) according to the following schedule. Beginning Memorial Day to Labor Day, samples shall be collected five times per week. Beginning Labor Day through October 31, and beginning April 1 to Memorial Day, samples shall be collected three times per week. Beginning November 1 through March 31, samples shall be collected twice per week. Twice per week, grease observations and counts for grease particles shall be made along the previous high tide line at all shoreline stations.

Shoreline stations, located at approximately 3,000 and 6,000 ft intervals along the beach, extend from Station "0" at the mouth of the Santa Ana River 39,000 ft to the north (Bolsa Chica) and 39,000 ft to the south (Crystal Cove). The station designation indicates its approximate distance (in thousands of ft) and direction (north or south) from the mouth of the Santa Ana River (Figure 1). Shoreline stations shall be located and numbered as follows:

Table C-3. Shoreline Water Quality Monitoring Stations.

Station	*Latitude*	*Longitude*	*Depth*
39N	33° 42.114'	118° 03.321'	Surf
33N	33° 41.281'	118° 02.495'	Surf
27N	33° 40.587'	118° 01.712'	Surf
21N	33° 39.843'	118° 00.785'	Surf
15N	33° 39.114'	117° 59.846'	Surf
9N	33° 38.565'	117° 58.924'	Surf
6N	33° 38.331'	117° 58.573'	Surf
3N	33° 38.018'	117° 58.032'	Surf
0	33° 37.764'	117° 57.598'	Surf
3S	33° 37.619'	117° 57.264'	Surf
6S	33° 37.337'	117° 56.704'	Surf
9S	33° 37.004'	117° 56.207'	Surf
15S	33° 36.342'	117° 55.459'	Surf
21S	33° 36.059'	117° 54.213'	Surf
27S	33° 35.646'	117° 52.910'	Surf
29S	33° 35.559'	117° 52.508'	Surf
39S	33° 34.700'	117° 50.947'	Surf

Wind direction and speed, ocean temperature, weather, sea and tidal condition shall be recorded for each day of sampling, with the source(s) of the data documented. Tidal condition at 0800 hours obtained from the Southern California Tidelog shall also be recorded daily. At all shoreline stations, unusual water color, turbidity, odor, or other physical evidence of waste discharge at shall be noted on the log sheet, prepared at the time of sample collection.

3. **Core Monitoring – Sediment.** *The sediment monitoring program is designed to answer two questions: What is the spatial extent of the outfall effect on sediment conditions? and Are sediment conditions changing over time?*

The purpose of sediment monitoring is to map the area of impact and detect spatial and temporal trends in sediment pollutants and benthic infauna in the area of the discharge; and to assess compliance with State water quality standards and federal criteria. Stations ZB (located 60 m measured inshore from the midpoint of the long leg of the diffuser) and ZB2 (located 60 m northwest of the end of the diffuser) are the nominal ZID boundary stations. Sediment samples shall be collected on a quarterly basis from 10 stations (ZB, ZB2, 0, 1, 4, 5, 9, 12, C, and Control 1) and annually at an additional 39 stations using a 0.1 m^2 grab sampler (either Van Veen or box core). The locations of the benthic stations (Figure 2) are listed below:

Table C-4. Benthic Monitoring Station Locations.

Quarterly Stations	***Latitude***	***Longitude***	***Depth (m)***
0	33° 34.573'	118° 00.598'	56
1	33° 34.657'	118° 00.968'	56
4	33° 34.498'	117° 59.761'	56
5	33° 34.749'	118° 01.612'	59
9	33° 34.363'	117° 59.510'	59
12	33° 34.385'	117° 59.054'	58
C	33° 35.799'	118° 03.855'	56
Control 1	33° 36.037'	118° 05.387'	59
ZB	33° 34.545'	118° 00.274'	56
ZB2	33° 34.590'	118° 00.611'	56
Annual Stations	***Latitude***	***Longitude***	***Depth (m)***
3	33° 34.434'	118° 00.660'	60
7	33° 35.325'	118° 00.367'	41
8	33° 35.164'	117° 59.555'	44
10	33° 34.902'	118° 02.081'	62
13	33° 35.307'	118° 02.944'	59
17	33° 33.961'	118° 00.187'	91
18	33° 34.064'	118° 00.750'	91
20	33° 34.599'	118° 02.229'	100
21	33° 35.313'	118° 01.891'	44

Annual Stations	***Latitude***	***Longitude***	***Depth (m)***
22	33° 35.204'	117° 59.028'	45
23	33° 33.968'	117° 59.147'	100
24	33° 33.563'	118° 01.140'	200
25	33° 33.924'	118° 02.176'	200
27	33° 33.326'	117° 59.708'	200
29	33° 35.033'	118° 03.113'	100
30	33° 35.493'	118° 02.899'	46
33	33° 34.349'	117° 57.866'	100
36	33° 35.308'	117° 57.495'	45
37	33° 34.832'	117° 57.369'	56
38	33° 34.634'	117° 57.317'	100
39	33° 33.283'	117° 58.531'	200
40	33° 32.496'	117° 59.775'	303
41	33° 32.690'	118° 01.149'	303
42	33° 33.098'	118° 02.598'	303
44	33° 34.586'	118° 05.422'	241
C2	33° 36.125'	117° 56.014'	56
C4	33° 35.056'	117° 55.833'	187
C5	33° 33.920'	117° 55.620'	296
55	33° 36.739'	118° 05.413'	40
56	33° 35.665'	118° 05.417'	100
57	33° 34.970'	118° 05.418'	200
58	33° 33.365'	118° 05.347'	300
59	33° 36.070'	118° 03.701'	40
60	33° 35.532'	118° 04.017'	100
61	33° 35.011'	118° 04.326'	200
62	33° 34.069'	118° 04.568'	300
63	33° 34.173'	118° 03.407'	200
64	33° 33.484'	118° 03.663'	300
65	33° 33.859'	117° 57.230'	200

Sediment samples for chemical analyses shall be taken from the top 2 cm of the grab sample. The majority of the samples for physical and chemical measurements will be single samples (i.e., without replication). However three replicates are required for samples taken from the ten 60-meter stations in the summer. All samples shall be analyzed for the constituents listed below. For sediment chemistry, ambient monitoring may be conducted using EPA approved methods or methods developed by NOAA's National Status and Trends Program for Marine Environmental Quality. For chemical analysis of sediment, samples shall be reported on a dry weight basis.

Sediments shall be analyzed for grain size (phi), total organic carbon (%), and soluble sulfides (mg/kg). Sediments shall be analyzed for the following metals: aluminum, arsenic, beryllium, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium, silver, and zinc. These metals shall be reported in units of mg/kg. Sediments shall be analyzed for the following PCBs and chlorinated pesticides (ug/kg):

Table C-5. Chlorinated pesticides and PCBs measured in sediments and tissues.

Chlorinated Pesticides			
2,4'-DDT		4,4'-DDT	
2,4'-DDD		4,4'-DDD	
2,4'-DDE		4,4'-DDE	
Aldrin		Heptachlor epoxide	
Alpha-Chlordane		Hexachlorobenzene	
Trans-Nonachlor		Lindane (gamma-BHC)	
Dieldrin		Mirex	
Heptachlor		Endrin	
PCB Congeners (PCB No.)			
8	81	128	177
18	87	138	180
28	99	149	183
37	101	151	187
44	105	153/168	189
49	110	156	194
52	114	157	195
66	118	158	201
70	119	167	206
74	123	169	209

PCB Congeners (PCB No.)			
77	126	170	

Sediments shall be analyzed for the following polycyclic aromatic hydrocarbons (ug/kg):

Table C-6. PAHs measured in sediments.

Polycyclic Aromatic Hydrocarbons (PAHs)			
Acenaphthene	2-methylnaphthalene	C_1-Chrysene	C_4-Phenanthrene/Anthracene
Anthracene	1-methylnaphthalene	C_2-Chrysene	C_1-Pyrene
Benz(a)anthracene	1-methylphenanthrene	C_3-Chrysene	Perylene
Benzo(e)pyrene	Naphthalene	C_4-Chrysene	Phenanthrene
Biphenyl	C_1-Naphthalene	Dibenzothiophene	Benzo(a)pyrene
Chrysene	C_2-Naphthalene	C_1-Dibenzothiophene	Benzo(b)fluoranthene
Dibenzo(a,h)anthracene	C_3-Naphthalene	C_2-Dibenzothiophene	Acenaphthlylene
2,6-dimethylnaphthalene	C_4-Naphthalene	C_3-Dibenzothiophene	Benzo(k)fluoranthene
Fluoranthene	C_1-Fluorene	C_1-Phenanthrene/Anthracene	Benzo(g,h,i)perylene
C1-Fluoranthene	C_2-Fluorene	C_2-Phenanthrene/Anthracene	Indeno(1,2,3-c,d)pyrene
Fluorene	C_3-Fluorene	C_3-Phenanthrene/Anthracene	2,3,5-trimethylnaphthalene

For analyses of benthic infauna, three replicate sediment samples shall be collected, combined and analyzed as a single sample at each of the ten quarterly stations. Single samples shall be collected for benthic infauna at each of the 39 annual stations in the summer. The benthic infaunal samples shall be collected using a 0.1 m^2 grab (Van Veen grab or box core). These sample grabs shall be separate from those collected for sediment analyses. The samples shall be sieved using a 1.0 mm mesh screen.

Benthic organisms retained on the sieve shall be fixed in 15% buffered formalin, and transferred to 70% ethanol within two to seven days for storage. These organisms may be stained using Rose Bengal to facilitate sorting. All organisms, including infauna organisms, obtained during benthic monitoring shall be counted and identified to as low a taxon as possible. This enumeration and identification of organisms continues the historical database developed by the discharger. Biomass shall be estimated from wet weight measurements for each of the following taxa: molluscs, echinoderms, polychaetes, crustaceans, and other taxa.

Community analyses shall consist of number of species, number of individuals per species and total numerical abundance, and biomass. Community analyses shall include, but not be limited to, the following: number of species per 0.1 m^2, total number of species per station, total numerical abundance, biomass, infaunal trophic index, Swartz' 75% dominance index, Shannon-Weiner's diversity index (H'), and Pielou evenness (J').

Annual reports shall include community parameters along with more detailed statistical comparisons including community, temporal, and spatial analyses. Methods may include, but are not limited to, various multivariate analyses such as cluster analysis, ordination, and regression. The discharger should also conduct additional analyses, as appropriate, to elucidate temporal and spatial trends in the data.

4. **Core Monitoring - Fish and Macroinvertebrates.** Trawls shall be conducted to assess the community structure of demersal fish and macro-invertebrates, and the presence of priority pollutants in fish. Trawling shall be conducted semi-annually with triplicate trawls taken at four stations (T1, T11, T12, T13), and duplicate trawls taken at five stations (T2, T3, T6, T10, T14). Trawls shall be conducted using a Marinovich 7.62 m (25 ft) head rope otter trawl, and guidance specified in the most recent field manual developed for regional monitoring in the Southern California Bight. Trawl stations (Figure 3) shall be located and numbered as follows:

Table C-7. Trawl Station Locations.

Station	*Latitude*	*Longitude*	*Depth (m)*
T1	33° 34.641'	118° 00.567'	55
T2	33° 35.688'	117° 59.561'	35
T3	33° 34.856'	117° 57.345'	55
T6	33° 35.946'	118° 02.785'	36
T10	33° 33.771'	118° 00.250'	137
T11	33° 36.055'	118° 05.199'	60
T12	33° 34.868'	118° 01.670'	57
T13	33° 35.535'	118° 03.637'	60
T14	33° 34.672'	118° 03.200'	137

Fish and macroinvertebrates collected by trawls should be identified to as low a taxon as possible. At all stations, community structure analysis should be conducted. Community structure analysis consists of: the wet weight of each species, number of individuals per species, total numerical abundance, species richness, species diversity (i.e., Shannon-Wiener), and multivariate pattern analyses (e.g., ordination and classification analyses). Abnormalities and disease symptoms shall be recorded and itemized (e.g., fin erosion, internal and external lesions, tumors).

Chemical analyses of fish tissue shall be performed annually on three fish species from two sites representing outfall and reference areas (T1 and T11, respectively; T12 and T13 may also be sampled if additional specimens are needed). The fish targeted for analyses are hornyhead turbot, English sole, bigmouth sole, and the sanddab guild. Chemical analyses are to be performed on at least 10 individuals for each species. For the sanddab guild, chemical analyses will be performed on 10 composite samples. Chemical analyses shall include mercury, chlorinated pesticides and PCBs, and total lipids. Samples shall be prepared from each trawl station for both liver and muscle tissue.

In addition, histopathological analyses shall be performed on liver tissues of 80 individuals per species from outfall and reference locations once every five years. A reasonable level of effort (five trawls per location) shall be applied to reach the target number of individuals. The purpose is to determine whether fish near the outfall have higher prevalence of pathology than fish sampled away from the outfall. Target species include white croaker, hornyhead turbot, English sole, and bigmouth sole. The frequency of histopathological analyses in this permit cycle (once every five years) is reduced from what the discharger has been doing since 1985 (annually). The effort is being redirected toward special studies to address the relationship in observed liver pathologies to other cellular biomarkers.

5. **Strategic Process Studies.** The discharger will propose strategic process studies (SPS) that address specific receiving water quality, discharge impacts, and ocean processes in the area of the discharge. The scope of these studies will be determined by the discharger, in coordination with the Regional Board and EPA. Studies will be approved by the Regional Board Executive Officer and EPA prior to implementation.

   The discharger shall report on the status of on-going and completed strategic process studies on at least an annual basis. Proposals for new strategic process studies will be presented to the Regional Board and EPA as they are developed. A scope of work for each proposal shall be provided by the discharger in order to obtain Regional Board and EPA approval, and to inform the public. Upon approval by the Regional Board and EPA, the discharger shall implement its strategic process study(ies).

   Strategic process studies to begin in year one of the permit include the following:

Physical Oceanography and Hydrography: The goal of this study is to measure and describe the spatial and temporal variability of current velocity fields on the San Pedro Shelf in the vicinity of the discharger's ocean outfalls. This information will improve evaluations of core monitoring and other strategic process studies, and provide a better understanding of the physical processes that control the movement and dilution of the wastewater plume. This study will incorporate a long-term telemetry mooring located near the 120-inch ocean outfall, multiple short-term (e.g., 90 days) moorings located to study areas of interest (such as the Newport submarine canyon and the shelf/slope area south of the canyon), and a vessel mounted current profiler used to create quasi-synoptic spatial maps of the current velocity and direction. It is anticipated that the telemetry mooring will be incorporated into the proposed California Coastal Ocean Observations System (CCOOS) via Proposition 40 funding.

The discharger shall also continue to support the co-operative, multi-agency Central Bight Water Quality Program. This project includes quarterly hydrographic sampling from Ventura to Crystal Cove State Beach. Included in this effort will be an in-depth analysis of data collected since 1998 and developing standardized methods of evaluating data of this type. Partners in this effort include the City of Oxnard, City of Los Angeles, and County Sanitation Districts of Los Angeles County.

Modeling: In addition to measuring and describing current velocity fields, the discharger has proposed to work collaboratively with other partners in developing and/or evaluating, calibrating, and verifying coastal circulation models for the San Pedro Shelf and local environs. The general scope of work will include incorporating very large-scale (e.g., eastern Pacific) models with much smaller (e.g., 1-km scale) circulation and fate and transport models. Work will be done in collaboration with federal, State and local agencies, and research institutions, including, but not limited to, U.S. Geological Survey, U.S. Army Corps of Engineers, and Southern California Coastal Water Research Project.

Biologic Effects: Organisms are integrators of chemical exposures and have been used in pollution studies to determine potential effects, especially for unmeasured contaminants. The prevalence of certain types of liver lesions in fish has been shown to be positively correlated with exposure to chemical contaminants and has been used as a bioindicator of exposure and environmental stress. The discharger has conducted histopathological studies on selected fish since 1985. Results to date indicate that only about 3% of the fish analyzed had significant liver pathologies, less than the 8% incidence rate reported from a regional reference area (Dana Point). For the three primary target species (white croaker, bigmouth sole, and hornyhead turbot), the most significant correlative was age; that is older (larger) fish had more liver lesions. For these three species, the outfall had either a lower incidence of pathology or there were no differences seen in fish from the outfall and farfield collection sites.

While OCSD's histopathology work has demonstrated the absence of significant biologic impacts of the discharge, there have been recent advances in studying cellular level impacts of chemical exposures using biomarkers such as stress proteins and the level of endocrine disruption within an organism. The discharger proposes evaluating several of these cellular biomarkers and their correlation with liver pathologies.

Evaluation of Trace Organic Constituents: The discharger's NPDES permit contains effluent limitations for 12 organic constituents for which there is limited information on whether they occur in the effluent at levels above the calculated effluent limitations. The constituents are: aldrin, benzidine, chlordane, 3,3'-dichlorobenzidine, dieldrin, heptachlor, heptachlor epoxide, hexachlorobenzene, PAHs, PCBs, TCDD equivalents, and toxaphene. The goals of this study are to: (1) gather additional information to determine whether these constituents are found in the effluent and at what levels; (2) determine the levels found in the environment (e.g., water column, sediment, fish tissue); and, if found, (3) determine the environmental and human health impacts of those measured constituents. It should be noted that the occurrence of these compounds in the environment may not be reflective of the present OCSD discharge as several of these pollutants may be "legacy" contaminants whose occurrence is due to historical inputs to the San Pedro shelf.

The project would use methods more sensitive than methods included in the permit where the concentration of the pollutant is reported as DNQ and the effluent limitation is less than the MDL, and/or other method(s) developed by OCSD. Samples will be taken from: (1) the final effluent; (2) water column (using collection methods such as SPME and/or caged mussels); (3) sediment; and (4) tissue (e.g., fish and/or mussel) from sites near to and removed from the OCSD ocean outfall. Results from this study will be used to evaluate the need for pollutant management plans. The Regional Board and EPA may use this information to re-evaluate the need for effluent limitations for the 12 organic constituents.

6. **Regional Monitoring Activities.** The discharger shall participate in regional monitoring activities coordinated by the SCCWRP. The procedures and time lines for Regional Board and EPA approval shall be the same as detailed above for Strategic Process Studies. The level of detail shall be similar to that in the summers of 1994, 1998, and 2003 which involved the following:

   a. Participation in the regional microbiological studies;

   b. Collection and analyses of water quality data;

   c. Collection and analyses of sediment grab samples for chemistry and benthos;

   d. Collection and analyses of fish and macroinvertebrate community structure at approximately 20 trawl stations; and

   e. Collection and analyses of fish tissue from approximately 20 stations for contaminants (organics and mercury), and analyses of selected biomarkers at a subset of stations.

D. GENERAL REPORTING:

1. Monitoring reports shall be submitted by the dates in the following schedule:

Report	*Frequency*	*Due Date*
Influent and effluent constituents	Monthly	By the 45th day following the end the monitoring period
Receiving Water Monitoring	Annually	March 1, each year
Offshore Water Quality	Quarterly	By the 45th day following the end the monitoring period
Shoreline Monitoring	Annually[xv]	March 1, each year
Biosolids Monitoring	Annually	February 19, each year
SIU Compliance	Semi-annually	March 31 and September 30 (or October 31), each year
Annual Pretreatment Report	Annually	October 31, each year
Quality Assurance Project Plan	Annually	July 15, each year

I, Gerard J. Thibeault, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of Monitoring and Reporting Program No. R8-2004-0062, of NPDES Permit No. CA0110604, adopted by the California Regional Water Quality Control Board, Santa Ana Region, on September 17, 2004.

Gerard J. Thibeault, Executive Officer
California Regional Water Quality Control Board
Santa Ana Region

I, Alexis Strauss, Director, do hereby certify that the foregoing is a full, true, and correct copy of Monitoring and Reporting Program No. R8-2004-0062, of NPDES Permit No. CA0110604, issued by the U.S. Environmental Protection Agency Region IX, on 29 September, 2004.

Alexis Strauss, Director
Water Division
U.S. Environmental Protection Agency
Region IX
For the Regional Administrator

FIGURE 1

Water Quality Monitoring Stations

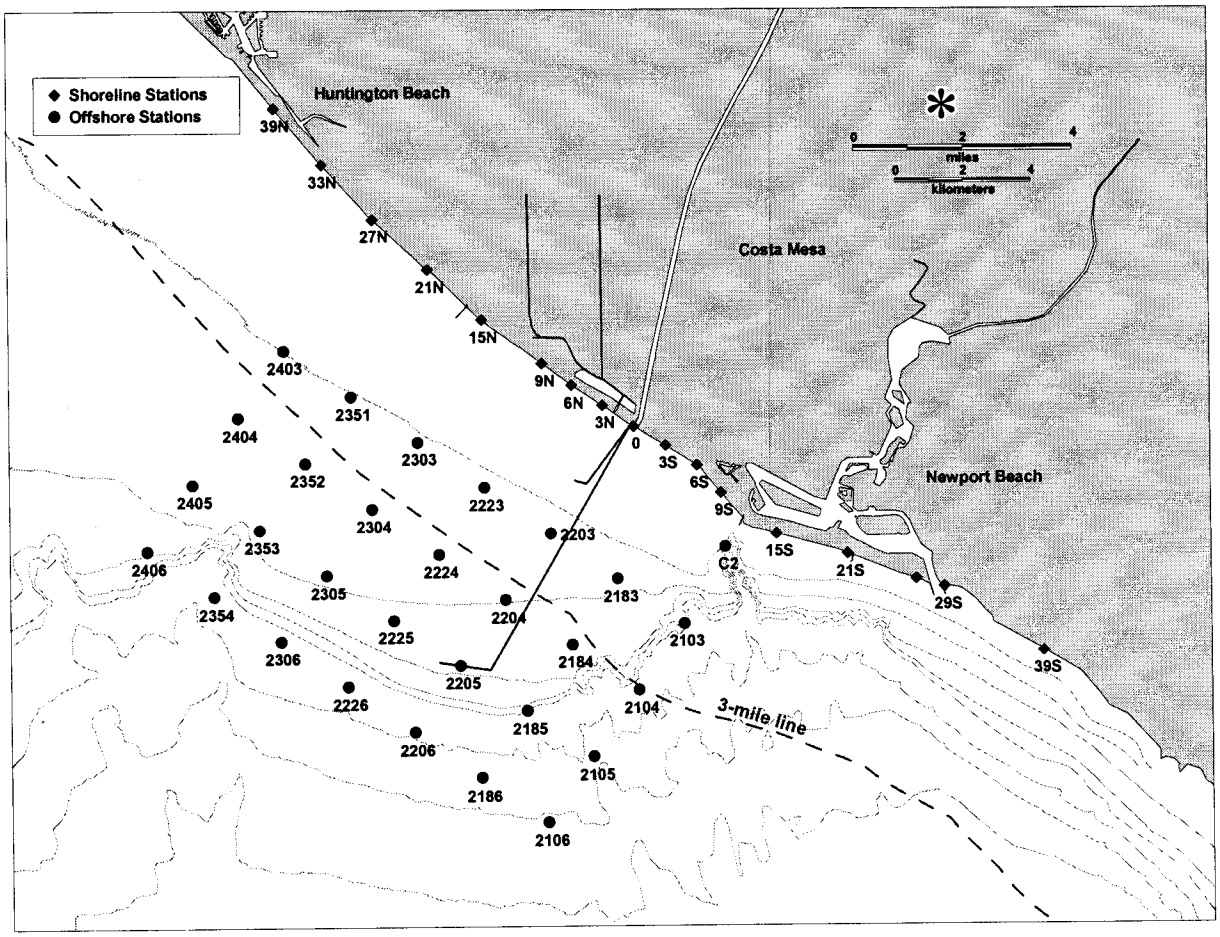


FIGURE 2

Benthic Monitoring Stations

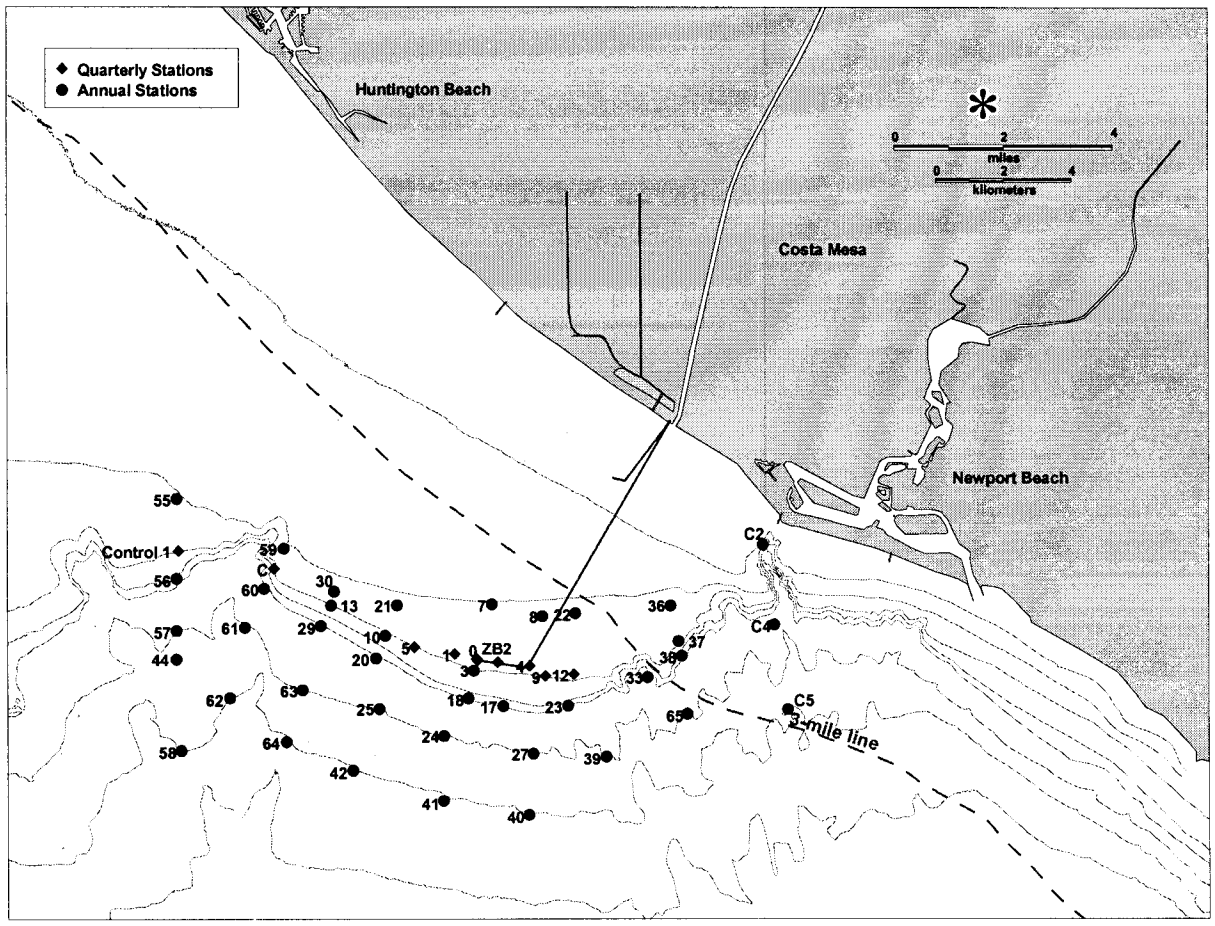
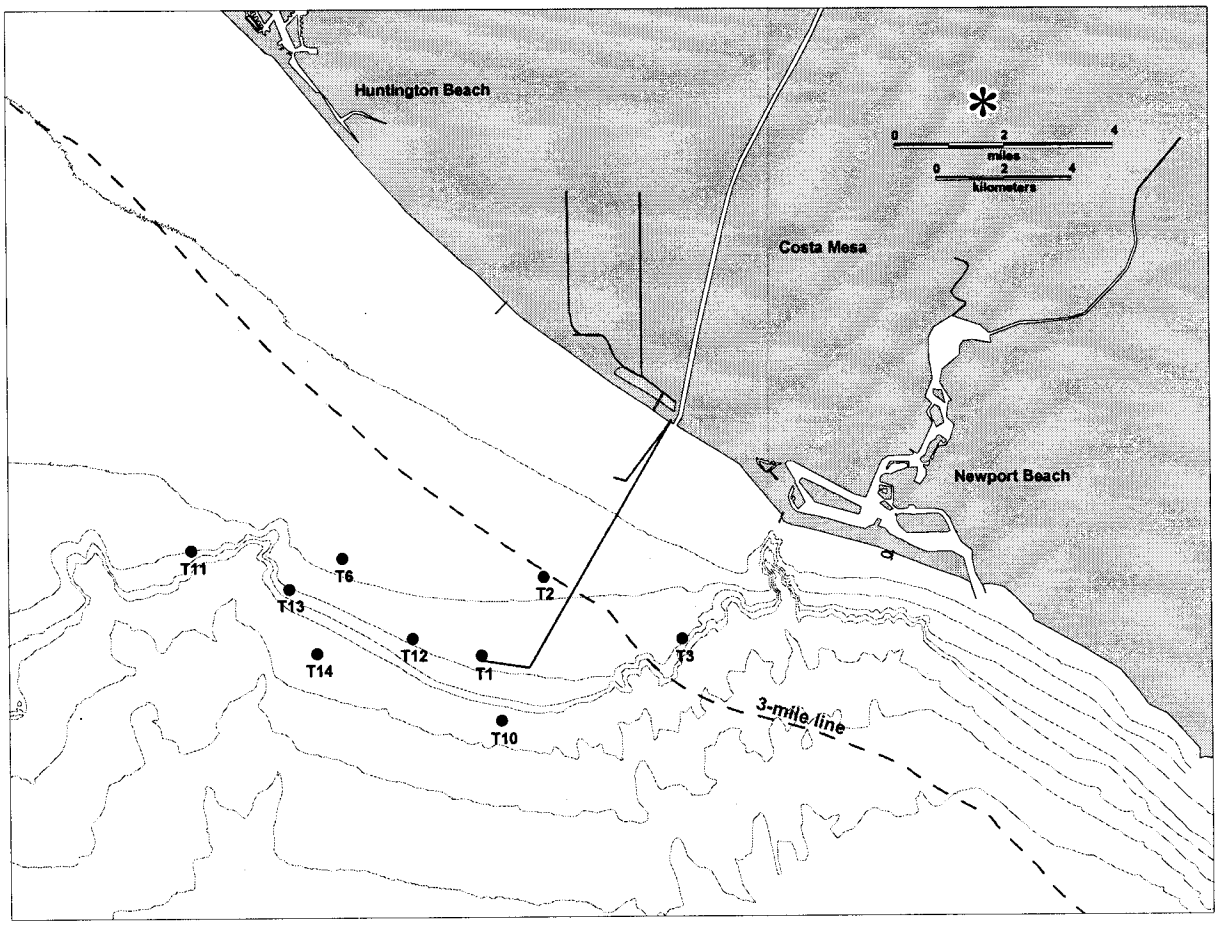


FIGURE 3

Trawl Stations



APPENDIX A

MINIMUM* LEVELS

The Minimum* Levels identified in this appendix represent the lowest concentration of a pollutant that can be quantitatively measured in a sample given the current state of performance in analytical chemistry methods in California. These Minimum* Levels were derived from data provided by State-certified analytical laboratories in 1997 and 1998 for pollutants regulated by the Ocean Plan and shall be used until new values are adopted by the SWRCB. There are four major chemical groupings: volatile chemicals, semi-volatile chemicals, inorganics, pesticides and PCB's. "No Data" is indicated by "—".

TABLE 1
MINIMUM* LEVELS - VOLATILE CHEMICALS

Volatile Chemicals	Minimum* Level (ug/l)		
	CAS Number	GC Method [a]	GCMS Method [b]
Acrolein	107028	2.	5
Acrylonitrile	107131	2.	2
Benzene	71432	0.5	2
Bromoform	75252	0.5	2
Carbon Tetrachloride	56235	0.5	2
Chlorobenzene	108907	0.5	2
Chlorodibromomethane	124481	0.5	2
Chloroform	67663	0.5	2
1,2-Dichlorobenzene (volatile)	95501	0.5	2
1,3-Dichlorobenzene (volatile)	541731	0.5	2
1,4-Dichlorobenzene (volatile)	106467	0.5	2
Dichlorobromomethane	75274	0.5	2
1,1-Dichloroethane	75343	0.5	1
1,2-Dichloroethane	107062	0.5	2
1,1-Dichloroethylene	75354	0.5	2
Dichloromethane	75092	0.5	2
1,3-Dichloropropene (volatile)	542756	0.5	2
Ethyl benzene	100414	0.5	2
Methyl Bromide	74839	1.	2
Methyl Chloride	74873	0.5	2
1,1,2,2-Tetrachloroethane	79345	0.5	2
Tetrachloroethylene	127184	0.5	2
Toluene	108883	0.5	2
1,1,1-Trichloroethane	71556	0.5	2
1,1,2-Trichloroethane	79005	0.5	2
Trichloroethylene	79016	0.5	2
Vinyl Chloride	75014	0.5	2

Table 1 Notes:

a) GC Method = Gas Chromatography.

b) GCMS Method = Gas Chromatography / Mass Spectrometry.

* To determine the lowest standard concentration in an instrument calibration curve for these techniques, use the given ML (see Chapter III of Ocean Plan, "Use of Minimum* Levels").

TABLE 2
MINIMUM* LEVELS - SEMI VOLATILE CHEMICALS

Semi-Volatile Chemicals	CAS Number	Minimum* Level (ug/L)			
		GC Method [a]	GCMS Method [b]	HPLC Method [c]	COLOR Method [d]
Acenapthylene	208968	--	10	0.2	--
Anthracene	120127	--	10	2	--
Benzidine	92875	--	5	--	--
Benzo(a)anthracene	56553	--	10	2	--
Benzo(a)pyrene	50328	--	10	2	--
Benzo(b)fluoranthene	205992	--	10	10	--
Benzo(g,h,i)perylene	191242	--	5	0.1	--
Benzo(k)floranthene	207089	--	10	2	--
Bis 2-(1-Chloroethoxy) methane	111911	--	5	--	--
Bis(2-Chloroethyl)ether	111444	10	1	--	--
Bis(2-Chloroisopropyl)ether	39638329	10	2	--	--
Bis(2-Ethylhexyl) phthalate	117817	10	5	--	--
2-Chlorophenol	95578	2	5	--	--
Chrysene	218019	--	10	5	--
Di-n-butyl phthalate	84742	--	10	--	--
Dibenzo(a,h)anthracene	53703	--	10	0.1	--
1,2-Dichlorobenzene (semivolatile)	95504	2	2	--	--
1,3-Dichlorobenzene (semivolatile)	541731	2	1	--	--
1,4-Dichlorobenzene (semivolatile)	106467	2	1	--	--
3,3-Dichlorobenzidine	91941	--	5	--	--
2,4-Dichlorophenol	120832	1	5	--	--
1,3-Dichloropropene	542756	--	5	--	--
Diethyl phthalate	84662	10	2	--	--
Dimethyl phthalate	131113	10	2	--	--
2,4-Dimethylphenol	105679	1	2	--	--
2,4-Dinitrophenol	51285	5	5	--	--
2,4-Dinitrotoluene	121142	10	5	--	--
1,2-Diphenylhydrazine (as Azobenzene)	122667	--	1	--	--
Fluoranthene	206440	10	1	0.05	--
Fluorene	86737	--	10	0.1	--
Hexachlorobenzene	118741	5	1	--	--
Hexachlorobutadiene	87683	5	1	--	--
Hexachlorocyclopentadiene	77474	5	5	--	--

TABLE 2 (CONTINUED)
MINIMUM* LEVELS - SEMI VOLATILE CHEMICALS

Semi-Volatile Chemicals	CAS Number	Minimum* Level (ug/L)			
		GC Method [a]	GCMS Method [b]	HPLC Method [c]	COLOR Method [d]
Hexachloroethane	67721	5	1	--	--
Indeno(1,2,3-cd)pyrene	193395	--	10	0.05	--
Isophorone	78591	10	1	--	--
2-methyl-4,6-dinitrophenol	534521	10	5	--	--
3-methyl-4-chlorophenol	59507	5	1	--	--
N-nitrosodi-n-propylamine	621647	10	5	--	--
N-nitrosodimethylamine	62759	10	5	--	--
N-nitrosodiphenylamine	86306	10	1	--	--
Nitrobenzene	98953	10	1	--	--
2-Nitrophenol	88755	--	10	--	--
4-Nitrophenol	100027	5	10	--	--
Pentachlorophenol	87865	1	5	--	--
Phenanthrene	85018	--	5	0.05	--
Phenol	108952	1	1	--	50
Pyrene	129000	--	10	0.05	--
2,4,6-Trichlorophenol	88062	10	10	--	--

Table 2 Notes:

a) GC Method = Gas Chromatography
b) GCMS Method = Gas Chromatography / Mass Spectrometry
c) HPLC Method = High Pressure Liquid Chromatography
d) COLOR Method = Colorimetric

* To determine the lowest standard concentration in an instrument calibration curve for this technique, multiply the given ML by 1000 (see Chapter III of Ocean Plan, "Use of Minimum* Levels").

TABLE 3
MINIMUM* LEVELS - INORGANICS

Inorganic Substances	CAS Number	Minimum* Level (ug/L)								
		COLOR Method [a]	DCP Method [b]	FAA Method [c]	GFAA Method [d]	HYDRIDE Method [e]	ICP Method [f]	ICPMS Method [g]	SPGFAA Method [h]	CVAA Method [i]
Antimony	7440360	--	1000.	10	5	0.5	50	0.5	5	--
Arsenic	7440382	20	1000.	--	2.	1.	10.	2.	2.	--
Beryllium	7440417	--	1000.	20.	0.5	--	2.	0.5	1.	--
Cadmium	7440439	--	1000.	10.	0.5	--	10.	0.2	0.5	--
Chromium (total)	--	--	1000.	50.	2.	--	10.	0.5	1.	--
Chromium (VI)	18540299	10	--	5.	--	--	--	--	--	--
Copper	7440508		1000.	20.	5.	--	10.	0.5	2.	--
Cyanide	57125	5.	--	--	--	--	--	--	--	--
Lead	7439921	--	10000.	20	5.	--	5.	0.5	2.	--
Mercury	7439976	--	--	--	--	--	--	0.5	--	0.2
Nickel	7440020	--	1000.	50	5.	--	20.	1.	5.	--
Selenium	7782492	--	1000.	--	5.	1.	10.	2.	5.	--
Silver	7440224	--	1000.	10	1.	--	10.	0.2	2.	--
Thallium	7440280	--	1000.	10	2.	--	10.	1.	5.	--
Zinc	7440666	--	1000.	20	--	--	20.	1.	10.	--

Table 3 Notes:
a) COLOR Method = Colorimetric
b) DCP Method = Direct Current Plasma
c) FAA Method = Flame Atomic Absorption
d) GFAA Method = Graphic Furnace Atomic Absorption
e) HYDRIDE Method = Gaseous Hydride Atomic Absorption
f) ICP Method = Inductively Coupled Plasma
g) ICPMS Method = Inductively Coupled Plasma / Mass Spectrometry
h) SPGFAA Method = Stabilized Platform Graphite Furnace Atomic Absorption (i.e., USEPA 200.9)
i) CVAA Method = Cold Vapor Atomic Absorption
* To determine the lowest standard concentration in an instrument calibration curve for this technique, multiply the given ML (see Chapter III of Ocean Plan, "Use of Minimum* Levels").

TABLE 4
MINIMUM* LEVELS - PESTICIDES AND PCBs

Pesticides and PCBs	CAS Number	Minimum* Level (ug/L)
		GC Method [a]
Aldrin	309002	0.005
Chlordane	57749	0.1
4,4'-DDD	72548	0.05
4,4'-DDE	72559	0.05
4,4'-DDT	50293	0.01
Dieldrin	60571	0.01
a-Endosulfan	959988	0.02
b-Endosulfan	33213659	0.01
Endosulfan Sulfate	1031078	0.05
Endrin	72208	0.01
Heptachlor	76448	0.01
Heptachlor Epoxide	1024573	0.01
a-Hexachlorocyclohexane	319846	0.01
b-Hexachlorocyclohexane	319857	0.005
d-Hexachlorocyclohexane	319868	0.005
g-Hexachlorocyclohexane (Lindane)	58899	0.02
PCB 1016	--	0.5
PCB 1221	--	0.5
PCB 1232	--	0.5
PCB 1242	--	0.5
PCB 1248	--	0.5
PCB 1254	--	0.5
PCB 1260	--	0.5
Toxaphene	8001352	0.5

Table 4 Notes:

a) Method = Gas Chromatography
* To determine the lowest standard concentration in an instrument calibration curve for this technique, multiply the given ML by 100 (see Chapter III of Ocean Plan, "Use of Minimum* Levels").

APPENDIX B

A. EPA PRIORITY POLLUTANT LIST

B. Metals

1.	Antimony
2.	Arsenic
3.	Beryllium
4.	Cadmium
5a.	Chromium (III)
5b.	Chromium (VI)
6.	Copper
7.	Lead
8.	Mercury
9.	Nickel
10.	Selenium
11.	Silver
12.	Thallium
13.	Zinc

C. Miscellaneous

14.	Cyanide
15.	Asbestos (not required unless requested)
16.	2,3,7,8-Tetrachlorodibenzo-P-Dioxin (TCDD)

Volatile Organics

17.	Acrolein
18.	Acrylonitrile
19.	Benzene
20.	Bromoform
21.	Carbon Tetrachloride
22.	Chlorobenzene
23.	Chlorodibromomethane
24.	Chloroethane
25.	2-Chloroethyl Vinyl Ether
26.	Chloroform
27.	Dichlorobromomethane
28.	1,1-Dichloroethane
29.	1,2-Dichloroethane
30.	1,1-Dichloroethylene
31.	1,2-Dichloropropane
32.	1,3-Dichloropropylene
33.	Ethylbenzene
34.	Methyl Bromide
35.	Methyl Chloride
36.	Methylene Chloride
37.	1,1,2,2-Tetrachloroethane
38.	Tetrachloroethylene
39.	Toluene
40.	1,2-Trans-Dichloroethylene
41.	1,1,1-Trichloroethane
42.	1,1,2-Trichloroethane
43.	Trichloroethylene
44.	Vinyl Chloride

Acid Extractibles

45.	2-Chlorophenol
46.	2,4-Dichlorophenol
47.	2,4-Dimethylphenol
48.	2-Methyl-4,6-Dinitrophenol
49.	2,4-Dinitrophenol
50.	2-Nitrophenol
51.	4-Nitrophenol
52.	3-Methyl-4-Chlorophenol
53.	Pentachlorophenol
54.	Phenol
55.	2, 4, 6 - Trichlorophenol

Base/Neutral Extractibles

56.	Acenaphthene
57.	Acenaphthylene
58.	Anthracene
59.	Benzidine
60.	Benzo (a) Anthracene
61.	Benzo (a) Pyrene
62.	Benzo (b) Fluoranthene
63.	Benzo (g,h,i) Perylene
64.	Benzo (k) Fluoranthene
65.	Bis (2-Chloroethoxy) Methane
66.	Bis (2-Chloroethyl) Ether
67.	Bis (2-Chloroisopropyl) Ether
68.	Bis (2-Ethylhexyl) Phthalate
69.	4-Bromophenyl Phenyl Ether
70.	Butylbenzyl Phthalate
71.	2-Chloronaphthalene
72.	4-Chlorophenyl Phenyl Ether
73.	Chrysene
74.	Dibenzo (a,h) Anthracene
75.	1,2-Dichlorobenzene
76.	1,3-Dichlorobenzene
77.	1,4-Dichlorobenzene
78.	3,3'-Dichlorobenzidine
79.	Diethyl Phthalate
80.	Dimethyl Phthalate
81.	Di-n-Butyl Phthalate
82.	2,4-Dinitrotoluene
83.	2-6-Dinitrotoluene
84.	Di-n-Octyl Phthalate
85.	1,2-Diphenylhydrazine
86.	Fluoranthene
87.	Fluorene
88.	Hexachlorobenzene
89.	Hexachlorobutadiene
90.	Hexachlorocyclopentadiene

Base/Neutral Extractibles (continuation)

91.	Hexachloroethane
92.	Indeno (1,2,3-cd) Pyrene
93.	Isophorone
94.	Naphthalene
95.	Nitrobenzene
96.	N-Nitrosodimethylamine
97.	N-Nitrosodi-N-Propylamine
98.	N-Nitrosodiphenylamine
99.	Phenanthrene
100.	Pyrene
101.	1,2,4-Trichlorobenzene

Pesticides

102.	Aldrin
103.	Alpha BHC
104.	Beta BHC
105.	Delta BHC
106.	Gamma BHC
107.	Chlordane
108.	4, 4' - DDT
109.	4, 4' - DDE
110.	4, 4' - DDD
111.	Dieldrin
112.	Alpha Endosulfan
113.	Beta Endosulfan
114.	Endosulfan Sulfate
115.	Endrin
116.	Endrin Aldehyde
117.	Heptachlor
118.	Heptachlor Epoxide
119.	PCB 1016
120.	PCB 1221
121.	PCB 1232
122.	PCB 1242
123.	PCB 1248
124.	PCB 1254
125.	PCB 1260
126.	Toxaphene

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APPENDIX C

PRACTICAL QUANTITATION LEVELS FOR COMPLIANCE DETERMINATION

	Constituent	RL µg/l	Analysis Method
1	Arsenic	7.5	GF/AA/ICPMS
2	Barium	20	ICP/GFAA/ICPMS
3	Cadmium	15	ICP/ICPMS
4	Chromium (VI)	15.0	ICP/ICPMS
5	Cobalt	10.0	GF/AA/ICPMS
6	Copper	19.0	GF/ICP/ICPMS
7	Cyanide	50.0	335.2/335.3
8	Iron	100.0	ICP/ICPMS
9	Lead	26.0	GF/AA/ICPMS
10	Manganese	20.0	ICP/ICPMS
11	Mercury	0.5	CV/AA
12	Nickel	50.0	ICPICPMS
13	Selenium	14.0	GF/HYDRIDE GENERATION/ICPMS
14	Silver	16.0	ICP/ICPMS
15	Zinc	20	ICP/ICPMS
16	1,2 - Dichlorobenzene	5.0	601/602/624/625
17	1,3 - Dichlorobenzene	5.0	601/624/625
18	1,4 - Dichlorobenzene	5.0	601/624/625
18	2,4 - Dichlorophenol	10.0	625/604
20	4 - Chloro -3- methylphenol	10.0	625/604
21	Aldrin	0.04	608
22	Benzene	1.0	602/624
23	Chlordane	0.30	608
24	Chloroform	5.0	601/624
25	DDT	0.10	608
26	Dichloromethane	5.0	601/624
27	Dieldrin	0.10	608
28	Fluoranthene	10.0	625/610
29	Endosulfan	0.50	608
30	Endrin	0.10	608
31	Halomethanes	5.0	601/624
32	Heptachlor	0.03	608
33	Hepthachlor Epoxide	0.05	608
34	Hexachlorobenzene	10.0	625
35	Hexachlorocyclohexane		
	Alpha	0.03	608
	Beta	0.03	608
	Gamma	0.03	608
36	PAHs	10.0	625/610
37	PCBs	1.0	608
38	Pentachlorophenol	10.0	625/604
39	Phenol	10.0	625/604
40	TCDD Equivalent	0.05	8280
41	Toluene	1.0	624
42	Toxaphene	2.0	608
43	Tributyltin	0.02	GC
44	2,4,6-Trichlorophenol	10.0	625/604

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i *Minimum Level (ML) is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specified sample weights, volumes, and processing steps have been followed.*

ii *MDL (Method Detection Limit) is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 CFR 136, Appendix B.*

iii *PQL is the lowest concentration of a substance which can be determined within ± 20 percent of the true concentration by 75 percent of the analytical laboratories tested in a performance evaluation study. Alternatively, if performance data are not available, the PQL is the MDL x 5 for carcinogens and MDL x 10 for noncarcinogens.*

iv *Grease and oil monitoring in the influent/effluent shall consist of three grab samples taken over a 24-hour period at approximately equal intervals. One sample shall be taken during peak flow. Each sample shall be extracted separately and the weight of residue from each extract shall be mathematically combined according to the flow to produce a single composite sample result. All other grab samples shall consist of a single grab at peak flow or multiple grabs taken at approximately equal intervals including one taken during peak flow.*

v *The discharger may at their option meet this objective as a total chromium objective.*

vi *If a discharger can demonstrate to the satisfaction of the Regional Board and EPA that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by the combined measurement of free cyanide, simple alkali metal cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in the most recent edition of 40 CFR 136.*

vii *Endosulfan shall mean the sum of endosulfan-alpha and -beta and endosulfan sulfate.*

viii *HCH shall mean the sum of the alpha, beta, gamma (lindane), and delta isomers of hexachlorocyclohexane.*

ix *Dichlorobenzenes shall mean the sum of 1,2- and 1,3-dichlorobenzene.*

x *Chlordane shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.*

xi *DDT shall mean the sum of 4,4'DDT, 2,4'DDT, 4,4'DDE, 2,4'DDE, 4,4'DDD, and 2,4'DDD.*

xii *Halomethanes shall mean the sum of bromoform, bromomethane (methyl bromide), chloromethane (methyl chloride).*

xiii *PAHs (polynuclear aromatic hydrocarbons) shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoroanthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene, and pyrene.*

xiv *PCBs (polychlorinated biphenyls) shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.*

xv *Shoreline microbiological results shall be reported annually to the Regional Board and EPA, except that the discharger shall continue to report the results on a timely basis (approximately daily) to the County of Orange Health Care Agency, Environmental Health, and shall place such data on the Internet each month. During any month that the effluent disinfection system does not operate continuously for a 24-hour period or longer, the discharger shall report shoreline microbiological monitoring results monthly to the Regional Board and EPA.*