CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION
9174 Sky Park Court, Suite 100, San Diego, CA 92123-4340
Phone (858) 467-2952 • Fax (858) 571-6972
http://www.waterboards.ca.gov/sandiego/

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, California 94105
http://www.epa.gov/region9/

ORDER NO. R9-2009-0001
NPDES NO. CA0107409

WASTE DISCHARGE REQUIREMENTS AND NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT FOR THE CITY OF SAN DIEGO E.W. BLOM POINT LOMA METROPOLITAN WASTEWATER TREATMENT PLANT DISCHARGE TO THE PACIFIC OCEAN THROUGH THE POINT LOMA OCEAN OUTFALL, SAN DIEGO COUNTY

The following Discharger is subject to waste discharge requirements as set forth in this Order and Permit:

Table 1. Discharger Information

Discharger	**City of San Diego**
Name of Facility	**E. W. Blom Point Loma Metropolitan Wastewater Treatment Plant, Collection System, and Ocean Outfall**
Facility Address	**1902 Gatchell Road**
	San Diego, CA 92106
	San Diego County
The U.S. Environmental Protection Agency (USEPA) and the California Regional Water Quality Control Board, San Diego Region have classified this discharge as a major discharge.	

The discharge by the City of San Diego from the discharge points identified below is subject to waste discharge requirements as set forth in this Order and Permit:

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	**Advanced primary treated effluent**	32° 39' 55" N	117° 19' 25" W	Pacific Ocean

Table 3. Administrative Information for State Order

This Order was adopted by the Regional Water Quality Control Board on:	**June 10, 2009**
This Order shall become effective on:	**August 1, 2010**
This Order shall expire on:	**July 31, 2015**
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	**February 1, 2015**

I, David W. Gibson, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on June 10, 2009[1].

David W. Gibson
Executive Officer

Table 4. Administrative Information for Federal Permit

This permit was issued by the U.S. Environmental Protection Agency, Region IX on:	16 June 2010
This permit shall become effective on:	**August 1, 2010**
This permit shall expire on:	**July 31, 2015**
The Discharger shall submit, in accordance with 40 CFR 122.21(d), a new application at least 180 days before the expiration date of the existing permit:	**February 1, 2015**

I, Alexis Strauss, do hereby certify that this permit with all attachments is a full, true, and correct copy of a NPDES permit issued by the U.S. Environmental Protection Agency, Region IX, on 16 June 2010.

Alexis Strauss
Water Division Director

[1] Sections VI.C.6.c, VI.C.6.c.i, and VI.C.6.c.ii of this NPDES permit were added by USEPA subsequent to the adoption of the permit by the San Diego Water Board and are only part of the permit as issued by USEPA.

Table of Contents

I. Facility Information 5
II. Findings 6
III. Discharge Prohibitions 12
IV. Effluent Limitations and Discharge Specifications 13
A. Effluent Limitations and Performance Goals – Discharge Point No. 001 13
B. Land Discharge Specifications – Not Applicable 22
C. Reclamation Specifications – Not Applicable 22
V. Receiving Water Limitations 22
A. Surface Water Limitations 23
B. Groundwater Limitations – Not Applicable 26
VI. Provisions 26
A. Standard Provisions 26
B. Monitoring and Reporting Program (MRP) Requirements 28
C. Special Provisions 30
1. Re-opener Provisions 30
2. Special Studies, Technical Reports and Additional Monitoring Requirements 32
3. Best Management Practices and Pollution Prevention – Not Applicable 35
4. Construction, Operation and Maintenance Specifications – Not Applicable 35
5. Special Provisions for Municipal Facilities (POTWs Only) 35
6. Other Special Provisions[1] 47
7. Compliance Schedules – Not Applicable 48
VII. Compliance Determination 48
A. Compliance with Average Monthly Effluent Limitation (AMEL) 48
B. Compliance with Average Weekly Effluent Limitation (AWEL) 48
C. Compliance with Maximum Daily Effluent Limitation (MDEL) 48
D. Compliance with Instantaneous Minimum Effluent Limitation 49
E. Compliance with Instantaneous Maximum Effluent Limitation 49
F. Compliance with Six-month Median Effluent Limitation 49
G. Mass and Concentration Limitations 49
H. Percent Removal 49
I. 2005 California Ocean Plan Provisions for Table B Constituents 50
1. Sampling Reporting Protocols 50
2. Compliance Determination 51

[1] Sections VI.C.6.c, VI.C.6.c.i, and VI.C.6.c.ii of this NPDES permit were added by USEPA subsequent to the adoption of the permit by the San Diego Water Board and are only part of the permit as issued by USEPA.

List of Tables

Table 1. Discharger Information 1
Table 2. Discharge Location 1
Table 3. Administrative Information for State Order 2
Table 4. Administrative Information for Federal Permit 2
Table 5. Facility Information 5
Table 6. Basin Plan Beneficial Uses 8
Table 7. Ocean Plan Beneficial Uses 8
Table 8.a. Effluent Limitations Based on CWA Sections 301(h) and (j)(5) 13
Table 8.b. Effluent Limitations Based on Advanced Primary Treatment and Table A of the Ocean Plan 13
Table 9. Effluent Limitations Based on Table B of the Ocean Plan 14
Table 10. Performance Goals Based on the Ocean Plan 15
Table 11. Performance Goals Based on the Ocean Plan 20

List of Attachments

Attachment A – Definitions A-1
Attachment B – Map B-1
Attachment C – Flow Schematic C-1
Attachment D – Standard Provisions D-1
Attachment E – Monitoring and Reporting Program E-1
Attachment F – Fact Sheet F-1
Attachment G – Ocean Plan/Basin Plan Discharge Prohibitions G-1
Attachment H – Dilution Model Summary H-1

I. FACILITY INFORMATION

The following Discharger is subject to waste discharge requirements as set forth in this Order and Permit:

Table 5. Facility Information

Discharger	**City of San Diego**
Name of Facility	**E. W. Blom Point Loma Metropolitan Wastewater Treatment Plant, Collection System, and Ocean Outfall**
Facility Address	**1902 Gatchell Road**
	San Diego, CA 92106
	San Diego County
Facility Contact, Title, and Phone	**Jim Barrett Director of Public Utilities (619) 533-7555**
Mailing Address	**600 B Street, Suite 400 San Diego, CA 92101-4514**
Type of Facility	**Publicly-Owned Treatment Works**
Facility Design Flow	**240 Million Gallons per Day (MGD)**

II. FINDINGS

The California Regional Water Quality Control Board, San Diego Region (hereinafter San Diego Water Board) and the U.S. Environmental Protection Agency, Region IX (hereinafter USEPA), find:

A. Background. The City of San Diego Metropolitan Wastewater Department (hereinafter Discharger) is currently discharging pursuant to Order No. R9-2002-0025, as amended, and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0107409, as modified. The Discharger has submitted a Report of Waste Discharge (ROWD) and applied for a 301(h)-modified NPDES permit renewal to discharge up to 240 MGD of chlorinated advanced primary treated wastewater from the E.W. Blom Point Loma Metropolitan Wastewater Treatment Plant (hereinafter Facility). The application was deemed complete on June 6, 2008.

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

Facility Description. The Discharger owns and operates its collection system, an advanced primary treatment facility, and ocean outfall (POTW). The treatment system consists of mechanical bar screens, aerated grit removal, chemical addition, and sedimentation and partial chlorination. Wastewater is discharged from Discharge Point No. 001 (see table on cover page) to the Pacific Ocean, a water of the United States. The ocean outfall discharges wastewater effluent approximately 4.5 miles offshore. Although this is beyond the limit of State-regulated ocean waters, potential plume migration within this limit warrants joint regulation of the effluent, from USEPA as well as the State.

In addition to domestic sewage and industrial discharges, the Facility accepts flow and pollutants from low-flow urban runoff diversion systems and "first flush" industrial stormwater diversion systems that are routed to the sanitary sewer collection system.

This Order and Permit establish discharge requirements based on modified secondary treatment requirements in accordance with federal Clean Water Act (CWA) Sections 301(h) and (j)(5). A detailed facility description is provided in Attachment F to this Order and Permit. Attachment B provides a map of the area around the facility. Attachment C provides flow schematics of the facility.

B. Legal Authorities. This Order and Permit are issued pursuant to Section 402 of the federal CWA and implementing regulations adopted by the USEPA and chapter 5.5, division 7 of the California Water Code (commencing with Section 13370). It shall serve as a jointly-issued federal and State NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with Section 13260).

C. **Background and Rationale for Requirements.** The San Diego Water Board and USEPA developed the requirements in this Order and Permit based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order/Permit requirements, is hereby incorporated into this Order and Permit and constitutes part of the Findings. Attachments A through E and H are also incorporated into this Order and Permit.

D. **California Environmental Quality Act (CEQA).** Under California Water Code Section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code Sections 21100-21177.

E. **Technolog y-based Effluent Limitations.** Section 301(b) of the CWA and implementing USEPA permit regulations at Section 122.44, title 40 of the Code of Federal Regulations[1], require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order and Permit must meet minimum requirements based on a variance from secondary treatment standards, as specified in CWA Sections 301 (h) and (j)(5). A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

F. **Water Quality-Based Effluent Limitations.** Section 301(b) of the CWA and Section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

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

G. **Water Quality Control Plans.** The San Diego Water Board adopted a Water Quality Control Plan for the San Diego Region (hereinafter Basin Plan) on September 8, 1994 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for the Pacific Ocean and other receiving waters addressed through the Basin Plan. Subsequent revisions to the Basin Plan have also been adopted by the San Diego Water Board and approved by

[1] All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

the State Water Board. Beneficial uses applicable to the Pacific Ocean specified in the Basin Plan are as follows:

Table 6. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	Industrial Service Supply; navigation; contact water recreation; non-contact water recreation; commercial and sport fishing; preservation of biological habitats of special significance; wildlife habitat; rare, threatened, or endangered species, marine habitat, aquaculture, migration of aquatic organisms; spawning, reproduction, and/or early development; shellfish harvesting

Requirements of this Order implement the Basin Plan.

H. **California Ocean Plan.** The State Water Board adopted the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, and 2005. The State Water Board adopted the latest amendment on April 21, 2005 and it became effective on February 14, 2006. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the State to be protected as summarized below:

Table 7. Ocean Plan Beneficial Uses

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

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

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

J. **Stringency of Requirements for Individual Pollutants.** This Order contains effluent limitations for total suspended solids (TSS) and biochemical oxygen demand (5-day @ 20°C; BOD5) based on CWA Sections 301(h) and (j)(5), as described in the Fact Sheet for this permit. This Order contains technology-based effluent limitations for TSS, oil

and grease, settleable solids, turbidity, and pH, based on Table A requirements in the Ocean Plan. This Order's technology-based effluent limitations are not more stringent than required by the CWA.

This Order contains water quality based effluent limitations (WQBELs) that have been scientifically derived to implement water quality objectives in Table B of the Ocean Plan that protect beneficial uses. Both the beneficial uses and water quality objectives have been approved pursuant to federal law and are the applicable State water quality standards. The scientific procedures for calculating individual WQBELs are based on the Ocean Plan which was approved by USEPA on February 14, 2006. All beneficial uses and water quality objectives contained in the Basin Plan are approved under State law and were submitted to, and approved by, USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR 131.21(c)(1).

Collectively, this Order's restrictions on individual pollutants are not more stringent than required by the CWA.

K. **Antidegradation Policy**. Section 131.12 requires that the State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The San Diego Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. As discussed in detail in the Fact Sheet the permitted discharge is consistent with the antidegradation provision of Section 131.12 and State Water Board Resolution No. 68-16.

L. **Anti-Backsliding Requirements.** CWA Section 402(o) and 40 CFR 122.44(l) prohibit the backsliding of effluent limitations, conditions, and standards in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. Some effluent limitations in this Order are less stringent that those in the previous Order. As discussed in detail in the Fact Sheet this relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

M. **California Endangered Species Act.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code Sections 2050 to 2097). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the State. The Discharger is responsible for meeting all requirements of the California Endangered Species Act.

N. **Monitoring and Reporting.** 40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. California Water Code Sections 13267 and 13383 authorize the San Diego Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements, including those found under CWA Section 301(h) and 40 CFR 125, Subpart G. The Monitoring and Reporting Program is provided in Attachment E.

O. **Standard and Special Provisions.** Standard Provisions which apply to all NPDES permits in accordance with 40 CFR 122.41 and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D. The San Diego Water Board and USEPA have also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.

P. **Storm Water Requirements.** On November 16, 1990, the USEPA promulgated NPDES permit application requirements for storm water discharges (40 CFR 122, 123, and 124) which are applicable to the Facility. On April 17, 1997, the State Water Board adopted Water Quality Order No. 97-03-DWQ, NPDES General Permit No. CAS000001, Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities. Storm water discharges from wastewater treatment facilities tributary to the Point Loma Ocean Outfall (PLOO) are subject to the terms and conditions of Order No. 97-03-DWQ, as amended.

Q. **Sanitary Sewer Overflows.** The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ (General Order) on May 2, 2006. The General Order requires public agencies that own or operate sanitary sewer systems with greater than one mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs), among other requirements and prohibitions.

Furthermore, the General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. Inasmuch that the Discharger's collection system is part of the system that is subject to this Order, certain standard provisions are applicable as specified in Provisions, Section VI.C.5. For instance, the 24-hour reporting requirements in this Order are not included in the General Order. The Discharger must comply with both the General Order and this Order. The Discharger and public agencies that are discharging wastewater into the facility were required to obtain enrollment for regulation under the General Order by December 1, 2006.

R. **Reclamation of Wastewater.** The Constitution of California states, "...the general welfare requires that the water resources of the State be put to the beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare." Based on this constitutional

declaration and other considerations, the State Water Board has concluded that "in all cases where an applicant in a water-short area proposes a discharge of once-used wastewater to the ocean, the report of waste discharge should include an explanation as to why the effluent is not being reclaimed for further beneficial use." (State Water Board Order No. WQ 84-7) It has been and continues to be the policy of the San Diego Water Board to encourage reclamation and reuse of water resources.

S. 301(h) Tentative Deci sion. USEPA has drafted a 301(h) Tentative Decision Document (TDD) evaluating the Discharger's proposed improved discharge and effluent limitations for TSS and BOD_5, the projected annual average end-of-permit effluent flow rate of 202 MGD (annual average daily flow), and 2002 through 2007 effluent concentrations for TSS and BOD_5, as provided in the updated 2007 301(h) application. The 2008 TDD concludes that the Discharger's 301(h) application satisfies CWA Sections 301(h) and 301(j)(5). Based on this information, it is the Regional Administrator's tentative decision to grant the Discharger's variance request for TSS and BOD_5, in accordance with the terms, conditions, and limitations of the TDD. In accordance with this decision and the 1984 301(h) Memorandum of Understanding between the State and USEPA, the San Diego Water Board and USEPA have jointly proposed issuance of a draft 301(h)-modified permit incorporating both federal NPDES requirements and State Waste Discharge Requirements. The final permit will be issued without prejudice to the rights of any party to address the legal issue of the applicability of Section 1311(j)(5) of the Act to the Discharger's future NPDES permits.

T. Permit Renewal Contingency. The Discharger's permit renewal of the variance from federal secondary treatment standards, pursuant to CWA Sections 301(h) and (j)(5), is contingent upon:

1. Determination by the California Coastal Commission that the proposed discharge is consistent with the Coastal Zone Management Act of 1972, as amended (16 U.S.C. 1451 *et seq.*);

2. Determination by the U.S. Fish and Wildlife Service and the NOAA National Marine Fisheries Service that the proposed discharge is consistent with the federal Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*);

3. Determination by the NOAA National Marine Fisheries Service that the proposed discharge is consistent with the Magnuson-Stevens Fishery Conservation and Management Act, as amended (16 U.S.C. 1801, *et seq.*);

4. Determination by the San Diego Water Board that the discharge will not result in additional treatment pollution control, or other requirement, on any other point or nonpoint sources (40 CFR 125.64);

5. The San Diego Water Board's certification/concurrence that the discharge will comply with water quality standards for the pollutants which the 301(h) variance is requested (40 CFR 125.61) (i.e., TSS and BOD_5). The joint issuance of a NPDES permit which incorporates both the 301(h) variance and State waste discharge requirements will serve as the State's concurrence; and

6. The USEPA Regional Administrator's final decision regarding the Discharger's CWA Section 301(h) variance request.

U. **Notification of Interested Parties.** The San Diego Water Board and USEPA have notified the Discharger and interested agencies and persons of their intent to issue Waste Discharge Requirements and a NPDES permit for the discharge and have provided them with an opportunity to submit their written and oral comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.

V. **Consideration of Pub lic Comment.** The San Diego Water Board and USEPA, at a joint public hearing, heard and considered all comments pertaining to the discharge. Details of the public hearings conducted by the San Diego Water Board and USEPA are provided in the Fact Sheet of this Order.

THEREFORE, IT IS HEREBY ORDERED, that this Order supercedes Order No. R9-2002-0025 except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with Section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

A. The discharge of waste in a manner or to locations that have not been specifically authorized by this Order and Permit, or for which valid waste discharge requirements and NPDES permits are not in force, is prohibited.

B. Discharge through the PLOO from the Facility in excess of a monthly average flow rate of 240 MGD is prohibited.

C. The discharge of any pollutant that is not subject to an effluent limitation in this Order and Permit is prohibited, except in the following circumstances:

1. The pollutant has been identified in the administrative record for this Order and Permit,

2. The pollutant has not been identified in the administrative record for the Order and Permit, so long as the Discharger:

   a. Has complied with all applicable requirements for disclosure of information about its pollutant discharges, operations, and sources of wastes; and

   b. Complies with all applicable requirements for notification of changes in its operations and discharges.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations and Performance Goals – Discharge Point No. 001

1. Final Effluent Limitations – Discharge Point No. 001

The discharge of effluent to Discharge Point No. 001 shall be measured at Monitoring Location EFF-001 as described in Attachment E, Monitoring and Reporting Program, except as otherwise noted. The effluent limitations and performance goals below are enforceable to the number of significant digits given in the effluent limitation or performance goal.

a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 001, with compliance measured at Monitoring Location No. EFF-001 as described in the attached MRP:

Table 8.a. Effluent Limitations Based on CWA Sections 301(h) and (j)(5)

Effluent Constituent	Units	Annual Average	Monthly Average
TSS	% removal[1]	---	≥80
	mg/l	---	75[4]
	metric tons/year	15,000[2]	---
		13,598[3]	---
BOD5	% removal[1]	≥58	---

[1] To be calculated on a system-wide basis, as provided in Addendum No. 1 to Order No. R9-2002-0025.
[2] To be achieved on permit effective date through December 31, 2013. Applies only to TSS discharges from POTWs owned and operated by the Discharger and the Discharger's wastewater generated in the Metro System service area; does not apply to wastewater (and the resulting TSS) generated in Mexico which, as a result of upset or shutdown, is treated at and discharged from Point Loma WTP.
[3] To be achieved on January 1, 2014. Applies only to TSS discharges from POTWs owned and operated by the Discharger and the Discharger's wastewater generated in the Metro System service area; does not apply to wastewater (and the resulting TSS) generated in Mexico which, as a result of upset or shutdown, is treated at and discharged from Point Loma WTP.
[4] Based on average monthly performance data (1990 through 1994) for the Point Loma WTP provided by the Discharger for the 1995 301(h) application.

Table 8.b. Effluent Limitations Based on Advanced Primary Treatment and Table A of the Ocean Plan

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Oil and Grease	mg/L	25	40	--	--	75
	lbs/day	42,743	68,388	---	--	128,228
Total Suspended Solids	% removal	[1]	--	--	--	--
Settleable Solids	ml/L	1.0	1.5	--	--	3.0
Turbidity	NTU	75	100	--	--	225
pH	Standard unit	--	--	--	6.0	9.0

[1] The Discharger shall, as a 30-day average, remove 75% of suspended solids from the influent stream to the Facility before discharging wastewaters to the ocean, except that the effluent limitation to be met shall not be lower than 60 mg/L.

b. The discharge of effluent from the Discharger's Facilities to Discharge Point No. 001, as monitored at Monitoring Location EFF-001, shall maintain compliance with the following effluent limitations:

Table 9. Effluent Limitations Based on Table B of the Ocean Plan

Parameter	Unit	Water Quality-Based Effluent Limitations			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
BASED ON OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE					
Chronic Toxicity[1]	TUc	--	205	--	--
Total Chlorine Residual	µg/L	4.1E+02	1.6E+03	1.2E+04	--
	lbs/day	7.0E+02	2.8E+03	2.1E+04	--
Phenolic Compounds (non-chlorinated)	µg/L	6.2E+03	2.5E+04	6.2E+04	--
	lbs/day	1.1E+04	4.2E+04	1.1E+05	--
Chlorinated Phenolics	µg/L	2.1E+02	8.2E+02	2.1E+03	--
	lbs/day	3.5E+02	1.4E+03	3.5E+03	--
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS					
Chlordane[2]	µg/L	--	--	--	4.7E-03
	lbs/day	--	--	--	8.1E-03
Chlorodibromomethane	µg/L	--	--	--	1.8E+03
	lbs/day	--	--	--	3.0E+03
Chloroform	µg/L	--	--	--	2.7E+04
	lbs/day	--	--	--	4.6E+04
1,4-Dichlorobenzene	µg/L	--	--	--	3.7E+03
	lbs/day	--	--	--	6.3E+03
Dichlorobromomethane	µg/L	--	--	--	1.3E+03
	lbs/day	--	--	--	2.2E+03
Dichloromethane	µg/L	--	--	--	9.2E+04
	lbs/day	--	--	--	1.6E+05
Halomethanes[3]	µg/L	--	--	--	2.7E+04
	lbs/day	--	--	--	4.6E+04
Heptachlor	µg/L	--	--	--	1.0E-02
	lbs/day	--	--	--	1.8E-02

[1] Chronic toxicity is expressed as Chronic Toxicity Units (TUc) = 100/NOEL, where NOEL (No Observed Effect Level) is expressed as the maximum percent effluent that causes no observable effect on a test organism.
[2] Chlordanes represent the sum of chlordane-alpha, chlordane-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.
[3] Halomethanes represent the sum of bromoform, bromomethane (methyl bromide), and chloromethane (methyl chloride).

c. Constituents that do not have reasonable potential or had inconclusive reasonable potential analysis results are referred to as performance goal

constituents and assigned the performance goals listed in the following table. Performance goal constituents shall also be monitored at EFF-001, but the results will be used for informational purposes only, not compliance determination.

Table 10. Performance Goals Based on the Ocean Plan (Concentrations and Daily Mass Emissions).

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
BASED ON OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE					
Arsenic, Total Recoverable	µg/L	1.0E+03	5.9E+03	1.6E+04	--
	lbs/day	1.8E+03	1.0E+04	2.7E+04	--
Cadmium, Total Recoverable	µg/L	2.1E+02	8.2E+02	2.1E+03	--
	lbs/day	3.5E+02	1.4E+03	3.5E+03	--
Chromium VI, Total Recoverable[2]	µg/L	4.1E+02	1.6E+03	4.1E+03	--
	lbs/day	7.0E+02	2.8E+03	7.0E+03	--
Copper, Total Recoverable	µg/L	2.1E+02	2.1E+03	5.7E+03	--
	lbs/day	3.5E+02	3.5E+03	9.8E+03	--
Lead, Total Recoverable	µg/L	4.1E+02	1.6E+03	4.1E+03	--
	lbs/day	7.0E+02	2.8E+03	7.0E+03	--
Mercury, Total Recoverable[11]	µg/L	8.1	3.3E+01	8.2E+01	--
	lbs/day	1.4E+01	5.6E+01	1.4E+02	--
Nickel, Total Recoverable	µg/L	1.0E+03	4.1E+03	1.0E+04	--
	lbs/day	1.8E+03	7.0E+03	1.8E+04	--
Selenium, Total Recoverable	µg/L	3.1E+03	1.2E+04	3.1E+04	--
	lbs/day	5.3E+03	2.1E+04	5.3E+04	--
Silver, Total Recoverable	µg/L	1.1E+02	5.4E+02	1.4E+03	--
	lbs/day	1.9E+02	9.3E+02	2.4E+03	--
Zinc, Total Recoverable	µg/L	2.5E+03	1.5E+04	3.9E+04	--
	lbs/day	4.2E+03	2.5E+04	6.7E+04	--
Cyanide, Total Recoverable[3]	µg/L	2.1E+02	8.2E+02	2.1E+03	--
	lbs/day	3.5E+02	1.4E+03	3.5E+03	--
Ammonia (expressed as nitrogen)	µg/L	1.2E+05	4.9E+05	1.2E+06	--
	lbs/day	2.1E+05	8.4E+05	2.1E+06	--
Acute Toxicity	TUa	NA	6.42	NA	--
Endosulfan[10]	µg/L	1.8	3.7	5.5	--
	lbs/day	3.2	6.3	9.5	--
Endrin	µg/L	0.41	0.82	1.2	--
	lbs/day	0.7	1.4	2.1	--
HCH[4]	µg/L	0.82	1.6	2.5	--
	lbs/day	1.4	2.8	4.2	--

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Radioactivity	pci/l	Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30253 of the California Code of Regulations, Reference to Section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.			
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – NONCARCINOGENS					
Acrolein	µg/L	--	--	--	4.5E+04
	lbs/day	--	--	--	7.7E+04
Antimony	µg/L	--	--	--	2.5E+05
	lbs/day	--	--	--	4.2E+05
Bis(2-chloroethoxy) Methane	µg/L	--	--	--	9.0E+02
	lbs/day	--	--	--	1.5E+03
Bis(2-chloroisopropyl) ether	µg/L	--	--	--	2.5E+05
	lbs/day	--	--	--	4.2E+05
Chlorobenzene	µg/L	--	--	--	1.2E+05
	lbs/day	--	--	--	2.0E+05
Chromium, Total Recoverable (III)[2]	µg/L	--	--	--	3.9E+07
	lbs/day	--	--	--	6.7E+07
Di-n-butyl Phthalate	µg/L	--	--	--	7.2E+05
	lbs/day	--	--	--	1.2E+06
Dichlorobenzenes[5]	µg/L	--	--	--	1.0E+06
	lbs/day	--	--	--	1.8E+06
Diethyl Phthalate	µg/L	--	--	--	6.8E+06
	lbs/day	--	--	--	1.2E+07
Dimethyl Phthalate	µg/L	--	--	--	1.7E+08
	lbs/day	--	--	--	2.9E+08
4,6-dinitro-2-methylphenol	µg/L	--	--	--	4.5E+04
	lbs/day	--	--	--	7.7E+04
2,4-dinitrophenol	µg/L	--	--	--	8.2E+02
	lbs/day	--	--	--	1.4E+03
Ethylbenzene	µg/L	--	--	--	8.4E+05
	lbs/day	--	--	--	1.4E+06
Fluoranthene	µg/L	--	--	--	3.1E+03
	lbs/day	--	--	--	5.3E+03
Hexachlorocyclopentadiene	µg/L	--	--	--	1.2E+04
	lbs/day	--	--	--	2.0E+04
Nitrobenzene	µg/L	--	--	--	1.0E+03
	lbs/day	--	--	--	1.7E+03

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Thallium, Total Recoverable	µg/L	--	--	--	4.1E+02
	lbs/day	--	--	--	7.0E+02
Toluene	µg/L	--	--	--	1.7E+07
	lbs/day	--	--	--	3.0E+07
Tributyltin	µg/L	--	--	--	2.9E-01
	lbs/day	--	--	--	4.9E-01
1,1,1-trichloroethane	µg/L	--	--	--	1.1E+08
	lbs/day	--	--	--	1.9E+08
BASED ON OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS					
Acrylonitrile	µg/L	--	--	--	21
	lbs/day	--	--	--	35
Aldrin	µg/L	--	--	--	4.5E-03
	lbs/day	--	--	--	7.7E-03
Benzene	µg/L	--	--	--	1.2E+03
	lbs/day	--	--	--	2.1E+03
Benzidine	µg/L	--	--	--	1.4E-02
	lbs/day	--	--	--	2.4E-02
Beryllium	µg/L	--	--	--	6.8
	lbs/day	--	--	--	1.2E+01
Bis(2-chloroethyl) Ether	µg/L	--	--	--	9.2
	lbs/day	--	--	--	1.6E+01
Bis(2-ethlyhexyl) Phthalate	µg/L	--	--	--	7.2E+02
	lbs/day	--	--	--	1.2E+03
Carbon Tetrachloride	µg/L	--	--	--	1.8E+02
	lbs/day	--	--	--	3.2E+02
DDT[6]	µg/L	--	--	--	3.5E-02
	lbs/day	--	--	--	6.0E-02
3,3'-dichlorobenzidine	µg/L	--	--	--	1.7
	lbs/day	--	--	--	2.8
1,2-dichloroethane	µg/L	--	--	--	5.7E+03
	lbs/day	--	--	--	9.8E+03
1,1-dichloroethylene	µg/L	--	--	--	1.8E+02
	lbs/day	--	--	--	3.2E+02
1,3-dichloropropene	µg/L	--	--	--	1.8E+03
	lbs/day	--	--	--	3.1E+03
Dieldrin	µg/L	--	--	--	8.2E-03
	lbs/day	--	--	--	1.4E-02

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
2,4-dinitrotoluene	µg/L	--	--	--	5.3E+02
	lbs/day	--	--	--	9.1E+02
1,2-diphenylhydrazine	µg/L	--	--	--	3.3E+01
	lbs/day	--	--	--	5.6E+01
Heptachlor Epoxide	µg/L	--	--	--	4.1E-03
	lbs/day	--	--	--	7.0E-03
Hexachlorobenzene	µg/L	--	--	--	4.3E-02
	lbs/day	--	--	--	7.4E-02
Hexachlorobutadiene	µg/L	--	--	--	2.9E+03
	lbs/day	--	--	--	4.9E+03
Hexachloroethane	µg/L	--	--	--	5.1E+02
	lbs/day	--	--	--	8.8E+02
Isophorone	µg/L	--	--	--	1.5E+05
	lbs/day	--	--	--	2.6E+05
N-nitrosodimethylamine	µg/L	--	--	--	1.5E+03
	lbs/day	--	--	--	2.6E+03
N-nitrosodi-N-propylamine	µg/L	--	--	--	7.8E+01
	lbs/day	--	--	--	1.3E+02
N-nitrosodiphenylamine	µg/L	--	--	--	5.1E+02
	lbs/day	--	--	--	8.8E+02
PAHs[7]	µg/L	--	--	--	1.8
	lbs/day	--	--	--	3.1
PCBs[8]	µg/L	--	--	--	3.9E-03
	lbs/day	--	--	--	6.7E-03
TCDD equivalents[9]	µg/L	--	--	--	8.0E-07
	lbs/day	--	--	--	1.4E-06
1,1,2,2-tetrachloroethane	µg/L	--	--	--	4.7E+02
	lbs/day	--	--	--	8.1E+02
Tetrachloroethylene	µg/L	--	--	--	4.1E+02
	lbs/day	--	--	--	7.0E+02
Toxaphene	µg/L	--	--	--	4.3E-02
	lbs/day	--	--	--	7.4E-02
Trichloroethylene	µg/L	--	--	--	5.5E+03
	lbs/day	--	--	--	9.5E+03
1,1,2-trichloroethane	µg/L	--	--	--	1.9E+03
	lbs/day	--	--	--	3.3E+03
2,4,6-trichlorophenol	µg/L	--	--	--	5.9E+01
	lbs/day	--	--	--	1.0E+02

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Vinyl Chloride	µg/L	--	--	--	7.4E+03
	lbs/day	--	--	--	1.3E+04

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

2 Dischargers may, at their option, meet this limitation (or apply this performance goal) as a total chromium limitation (or performance goal).

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

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

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

6 DDD (dichlorodiphenyldichloroethane), DDE (dichlorodiphenyldichloroethylene), and DDT (dichlorodiphenyltrichloroethane) represent the sum of 4,4'DDT; 2,4'DDT; 4,4'DDE; 2,4'DDE; 4,4'DDD; and 2,4'DDD.

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

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

9 TCDD equivalents represent the sum of concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown by the table below. USEPA Method 1613 shall be used to analyze TCDD equivalents.

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

10 Endosulfan shall mean the sum of alpha-endosulfan, beta-endosulfan, and endosulfan sulfate.

11 USEPA Method 1631E, with a quantitation level of 0.5 ppt (0.5 ng/L), shall be used to analyze total mercury.

d. USEPA Toxics Mass Emission Benchmarks.

These mass emission benchmarks are established to address the uncertainty due to projected increases in toxic pollutant loadings from the Point Loma WTP to the marine environment during the 5-year 301(h) variance, and to establish a framework for evaluating the need for an antidegradation analysis to determine compliance with water quality standards at the time of permit reissuance. The benchmarks contained in Order No. R9-2002-0025 are retained for this permit.

The annual mass emission benchmarks for the 1995 permit were determined using 1990 through April 1995 n-day average monthly performance (95th percentile) of the Point Loma WTP and the Discharger's projected end-of-permit effluent flow of 205 mgd for the 1995 301(h) application. For the 2002 permit, mass emission benchmarks for copper and selenium were recalculated using the 1994 n-day average monthly performance (95th percentile) and 205 mgd and the mass emission benchmark for cyanide was corrected. Average monthly performance was calculated as outlined in Appendix E of *Technical Support Document for Water Quality-based Toxics Control* (EPA/5005/2-90-001, 1991; TSD)

These mass emission benchmarks are not water quality-based effluent limitations and are not enforceable, as such. The mass emission threshold values may be re-evaluated and modified during the permit term, or the permit may be modified to incorporate water quality-based effluent limits, in accordance with the requirements set forth at 40 CFR 122.62 and 124.5. The following effluent mass emission benchmarks for toxic and carcinogenic materials apply to the undiluted effluent from Point Loma WTP discharged to the PLOO:

Table 11. Performance Goals Based on the Ocean Plan (Annual Mass Emissions).

Effluent Constituent	Units	Annual Mass Emission
Arsenic	mt/yr	0.88
Cadmium	mt/yr	1.4
Chromium (hexavalent)	mt/yr	14.2
Copper	mt/yr	26
Lead	mt/yr	14.2
Mercury[10]	mt/yr	0.19
Nickel	mt/yr	11.3
Selenium	mt/yr	0.44
Silver	mt/yr	2.8
Zinc	mt/yr	18.3
Cyanide[1]	mt/yr	1.57
Ammonia (as N)	mt/yr	8018
Phenolic compounds (non-chlorinated)	mt/yr	2.57
Chlorinated phenolics	mt/yr	1.73
Endosulfan[9]	mt/yr	0.006
Endrin	mt/yr	0.008
HCH[2]	mt/yr	0.025

Effluent Constituent	Units	Annual Mass Emission
Acrolein	mt/yr	17.6
Antimony	mt/yr	56.6
Bis(2-chloroethoxy) methane	mt/yr	1.5
Bis(2-chloroisopropyl) ether	mt/yr	1.61
Chlorobenzene	mt/yr	1.7
Di-n-butyl phthalate	mt/yr	1.33
Dichlorobenzenes[3]	mt/yr	2.8
Diethyl phthalate	mt/yr	6.23
Dimethyl phthalate	mt/yr	1.59
4,6-dinitro-2-methylphenol	mt/yr	6.8
2,4-dinitrophenol	mt/yr	11.9
Ethylbenzene	mt/yr	2.04
Flouranthene	mt/yr	0.62
Nitrobenzene	mt/yr	2.07
Thallium	mt/yr	36.8
Toluene	mt/yr	3.31
Tributyltin	mt/yr	0.001
1,1,1-trichloroethane	mt/yr	2.51
Acrylonitrile	mt/yr	5.95
Aldrin	mt/yr	0.006
Benzene	mt/yr	1.25
Benzidine	mt/yr	12.5
Beryllium	mt/yr	1.42
Bis(2-chloroethyl) ether	mt/yr	1.61
Bis(2-ethylhexyl) phthalate	mt/yr	2.89
Carbon tetrachloride	mt/yr	0.79
Chlordane[5]	mt/yr	0.014
Chloroform	mt/yr	2.19
DDT[4]	mt/yr	0.043
1,4-dichlorobenzene	mt/yr	1.25
3,3'-dichlorobenzidine	mt/yr	4.67
1,2-dichloroethane	mt/yr	0.79
1,1-dichloroethylene	mt/yr	0.79
Dichloromethane	mt/yr	13.7
1,3-dichloropropene	mt/yr	1.42
Dieldrin	mt/yr	0.011
2,4-dinitrotoluene	mt/yr	1.61
1,2-diphenylhydrazine	mt/yr	1.52
Halomethanes[6]	mt/yr	5.86
Heptachlor	mt/yr	0.001
Heptachlor epoxide	mt/yr	0.024
Hexachlorobenzene	mt/yr	0.54
Hexachlorobutadiene	mt/yr	0.54
Hexachloroethane	mt/yr	1.13
Isophorone	mt/yr	0.71
N-nitrosodimethylamine	mt/yr	0.76
N-nitrosodiphenylamine	mt/yr	1.47
PAHs[7]	mt/yr	15.45

Effluent Constituent	Units	Annual Mass Emission
PCBs[8]	mt/yr	0.275
1,1,2,2-tetrachloroethane	mt/yr	1.95
Tetrachloroethylene	mt/yr	4
Toxaphene	mt/yr	0.068
Trichloroethylene	mt/yr	1.56
1,1,2-trichloroethane	mt/yr	1.42
2,4,6-trichlorophenol	mt/yr	0.96
Vinyl chloride	mt/yr	0.4

1 If a Discharger can demonstrate to the satisfaction of the San Diego Water Board (subject to USEPA approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by (or performance goals may be evaluated with) the combined measurement of free cyanide, simple alkali metals cyanides, and weakly complexed organometalic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in 40 CFR 136, as revised May 14, 1999.
2 HCH (hexachlorocyclohexane) represents the sum of the alpha, beta, gamma (lindane), and delta isomers of hexachlorocyclohexane.
3 Dichlorobenzenes represent the sum of 1,2- and 1,3-dichlorobenzene.
4 DDD (dichlorodiphenyldichloroethane), DDE (dichlorodiphenyldichloroethylene), and DDT (dichlorodiphenyltrichloroethane) represent the sum of 4,4'DDT; 2,4'DDT; 4,4'DDE; 2,4'DDE; 4,4'DDD; and 2,4'DDD.
5 Chlordanes represent the sum of chlordane-alpha, chlordane-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.
6 Halomethanes represent the sum of bromoform, bromomethane (methyl bromide), and chloromethane (methyl chloride).
7 PAHs (polynuclear aromatic hydrocarbons) represent the sum of acenapthylene; anthracene; 1,2-benzanthracene; 3,4-benzofluoranthene; benzo[k]fluoranthene; 1,12-benzoperylene; benzo[a]pyrene; chrysene; dibenzo[a,h]anthracene; fluorene; indeno[1,2,3-cd]pyrene; phenanthrene; and pyrene.
8 PCBs (polychlorinated biphenyls) represent the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Arolclor-1254, and Arcolor-1260.
9 Endosulfan shall mean the sum of alpha-endosulfan, beta-endosulfan, and endosulfan sulfate.
10 USEPA Method 1631E, with a quantitation level of 0.5 ppt (0.5 ng/L), shall be used to analyze total mercury

2. Interim Effluent Limitations – Not Applicable

B. Land Discharge Specifications – Not Applicable

C. Reclamation Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

Unless specifically excepted by this Order, the discharge, by itself or jointly with any other discharge(s), shall not cause violation of the numerical water quality objectives established in Chapter II, Table B of the Ocean Plan and shall not cause a violation of the following water quality objectives. Compliance with these objectives shall be determined by samples collected at stations representative of the area within the waste field where initial dilution is completed.

A. Surface Water Limitations

Receiving water limitations are based on water quality objectives contained in the Basin Plan and Ocean Plan and are a required part of this Order. The discharge shall not cause the following in the Pacific Ocean:

1. Bacterial Characteristics

a. 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, and in areas outside this zone used for water contact sports, as determined by the San Diego Water Board (i.e., waters designated as REC-1), but including all kelp beds, the following bacterial objectives shall be maintained throughout the water column.

i. 30-day Geometric Mean – The following standards are based on the geometric mean of the five most recent samples from each site:

1) Total coliform density shall not exceed 1,000 per 100 ml;

2) Fecal coliform density shall not exceed 200 per 100 ml; and

3) Enterococcus density shall not exceed 35 per 100 ml.

ii. Single Sample Maximum:

1) Total coliform density shall not exceed 10,000 per 100 ml;

2) Fecal coliform density shall not exceed 400 per 100 ml;

3) Enterococcus density shall not exceed 104 per 100 ml; and

4) Total coliform density shall not exceed 1,000 per 100 ml when the fecal coliform/total coliform ratio exceeds 0.1.

b. The Initial Dilution Zone for any wastewater outfall shall be excluded from designation as kelp beds for purposes of bacterial standards. Adventitious assemblages of kelp plants on waste discharge structures (e.g., outfall pipes and diffusers) do not constitute kelp beds for purposes of bacterial standards.

c. California Department of Public Health (DPH) has established minimum protective bacteriological standards for coastal waters adjacent to public beaches and for public water-contact sports areas in ocean waters. These standards are found in the California Code of Regulations, title 17, Section 7958, and they are identical to the objectives contained in subsection a. above. When a public beach or public water-contact sports area fails to meet these standards, DPH or the local public health officer may post with warning signs or otherwise restrict use of the public beach or public water-contact sports area until the standards are met. The DPH regulations impose more frequent monitoring and more

stringent posting and closure requirements on certain high-use public beaches that are located adjacent to a storm drain that flows in the summer.

For beaches not covered under AB 411 regulations, DPH imposes the same standards as contained in Title 17 and requires weekly sampling but allows the county health officer more discretion in making posting and closure decisions.

d. At all areas where shellfish may be harvested for human consumption, as determined by the San Diego Water Board, the median total coliform density shall not exceed 70 per 100 ml throughout the water column, and not more than 10 percent of the samples shall exceed 230 per 100 ml.

e. Ocean waters beyond the outer limit of the territorial sea shall not exceed the following 304(a)(1) criteria for enterococcus density beyond the zone of initial dilution in areas where primary contact recreation, as defined in USEPA guidance, occurs. USEPA describes the "primary contact recreation" use as protective when the potential for ingestion of, or immersion in, water is likely. Activities usually include swimming, water-skiing, skin-diving, surfing, and other activities likely to result in immersion. (Water Quality Standards Handbook, EPA-823-B-94-005a, 1994, p. 2-2.)

Table 12. 304(a)(1) ambient water quality criteria for bacteria in federal waters where primary contact recreation occurs.

Indicator	30-day Geometric Mean (per 100 ml)	Single Sample Maximum (per 100 ml)
Enterococci	35	104 for designated bathing beach
		158 for moderate use
		276 for light use
		501 for infrequent use

2. 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 the 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.

3. 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 Chapter II, Table B of the Ocean Plan, shall not be increased in marine sediments to levels that would degrade indigenous biota.

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

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

g. 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.

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

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

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

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

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

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

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

j. Location of waste discharges must be determined after a detailed assessment of the oceanographic characteristics and current patterns to assure that:

i. Pathogenic organisms and viruses are not present in areas where shellfish are harvested for human consumption or in areas used for swimming or other body-contact sports.

ii. Natural water quality conditions are not altered in areas designated as being of special biological significance or areas that existing marine laboratories use as a source of seawater.

iii. Maximum protection is provided to the marine environment.

k. 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 a 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.

4. Biological Characteristics

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

b. The natural taste, odor, 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.

5. Radioactivity

Discharge of radioactive waste shall not degrade marine life.

B. Groundwater Limitations – Not Applicable

VI. PROVISIONS

A. Standard Provisions

1. **Federal Standard Provisions**. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.

2. **San Diego Water Board Standard Provisions**. The Discharger shall comply with the following provisions:

a. Compliance with Ocean Plan Discharge Prohibitions, summarized in Attachment G is required as a condition of this order and permit.

b. Compliance with Discharge Prohibitions contained in Chapter 4 of the Basin Plan, summarized in Attachment G, is required as a condition of this order and permit.

c. The Discharger shall comply with all requirements and conditions of this Order. Any permit noncompliance constituents a violation of the CWA and/or the CWC and is grounds for enforcement action, permit termination, revocation and reissuance, or modification, or for denial of an application for permit renewal, modification, or reissuance.

d. The Discharger shall comply with all applicable federal, State, and local laws and regulations that pertain to sewage sludge handling, treatment, use and disposal, including CWA Section 405 and USEPA regulations at 40 CFR Part 257.

e. The Discharger's wastewater treatment facilities shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Title 23, Division 3, Chapter 26 of the California Code of Regulations (CCRs).

f. All proposed new treatment facilities and expansions of existing treatment facilities shall be completely constructed and operable prior to initiation of the discharge from the new or expanded facilities. The Discharger shall submit a certification report for each new treatment facility, expansion of an existing treatment facility, and re-ratings, the certification report shall be prepared by the design engineer. For re-ratings, the certification report shall be prepared by the engineer who evaluated the treatment facility capacity. The certification report shall:

i. Identify the design capacity of the treatment facility, including the daily and 30-day design capacity,

ii. Certify the adequacy of each component of the treatment facility, and

iii. Contain a requirement-by-requirement analysis, based on acceptable engineering practices, of the process and physical design of the facility to ensure compliance with this Order.

The signature and engineering license number of the engineer preparing the certification report shall be affixed to the report. If reasonable, the certification report shall be submitted prior to beginning construction. The Discharger shall not initiate a discharge from an existing treatment facility at a daily flow rate in excess of its previously approved design capacity until:

iv. The certification report is received by the Executive Officer,

v. The Executive Officer has received written notification of completion of construction (new treatment facilities and expansions only),

vi. An inspection of the facility has been made by staff of the San Diego Water Board or their designated representatives (new treatment facilities and expansions only), and

vii. The Executive Officer and Director have provided the Discharger with written authorization to discharge at a daily flow rate in excess of its previously approved design capacity.

g. All waste treatment, containment, and disposal facilities shall be protected against 100-year peak stream flows as defined by the San Diego County flood control agency.

h. All waste treatment, containment, and disposal facilities shall be protected against erosion, overland runoff, and other impacts resulting from a 100-year, 24-hour storm event.

i. This Order expires on July 31, 2015, after which, the terms and conditions of this permit are automatically continued pending issuance of a new permit, provided that all requirements of USEPA's NPDES regulations at 40 CFR 122.6 and the State's regulations at CCR Title 23, Section 2235.4 regarding the continuation of expired permits and waste discharge requirements are met.

j. The Discharger's wastewater treatment facilities shall be operated and maintained in accordance with the operations and maintenance manual prepared by the Discharger pursuant to the Clean Water Grant Program.

k. A copy of this Order shall be posted at a prominent location at or near the treatment and disposal facilities and shall be available to operating personnel at all times.

l. The Discharger shall comply with any interim limitations established by addendum, enforcement action, or revised waste discharge requirements that have been or may be adopted by the San Diego Water Board or USEPA.

m. The Discharger shall comply with effluent standards and prohibitions for toxic pollutants established pursuant to Section 307(a) of the CWA within the time frame set forth by the regulations that establish those standards and prohibitions, even if this Order has not been modified to incorporate the requirements.

B. Monitoring and Reporting Program (MRP) Requirements

1. The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order.

2. Reports required to be submitted to the San Diego Water Board and USEPA shall be sent to:

Executive Officer
California Regional Water Quality Control Board
San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4340

U.S. EPA, Region 9
ATTN: WTR-7, NPDES/DMR
75 Hawthorne Street
San Francisco, 94105

Notifications required to be provided to this San Diego Water Board shall be made to:

Telephone – (858) 467-2952
Facsimile – (858) 571-6972

Notifications required to be provided to USEPA shall be made to:

Telephone – (415) 972-3577
Facsimile – (415) 947-3545

3. After notification by the State or San Diego Water Board, or USEPA, the Discharger may be required to electronically submit self-monitoring reports. Until such time as electronic submissions of self-monitoring reports is required, the Discharger shall submit discharge monitoring reports (DMRs) in accordance with the requirements described in this Order.

DMRs must be signed and certified as required by the Standard Provisions (Attachment D). The Discharger shall submit the original DMR and one copy to:

State Water Resources Control Board
Division of Water Quality
c/o DMR Processing Center
PO Box 100
Sacramento, CA 95812-1000

The Discharger shall submit one copy of the DMR to:

U.S. EPA, Region 9
ATTN: WTR-7, NPDES/DMR
75 Hawthorne Street
San Francisco, CA 94105

All discharge monitoring results should be reported on the official USEPA pre-printed DMR forms (USEPA Form 3320-1). Forms that are self-generated must be approved by USEPA.

C. Special Provisions

1. Re-opener Provisions

a. This Order may be re-opened for modification to include an effluent limitation if monitoring establishes that the discharge causes, has the reasonable potential to cause, or contributes to an excursion above an Ocean Plan Table B water quality objective.

b. This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following;

i. Violation of any terms or conditions of this Order;

ii. Obtaining this Order by misrepresentation or failure to disclose fully all relevant fact; or

iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by the Discharger for modifications, revocation and reissuance, or termination of this Order does not stay any condition of this Order. Notification by the Discharger of planned operational or facility changes, or anticipated noncompliance with this Order does not stay any condition of this Order.

c. If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in this Order, the San Diego Water Board may institute proceedings under these regulations to modify or revoke and reissue the Order to conform to the toxic effluent standard or prohibition.

d. This Order may be re-opened and modified, to incorporate in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include requirements for the implementation of the watershed management approach.

e. This Order may be re-opened and modified, in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include new Minimum Levels (MLs).

f. This Order may be re-opened and modified to revise effluent limitations as a result of future Basin Plan Amendments, or the adoption of a total maximum daily load allocation (TMDL) for the receiving water.

g. This Order may be re-opened upon submission by the Discharger of adequate information, as determined by this San Diego Water Board, to provide for dilution credits or a mixing zone, as may be appropriate.

h. This Order may be re-opened and modified to revise the toxicity language once that language becomes standardized.

i. This Order may also be re-opened and modified, revoked and, reissued or terminated in accordance with the provisions of 40 CFR Sections 122.44, 122.62 to 122.64, 125.62, and 125.62. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this Order and Permit, and endangerment to human health or the environment resulting from the permitted activity.

j. In accordance with 40 CFR Parts 122 and 124, this permit may be modified to include effluent limitations or permit conditions to address chronic or acute toxicity in the effluent or receiving waterbody, as a result of the discharge; or to implement new, revised, or newly interpreted water quality standards applicable to whole effluent toxicity.

k. The 1995 and 2003 permits contained toxics mass emission benchmarks for effluent discharged through the PLOO which are incorporated into this permit. These benchmarks were established to address the uncertainty due to projected increases in toxic pollutant loadings from the Point Loma WTP to the marine environment during the 5-year 301(h) variance, and to establish a framework for evaluating the need for an antidegradation analysis to determine compliance with water quality standards at the time of permit reissuance. Annual mass emission benchmarks for the 1995 permit were determined using 1990 through April 1995 n-day average monthly performance (95th percentile) of the Point Loma WTP and the Discharger's projected end-of-permit effluent flow of 205 mgd for the 1995 301(h) application. For the 2003 permit, mass emission benchmarks for copper and selenium were recalculated using the 1994 n-day average monthly performance (95th percentile) and 205 mgd and the mass emission benchmark for cyanide was corrected. Average monthly performance was calculated as outlined in Appendix E of *Technical Support Document for Water Quality-based Toxics Control* (EPA/5005/2-90-001, 1991; TSD). The mass emission threshold values may be re-evaluated and modified during the permit term, or the permit may be modified to incorporate water quality-based effluent limits, in accordance with the requirements set forth at 40 CFR 122.62 and 124.5.

l. The Monitoring and Reporting Program (MRP) for this Order may be modified by the San Diego Water Board and USEPA 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 more cost-effective monitoring design and to best utilize the pooled scientific resources of the region. During these coordinated sampling efforts, the Discharger's sampling and analytical effort may be reallocated to provide a regional assessment of the impact of the discharge of municipal wastewater to the Southern California Bight. Anticipated modifications to the monitoring program will be coordinated so as to provide a more comprehensive picture of the ecological and statistical significance of monitoring results and to determine cumulative impacts of various

pollution 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 sampling 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.

m. In accordance with 40 CFR Parts 122 and 124, this permit may be modified to include effluent limitations or permit conditions for phenolic compounds (non-chlorinated) to implement and address Tier II antidegradation, as a result of the discharge.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Chronic Toxicity Notification Requirements

There is a chronic toxicity effluent limit for this discharge. For this discharge, a mixing zone or dilution allowance is authorized and the chronic toxicity effluent limit is any one test result greater than 205 TUc (during the monthly reporting period). Results shall be reported in TUc, where TUc = 100/NOEC. The No Observed Effect Concentration (NOEC) is the highest concentration of toxicant to which organisms are exposed in a short-term chronic test that causes no observable adverse effects on the test organisms (e.g., the highest concentration of toxicant in which the values for the observed responses are not statistically significantly different from the controls). This permit requires additional toxicity testing if the chronic toxicity effluent limit is exceeded.

The Discharger shall notify the San Diego Water Board and USEPA in writing within 14 days of exceedance of the chronic toxicity effluent limitation. This notification shall describe actions the Discharger has taken or will take to investigate, identify, and correct the causes of toxicity; the status of actions required by this permit; and schedule for actions not yet completed; or reason(s) that no action has been taken.

b. Acute Toxicity Notification Requirements

There is no acute toxicity effluent limit for this discharge. The acute toxicity performance goal is any one test result greater than 6.42 TUa (during the monthly reporting period). Results shall be reported in TUa, where TUa = 100/LC50. The Lethal Concentration, 50 Percent (LC50) is the toxic or effluent concentration that would cause death in 50 percent of the test organisms over a specified period of time. This permit requires additional toxicity testing if an acute toxicity effluent performance goal is exceeded.

The Discharger shall notify the San Diego Water Board and USEPA in writing within 14 days of exceedance of an acute toxicity effluent performance goal. This notification shall describe actions the Discharger has taken or will take to

investigate, identify, and correct the causes of toxicity; the status of actions required by this permit; and schedule for actions not yet completed; or reason(s) that no action has been taken.

c. Initial Investigation TRE Workplan for Whole Effluent Toxicity

Within 90 days of the permit effective date, the Discharger shall prepare and submit an updated copy of their Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan (1-2 pages) to the San Diego Water Board and USEPA for review. This plan shall include steps the Discharger intends to implement if toxicity is measured above a toxicity effluent limit or performance goal and should include, at minimum:

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

ii. A description of methods for maximizing in-house treatment system efficiency, good housekeeping practices, and a list of all chemicals used in operations at the facility.

iii. If a Toxicity Identification Evaluation (TIE) is necessary, an indication of who would conduct the TIEs (i.e., an in-house expert or outside contractor).

This workplan is subject to approval and modification by the San Diego Water Board and USEPA.

d. Accelerated Toxicity Testing and TRE/TIE Process for Whole Effluent Toxicity

i. If a toxicity effluent limit or performance goal is exceeded and the source of toxicity is known (e.g., a temporary plant upset), then the Discharger shall conduct one additional toxicity test using the same species and test method. This test shall begin within 14 days of receipt of test results exceeding the toxicity effluent limit or performance goal. If the additional toxicity test does not exceed the toxicity effluent limit or performance goal, then the Discharger may return to their regular testing frequency.

ii. If a toxicity effluent limit or performance goal is exceeded and the source of toxicity is not known, then the Discharger shall conduct six additional toxicity tests using the same species and test method, approximately every two weeks, over a 12 week period. This testing shall begin within 14 days of receipt of test results exceeding the toxicity effluent limit or performance goal. If none of the additional toxicity tests exceed the toxicity effluent limit or performance goal, then the Discharger may return to their regular testing frequency.

iii. If one of the additional toxicity tests (in paragraphs d.i or d.ii of this Section) exceeds the toxicity effluent limit or performance goal, then the Discharger shall notify the Executive Officer and Director. If the Executive Officer and Director determine that the discharge consistently exceeds the toxicity effluent limit or performance goal, then the Discharger shall initiate a TRE using as guidance the USEPA manuals: *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* (EPA/ 833/B-99/002, 1999) or *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, 1989). In conjunction, the Discharger shall develop and implement a Detailed TRE Workplan which shall include: further actions undertaken by the Discharger to investigate, identify, and correct the causes of toxicity; actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and a schedule for these actions. This Detailed TRE Workplan and schedule are subject to approval and modification by the San Diego Water Board and USEPA.

iv. As part of a TRE, the Discharger may initiate a Toxicity Identification Evaluation (TIE)—using the same species and test method, and USEPA TIE guidance manuals—to identify the causes of toxicity. The USEPA TIE guidance manuals are: *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I* (EPA/600/6-91/005F, 1992; only chronic toxicity); *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures* (EPA/600/6-91/003, 1991; only acute toxicity); *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080, 1993); *Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/081, 1993); and *Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document* (EPA/600/R-96-054, 1996).

e. Antidegradation Analysis

USEPA and the San Diego Water Board have concluded that a full antidegradation analysis justifying that the continued increase in effluent loading of phenolic compounds (non-chlorinated) to a Tier II waterbody may be necessary. For phenolic compounds (non-chlorinated), the Discharger shall conduct a thorough analysis of the projected effluent load above the mass emission benchmark level, the resulting impact to receiving water quality of the total effluent load, and opportunities for effluent load reduction through additional treatment or controls (including local limits) and pollution prevention. If this analysis shows that the total effluent load for phenolic compounds (non-chlorinated) produces either (1) a receiving water concentration at the boundary of the zone of initial dilution that is less than ten percent above the ambient (farfield) concentration, or (2) the receiving water concentration at the boundary of the zone of initial dilution is less than 50 percent of the California Ocean Plan

water quality objectives for phenolic compounds (non-chlorinated), then the resulting impact to water quality is not considered "significant" and further analysis is not required at this time. However, if the change in receiving water quality is found to be "significant" upon review by USEPA and the San Diego Water Board, then the Discharger must conduct a socioeconomic analysis considering the full benefits and costs of the increased effluent loading of phenolic compounds (non-chlorinated), including environmental impacts. Specifically, this analysis must assess whether allowing these increased loadings is necessary to accommodate important social and economic development in the San Diego service area.

These two evaluations (i.e., the analysis determine "significance" and the socioeconomic analysis) shall be conducted by the Discharger in coordination with USEPA and the San Diego Water Board. Within 90 days of the permit effective date, the Discharger shall submit study plans for these two analyses and implementation schedules to USEPA and San Diego Water Board for review and approval. These plans and schedules shall be modified and implemented as directed by USEPA and the San Diego Water Board. A final report analyzing "significance" is due within one year of the permit effective date. A final Tier II antidegradation analysis report, including a socioeconomic analysis considering the full benefits and costs of the increased effluent loading of phenolic compounds (non-chlorinated) and environmental impacts, is due within 6 months of a determination by USEPA that the increased loadings are significant.

3. Best Management Practices and Pollution Prevention – Not Applicable

4. Construction, Operation and Maintenance Specifications – Not Applicable

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Treatment Plant Capacity

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

i. Average influent daily flow for the calendar month; the date on which the maximum daily flow occurred; and the rate of that maximum flow.

ii. The Discharger's best estimate of when the average daily influent flow for a calendar month will equal or exceed the design capacity of the facilities.

iii. The Discharger's intended schedule for studies, design, and other steps needed to provide additional treatment for the wastewater from the collection system before the waste flow exceeds the capacity of present units.

b. Sludge (Biosolids) Disposal Requirements

(Note: "Biosolids" refers to non-hazardous sewage sludge, as defined at 40 CFR 503.9. Sewage sludge that is hazardous, as defined at 40 CFR 261, must be disposed of in accordance with the RCRA.)

i. General Requirements

(a) All biosolids generated by the Discharger shall be used or disposed of in compliance with applicable portions of: 40 CFR 503—for biosolids that are land applied, placed in a surface disposal site (dedicated land disposal site, monofill, or sludge-only parcel at a municipal landfill), or incinerated; 40 CFR 258—for biosolids disposed of in a municipal solid waste landfill (with other materials); and 40 CFR 257—for all biosolids use and disposal practices not covered under 40 CFR 258 or 503.

40 CFR 503, Subpart B (land application), sets forth requirements for biosolids that are applied for the purpose of enhancing plant growth or for land reclamation. 40 CFR 503, Subpart C (surface disposal), sets forth requirements for biosolids that are placed on land for the purpose of disposal.

The Discharger is responsible for assuring that all biosolids produced at its facility are used or disposed of in accordance with these rules, whether the Discharger uses or disposes of the biosolids itself, or transfers their biosolids to another party for further treatment, use, or disposal. The Discharger is responsible for informing subsequent preparers, appliers, and disposers of requirements they must meet under these rules.

(b) 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.

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

(d) Biosolids treatment, storage, use, or disposal shall not contaminate groundwater.

(e) Biosolids treatment, storage, use, or disposal shall not create a nuisance such as objectionable odors or flies.

(f) 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. Trucks hauling biosolids that are not Class A, as defined at 40 CFR 503.32(a), shall be cleaned as necessary after loading and after unloading, so as to have no biosolids on the exterior of the truck or wheels. Trucks hauling biosolids that are not Class A shall be tarped. All haulers must have spill clean-up procedures. Trucks hauling biosolids that are not Class A shall not be used for hauling food or feed crops after unloading the biosolids unless the Discharger submits a hauling description, to be approved by USEPA, describing how trucks will be thoroughly cleaned prior to adding food or feed.

(g) 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 USEPA and the State with the information specified under 40 CFR 503.20(b), demonstrating the need for longer temporary storage. During storage of any length for non-Class A biosolids, whether on the facility site or off-site, adequate procedures must be taken to restrict access by the public and domestic animals.

(h) 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 the materials to escape from the site. Adequate protection is defined as protection from at least a 100-year storm and the highest tidal stage which may occur.

(i) There shall be adequate screening at the plant headworks and/or at the biosolids treatment units to ensure that all pieces of metal, plastic, glass, and other inert objects with a diameter greater than 3/8 inches are removed.

ii. Inspection and Entry

The USEPA, State, 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 the Discharger are treated, stored, used, or disposed of, by either the Discharger or another party to whom the Discharger transfers biosolids for further treatment, storage, use, or disposal.

(b) Have access to and copy any records that must be kept by either the Discharger or another party to whom the Discharger transfers biosolids for

further treatment, storage, use, or disposal, under the conditions of this permit or 40 CFR 503.

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

iii. Monitoring

(a) Biosolids shall be monitored for the following constituents, at the frequency stipulated in Table 1 of 40 CFR 503.16: arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, zinc, organic nitrogen, ammonia nitrogen, and total solids. If biosolids are removed for use or disposal on a routine basis, sampling should be scheduled at regular intervals throughout the year. If biosolids are stored for an extended period prior to use or disposal, sampling may occur at regular intervals, or samples of the accumulated stockpile may be collected prior to use or disposal, corresponding to the tons accumulated in the stockpile over that period.

Monitoring shall be conducted using the methods in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW-846), or as otherwise required under 40 CFR 503.8(b). All results must be reported on a 100% dry weight basis and records of all analyses must state on each page of the analytical results whether the reported results are expressed on an "as-is" or a "100% dry weight" basis.

(b) The Discharger shall sample biosolids twice per year for the pollutants listed under CWA Section 307(a), using best practicable detection limits.

iv. Pathogen and Vector Control

(a) Prior to land application, the permittee shall demonstrate that biosolids meet Class A or Class B pathogen reduction levels by one of the methods listed under 40 CFR 503.32.

(b) Prior to disposal in a surface disposal site, the Discharger shall demonstrate that biosolids meet Class B pathogen reduction levels, or ensure that the site is covered at the end of each operating day. If pathogen reduction is demonstrated using a "Process to Further Reduce Pathogens" or one of the "Processes to Significantly Reduce Pathogens", the Discharger shall maintain daily records of the operating parameters used to achieve this reduction. If pathogen reduction is demonstrated by testing for fecal coliform and/or pathogens, samples must be collected at the frequency specified in Table 1 of 40 CFR 503.16. If Class B is

demonstrated using fecal coliform, at least seven grab samples must be collected during each monitoring period and a geometric mean calculated from these samples. The following holding times between sample collection and analysis shall not be exceeded: fecal coliform—24 hours when cooled to 4 degrees C; *Salmonella* spp. bacteria—24 hours when cooled to 4 degrees C; enteric viruses—2 weeks when frozen; helminth ova—one month when cooled to 4 degrees C.

(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 the Vector Attraction Reduction requirements under 40 CFR 503.33(b).

v. Surface Disposal

If biosolids are placed in a surface disposal site (dedicated land disposal site or monofill), a qualified groundwater scientist shall develop a groundwater monitoring program for the site, or shall certify that the placement of biosolids on the site will not contaminate an aquifer.

vi. Landfill Disposal

Biosolids placed in a municipal landfill shall be tested by the Paint Filter Test (Method 9095) at the frequency specified in Table 1 of 40 CFR 503.16, or more often if necessary to demonstrate that there are no free liquids.

vii. Notifications

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 USEPA and the State (for both Discharger and use or disposal site) of any non-compliance within 24 hours, if the non-compliance may seriously endanger health or the environment. For other instances of non-compliance, the Discharger shall notify USEPA and the State 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 USEPA and the State of any non-compliance within these same time-frames.

(b) Interstate Notification

If biosolids are shipped to another State or Tribal Land, the Discharger shall send 60 days prior notice of the shipment to the permitting authorities in the receiving State or Tribal Land, and the USEPA Regional Office.

(c) Land Application Notification

Prior to using any biosolids from this facility (other than composted biosolids) at a new or previously unreported site, the permittee shall notify USEPA and the State. This notification shall include a description and topographic map of the proposed site(s), names and addresses of the applier and site owner, and a listing of any State or local permits which must be obtained. It shall also include a description of the crops or vegetation to be grown, proposed loading rates, and a determination of agronomic rates.

Within a given monitoring period, if any biosolids do not meet the applicable metals concentration limits specified under 40 CFR 503.13, then the Discharger (or its contractor) must pre-notify USEPA, and determine the cumulative metals loading at that site to date, as required by 40 CFR 503.12.

The Discharger shall notify the applier of all subject requirements under 40 CFR 503, including the requirement for the applier to certify that management practices, site restrictions, and applicable vector attraction reduction requirements have been met. The Discharger shall require the applier to certify at the end of 38 months, following application of Class B biosolids, that harvesting restrictions in effect for up to 38 months have been met.

(d) Surface Disposal Notification

Prior to disposal at a new or previously unreported site, the Discharger shall notify USEPA and the State. The notice shall include a description and topographic map of the proposed site, depth to groundwater, whether the site is lined or unlined, site operator and site owner, and any State or local permits. It shall also describe procedures for ensuring grazing and public access restrictions for three years following site closure. The notice shall include a groundwater monitoring plan or description of why groundwater monitoring is not required.

viii. Reporting

The Discharger shall submit an annual biosolids report to the USEPA Region 9 Biosolids Coordinator and the State by February 19 of each year for the period covering the previous calendar year. The report shall include:

(a) The amount of biosolids generated that year, in dry metric tons, and the amount accumulated from previous years.

(b) Results of all pollutant monitoring required under Monitoring, above. Results must be reported on a 100% dry weight basis.

(c) Demonstrations of pathogen and vector attraction reduction methods, as required under 40 CFR 503.17 and 503.27, and certifications.

(d) Names, mailing addresses, and street addresses of persons who received biosolids for storage, further treatment, disposal in a municipal landfill, or other use or disposal method not covered above, and volumes delivered to each.

(e) The following information must be submitted by the Discharger, unless the Discharger requires its biosolids management contractors to report this information directly to the EPA Region 9 Biosolids Coordinator.

i. For land application sites:

Locations of land application sites (with field names and numbers) used that calendar year, size of each field applied to, applier, and site owner.

Volumes applied to each field (in wet tons and dry metric tons), nitrogen applied, and calculated plant available nitrogen.

Crops planted, dates of planting and harvesting.

For biosolids exceeding 40 CFR 503.13 Table 3 metals concentrations, the locations of sites where the biosolids were applied and cumulative metals loading at the sites to date.

Certifications of management practices at 40 CFR 503.14.

Certifications of site restrictions at 40 CFR 503(b)(5).

ii. For surface disposal sites:

Locations of sites, site operator and site owner, size of parcel on which biosolids were disposed.

Results of any required groundwater monitoring.

Certifications of management practices at 40 CFR 503.24.

For closed sites, the date of site closure and certifications of management practices for three years following site closure.

(f) All reports shall be submitted to:

Regional Biosolids Coordinator
U.S. Environmental Protection Agency
CWA Compliance Office (WTR-7)
75 Hawthorne Street
San Francisco, CA 94105-3901

Biosolids Program Coordinator
Arizona Department of Environmental Quality
Mail Code: 5415B-1
1110 West Washington Street
Phoenix, AZ 85007

c. Pretreatment Program

i. The Discharger shall be responsible and liable for the performance of all Control Authority pretreatment requirements contained in 40 CFR Part 403, including any subsequent revisions to that part. Where 40 CFR Part 403 or subsequent revisions place mandatory actions upon the Discharger, as Control Authority, but do not specify a timetable for completion, the Discharger shall complete the mandatory actions within 6 months of the issuance date of this Order, or the effective date of the revisions to 40 CFR Part 403, whichever is later. For violations of pretreatment requirements, the Discharger shall be subject to enforcement actions, penalties, fines, and other remedies imposed by the USEPA and/or the San Diego Water Board, as provided in the CWA and/or the CWC.

ii. The Discharger shall comply with the urban area pretreatment program requirements under CWA Section 301(h) and the implementation requirements at 40 CFR 125. The Discharger's actions to comply shall include the following:

(a) During each calendar year, maintaining a rate of significant noncompliance (SNC), as defined at 40 CFR 403.8(f)(2)(vii), for Significant Industrial Users (SIUs) of no more than 15 percent of the total number of SIUs. The 15 percent noncompliance criteria includes only SIUs that are in SNC and which have not received at least a second level formal enforcement action from the Discharger, in accordance with the Enforcement Response Plan included in Appendix K-2 of the Discharger's April 1995 301(h) modification application. The second level of enforcement is an Administrative Notice and Order.

(b) Providing the annual analysis regarding local limits required under 40 CFR 125.65(c)(1)(iii). As a consequence of any new local limits, some SIUs may need time to come into compliance with those limits. In any such cases, the Discharger shall issue a Compliance Findings of Violation and Order which is the first level of formal enforcement in its Enforcement Response Plan. The Order shall contain a schedule for achieving compliance with the new local limits. SIUs receiving such orders will not be included in the 15 percent noncompliance criteria.

iii. The Discharger shall implement and enforce its approved pretreatment program, and all subsequent revisions, which are hereby made enforceable conditions of this Order. The Discharger shall enforce the requirements promulgated pursuant to Sections 307(b), 307(c), 307(d), and 402(b) of the CWA with timely, appropriate, and effective enforcement actions. The Discharger shall cause all nondomestic users subject to federal categorical standards to 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.

iv. The Discharger shall perform the pretreatment functions required by 40 CFR 403, including, but not limited to:

(a) Implement the necessary legal authorities as required by 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 required by 40 CFR 403.8(f)(2); and

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

v. By March 1 of each year, the Discharger shall submit an annual report to the San Diego Water Board; USEPA Region 9; the State Water Board, Division of Water Quality, Regulations Unit; and the San Diego County Department of Health Services, Hazardous Materials Division, describing its pretreatment

activities over the previous calendar year. In the event the Discharger is not in compliance with any condition or requirement of this Order, or any pretreatment compliance inspection/audit requirements, the Discharger shall include the reasons for noncompliance and state how and when it will comply with such conditions and requirements. The annual report shall contain, but not be limited, 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 USEPA has identified under Section 307(a) of the CWA, which are known or suspected to be discharged by nondomestic users. This will consist of an annual full priority pollutant scan. Wastewater sampling and analysis shall be performed in accordance with the minimum frequency of analysis required by the Monitoring and Reporting program of this Order (Attachment E). The Discharger shall also provide influent and effluent monitoring data for non-priority pollutants, which the Discharger believes may be causing or contributing to interference or pass through. The Discharger is not required to sample and analyze for asbestos. Sludge sampling and analysis is addressed elsewhere in this permit. Wastewater sampling and analysis shall be performed in accordance with 40 CFR Part 136;

(b) A discussion of upset, interference, or pass through, if any, at the Discharger's Facilities, 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, any corrective actions taken, and, if known, the name and address of the responsible nondomestic user(s). The discussion shall also include a review of the applicable local pollutant limitations to determine whether any additional limitations or changes to existing limitations, are necessary to prevent pass-through, interference, or noncompliance with sludge disposal requirements;

(c) An updated list of the Discharger's 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 limitations;

(d) The Discharger shall characterize the compliance status of each SIU by providing a list or table for the following:

(1) Name of SIU

(2) Category, if subject to categorical standards;

(3) Type of wastewater treatment or control processes in place;

(4) Number of samples taken by SIU during the year;

(5) Number of samples and inspections by Discharger during the year;

(6) For an SIU subject to discharge requirements for total toxic organics (TTO), whether all required certifications were provided;

(7) A list of pretreatment standards (categorical or local) violated during the year, or any other violations;

(8) SIUs in significant noncompliance (SNC) as defined at 40 CFR 403.8(f)(2)(viii), at any time during the year;

(9) A summary of enforcement actions or any other actions taken against SIUs during the year. Describe the type of action, final compliance date, and the amount of fines and/or penalties collected, if any. Describe any proposed actions for bringing SIUs into compliance; and

(10) The name(s) of any SIU(s) required to submit a baseline monitoring report and any SIUs currently discharging under a baseline monitoring report.

(11) The names of any SIUs required to prepare and/or implement a pollution prevention plan pursuant to CA SB 709 and SB 2165.

(e) A brief description of any programs the Discharger implements to reduce pollutants from nondomestic users 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 in the program's administrative structure, local limits, monitoring program, legal authority, enforcement policy, funding, and staffing levels;

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

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

(i) A description of any changes in sludge disposal methods;

(j) A description of the program to quantify, characterize, regulate, and treat flow from low-flow urban runoff diversion systems and "first flush" industrial

stormwater diversion systems that are routed to the sanitary sewer collection system; and

(k) A discussion of any concerns not described elsewhere in the annual report.

vi. Semiannual SIU Status Report

The Discharger shall submit a semiannual SIU noncompliance status report to the San Diego Water Board, the State Water Board, and the USEPA. The reports shall cover the periods of January 1 through June 30, and July 1 through December 31 and shall be submitted no later than September 1 and March 1, respectively. The report shall contain:

(a) The names and addresses of all SIUs which violated any discharge or reporting requirements during the semi-annual reporting period;

(b) A description of the violations, including whether the discharge violations were for categorical standards or local limits;

(c) A description of the enforcement actions or other actions taken to remedy the noncompliance;

(d) The status of enforcement actions or other actions taken in response to SIU noncompliance identified in previous reports; and

(e) The status of any SIUs required to prepare and/or implement a pollution prevention plan pursuant to CA SB 709 and SB 2165.

vii. Non-industrial Source Control Program

In accordance with CWA Section 301(h)(7) and 40 CFR 125.66(d), the Discharger shall continue to develop and implement its non-industrial source control program and public education program, described in Volume VII, Appendix K, of the 2007 301(h) application. The purpose of these programs is to eliminate the entrance of non-industrial toxic pollutants and pesticides into the POTW. These programs shall be periodically reviewed and addressed in the annual report.

d. Collection System

On May 2, 2006, the State Water Board adopted State Water Board Order No. 2006-0003, a Statewide General WDR for Sanitary Sewer Systems. The Discharger shall be subject to the requirements of Order No. 2006-0003 and any future revisions thereto. Order No. 2006-0003 requires that all public agencies that currently own or operate sanitary sewer systems apply for coverage under the General WDR.

Regardless of the coverage obtained under Order No. 2006-0003, the Discharger's collection system is part of the publicly-owned treatment works or Facility that is subject to this Order. As such, pursuant to federal regulations, the Discharger must properly operate and maintain its collection system [40 CFR 122.41(e)], report any non-compliance [40 CFR 122.41(l)(6) and (7)], and mitigate any discharge from the collection system in violation of this Order [40 CFR 122.41(d)].

6. Other Special Provisions

a. Continuous Monitoring for Residual Chlorine. To ensure compliance with WQBELs for total chlorine residual, continuous monitoring of the effluent is required. Within 180 days of the effective date of this permit, the Discharger shall begin continuous monitoring for total chlorine residual in the effluent. Until that time, at least four grab samples per day, representative of the daily discharge, shall be collected immediately prior to entering the PLOO and analyzed for total chlorine residual.

b. Plume Tracking. The Discharger shall prepare a feasibility study that assesses behavior of the PLOO wastewater plume and means of tracking the plume. The feasibility study shall present a recommended plan for plume tracking which includes identifying recommended modifications in receiving water sampling parameters, locations, and/or sampling protocols. The feasibility study shall be submitted to the Executive Director within two years of the effective date of this Order.

c. Wastewater Reclamation and Recycling Opportunities Study Reporting Condition for Federal Permit.[1]

i. The Discharger's federal permit renewal for a variance from federal secondary treatment standards, pursuant to CWA Sections 301(h) and (j)(5), is contingent upon determination by the California Coastal Commission (CCC) that the proposed discharge is consistent with the Coastal Zone Management Act of 1972, as amended (16 U.S.C. 1451 et seq.). On October 7, 2009, the CCC conditionally concurred with consistency certification CC-056-09 for the reissuance of a secondary treatment waiver for the Point Loma wastewater treatment plant and outfall. The CCC found that, if modified in accordance with the condition specified in section C.6.c.2 of this Permit, the federally permitted discharge would be consistent with the enforceable policies of the California Coastal Management Program.

ii. Wastewater Reclamation and Recycling Opportunities Study. The City will return for a public hearing before the Coastal Commission in (approximately)

[1] Sections VI.C.6.c, VI.C.6.c.i, and VI.C.6.c.ii were added by USEPA subsequent to the adoption of the permit by the San Diego Water Board and are only part of the permit as issued by USEPA.

two years when its study of Wastewater Reclamation and Recycling Opportunities (Note: This study refers to the City's Cooperative Agreement with San Diego Coastkeeper and the San Diego Chapter of Surfrider Foundation, approved on February 18, 2009, described further in and contained in Exhibit 15 of the Commission's adopted findings for CC-056-09.) is completed and the findings and recommendations have been documented in a report, and inform the Commission how, and to what extent, the City intends to implement the recommendations in the report or any alternatives to the recommendations in the report. If the City does not intend to implement the recommendations of the report, the City will provide an explanation of its reasoning to the Commission.

7. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in Section IV of this Order will be determined as specified below:

A. Compliance with Average Monthly Effluent Limitation (AMEL).

If the average of daily discharges over a calendar month exceeds the AMEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of noncompliance in a 31-day month). The average of daily discharges over the calendar month that exceeds the AMEL for a parameter will be considered out of compliance for the month only. If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month.

B. Compliance with Average Weekly Effluent Limitation (AWEL).

If the average of daily discharges over a calendar week (Sunday through Saturday) exceeds the AWEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of noncompliance. The average of daily discharges over the calendar week that exceeds the AWEL for a parameter will be considered out of compliance for that week only. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Discharger will be considered out of compliance for that calendar week.

C. Compliance with Maximum Daily Effluent Limitation (MDEL).

The MDEL shall apply to flow weighted 24-hour composite samples. If a daily discharge exceeds the MDEL for a given parameter, an alleged violation will be flagged and the

Discharger will be considered out of compliance for that parameter for that one day only within the reporting period.

D. Compliance with Instantaneous Minimum Effluent Limitation

The instantaneous minimum effluent concentration limitation shall apply to grab sample determinations. If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, a violation will be flagged and the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of noncompliance with the instantaneous minimum effluent limitation.

E. Compliance with Instantaneous Maximum Effluent Limitation.

The instantaneous maximum effluent concentration limitation shall apply to grab sample determinations. If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, a violation will be flagged and the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of noncompliance with the instantaneous maximum effluent limitation).

F. Compliance with Six-month Median Effluent Limitation.

If the median of daily discharges over any 180-day period exceeds the six-month median effluent limitation for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that 180-day period for that parameter. The next assessment of compliance will occur after the next sample is taken. If only a single sample is taken during a given 180-day period and the analytical result for that sample exceeds the six-month median, the Discharger will be considered out of compliance for the 180-day period.

G. Mass and Concentration Limitations.

Compliance with mass and concentration effluent limitations for the same parameter shall be determined separately with their respective limitations. When the concentration of a constituent in an effluent sample is determined to be Not Detected (ND) or Detected, but Not Quantified (DNQ), the corresponding mass emission rate (MER) determined from that sample concentration shall also be reported as "ND" or "DNQ".

H. Percent Removal.

Compliance with percent removal requirements for monthly average percent removal of biochemical oxygen demand (BOD_5) and total suspended solids (TSS) shall be determined separately for each wastewater treatment facility discharging through an

outfall. For each wastewater treatment facility, the monthly average percent removal is the average of the calculated daily discharge percent removals only for days on which the constituent concentration is monitored in both the influent and effluent of the wastewater treatment facility at the location specified in the Monitoring and Reporting Program (Attachment E) within a calendar month.

The percent removal for the Point Loma Wastewater Treatment Plant (applicable to TSS removal based on Table A of the Ocean Plan, and BOD_5 removal at the Facility) for each day shall be calculated according to the following equation:

$$\text{Daily discharge percent removal} = \frac{\text{Influent Concentration - Effluent Concentration}}{\text{Influent Concentration}} \times 100\%$$

The system-wide percent removals of TSS and BOD_5 shall be calculated using the following formula (mass emissions in metric tons):

$$\text{Percent removal} = \frac{\text{(System Influents – Return Streams) – Outfall Discharge}}{\text{System Influents – Return Streams}} \times 100\%$$

Where:

System Influents:	Point Loma WTP Influent, North City Water Reclamation Plant (NCWRP) Influent Pump Station, and NCWRP Influent from Penasquitos Pump Station.
Return Streams:	NCWRP Filter Backwash, NCWRP Plant Drain, NCWRP Secondary and Un-disinfected Filtered Effluent Bypass, NCWRP Final Effluent, and MBC Centrate.

I. 2005 California Ocean Plan Provisions for Table B Constituents.

1. Sampling Reporting Protocols

a. Dischargers must report with each sample result the reported ML, selected in accordance with Ocean Plan Section III.C.5, and the laboratory's current Method Detection Limit (MDL).

b. Dischargers must also report results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

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

ii. 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 shorted to Est. Conc.").

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

2. Compliance Determination

Sufficient sampling and analysis shall be required to determine compliance with the effluent limitation.

a. Compliance with Single-Constituent Effluent Limitations

The Discharger shall be deemed out of compliance with an effluent limitation or discharge specification if the concentration of the constituent in the monitoring sample is greater than the effluent limitation or discharge specification and greater than or equal to the reported ML.

b. Compliance with Effluent Limitations expressed as a Sum of Several Constituents

Dischargers are out of compliance with an effluent limitation that 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.

c. Multiple Sample Data 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 ML). 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.

d. Mass Emission Rate

The mass emission rate (MER), in pounds per day, shall be obtained from the following calculation for any calendar day:

Mass Emission Rate (lbs/day) = 8.34 x Q x C

In which Q and C are the flow rate in million gallons per day, and the constituent concentration in mg/L, respectively, and 8.34 is a conversion factor (lbs/gallon of

water). If a composite sample is taken, then C is the concentration measured in the composite sample and Q is the average flow rate occurring during the period over which the samples are composited.

e. Bacterial Standards and Analysis

iii. The geometric mean used for determining compliance with bacterial standards is calculated with the following equation:

$$\text{Geometric Mean} = (C_1 \times C_2 \times \ldots \times C_n)^{1/n}$$

Where n is the number of days samples were collected during the period and C is the concentration of bacteria (CFU/100 mL) found on each day of sampling.

iv. For bacterial analyses, sample dilutions should be performed so the range of values extends as follows:

- 2 to 16,000/100ml colony-forming units (CFU) for total coliforms
- 2 to 12,000/100ml CFU for fecal coliforms
- 2 to 12,000/100ml CFU for enterococci

The detection methods used for each analysis shall be reported with the results of the analysis. Detection methods used for coliform (total and fecal) shall be those presented in Table 1A of 40 CFR 136, unless alternate methods have been approved in advance by USEPA, pursuant to 40 CFR 136. Detection methods used for enterococcus shall be those presented in USEPA publication EPA 600/4-85/076, *Test Methods for Escherichia coli and Enterococci in Water by Membrane Filter Procedure*, listed under 40 CFR 136, or any improved method determined by the San Diego Water Board or USEPA to be appropriate.

f. Single Operational Upset

A single operational upset (SOU) that leads to simultaneous violations of more than one pollutant parameter shall be treated as a single violation and limits the Discharger's liability in accordance with the following conditions:

i. A single operational upset is broadly defined as a single unusual event that temporarily disrupts the usually satisfactory operation of a system in such a way that it results in violation of multiple pollutant parameters.

ii. A Discharger may assert SOU to limit liability only for those violations which the Discharger submitted notice of the upset as required in Provision H of Attachment D.

iii. For purposes outside of CWC Section 13385(h) and (i), determination of compliance and civil liability (including any more specific definition of SOU), the requirements for Dischargers to assert the SOU limitation of liability, and the manner of counting violations, shall be in accordance with the USEPA Memorandum "Issuance of Guidance Interpreting Single Operational Upset" (September 27, 1989).

iv. For purposes of CWC Section 13385(h) and (i), determination of compliance and civil liability (including any more specific definition of SOU, the requirements for Dischargers to assert the SOU limitation of liability, and the manner of counting violations shall be in accordance with CWC Section 13385(f)(2).

ATTACHMENT A – DEFINITIONS

Acute Toxicity

a. Acute Toxicity (TUa)

Expressed in Toxic Units Acute (TUa)

$$TUa = \frac{100}{96\text{-hr LC } 50\%}$$

Areas of Special Biological Significance (ASBS)
Those areas designated by the State Water Board as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable. All Areas of Special Biological Significance are also classified as a subset of STATE WATER QUALITY PROTECTION AREAS.

Average Monthly Effluent Limitation (AMEL)
The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL)
The highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Biosolids
Biosolids refers to non-hazardous sewage sludge, as defined at 40 CFR 503.9. Sewage sludge that is hazardous, as defined at 40 CFR 261, must be disposed of in accordance with the RCRA.

Chlordane
Shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

Chronic Toxicity
This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response.

a. Chronic Toxicity (TUc)

Expressed as Toxic Units Chronic (TUc)

$$TUc = \frac{100}{NOEL}$$

b. No Observed Effect Level (NOEL)

The NOEL is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test listed in Ocean Plan Appendix II.

Daily Discharge
Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

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.

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.

Detected, but Not Quantified (DNQ)
Sample results that are less than the reported Minimum Level, but greater than or equal to the laboratory's MDL.

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

Downstream Ocean Waters
Waters downstream with respect to ocean currents.

Dredged Material
Any material excavated or dredged from the navigable waters of the United States, including material otherwise referred to as "spoil".

Enclosed Bays
Indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

Endosulfan
The sum of endosulfan-alpha and -beta and endosulfan sulfate.

Estuaries and Coastal Lagoons are waters at the mouths of streams that serve as mixing zones for fresh and ocean waters during a major portion of the year. Mouths of streams that are temporarily separated from the ocean by sandbars shall be considered as estuaries. Estuarine waters will generally be considered to extend from a bay or the open ocean to the upstream limit of tidal action but may be considered to extend seaward if significant mixing of fresh and salt water occurs in the open coastal waters. The waters described by this definition include but are not limited to the Sacramento-San Joaquin Delta as defined by Section 12220 of the California Water Code, Suisun Bay, Carquinez Strait downstream to Carquinez Bridge, and appropriate areas of the Smith, Klamath, Mad, Eel, Noyo, and Russian Rivers.

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

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

Initial Dilution
The process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

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

For shallow water submerged discharges, surface discharges, and non-buoyant discharges, characteristic of cooling water wastes and some individual discharges, turbulent mixing results primarily from the momentum of discharge. Initial dilution, in these cases, is considered to be completed when the momentum induced velocity of the discharge ceases to produce significant mixing of the waste, or the diluting plume reaches a fixed distance from the discharge to be specified by the Regional Board, whichever results in the lower estimate for initial dilution.

Instantaneous Maximum Effluent Limitation
The highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation
The lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Kelp Beds
For purposes of the bacteriological standards of the Ocean Plan, are significant aggregations of marine algae of the genera Macrocystis and Nereocystis. Kelp beds include the total foliage canopy of Macrocystis and Nereocystis plants throughout the water column.

Mariculture
The culture of plants and animals in marine waters independent of any pollution source.

Material
(a) In common usage: (1) the substance or substances of which a thing is made or composed (2) substantial; (b) For purposes of the Ocean Plan relating to waste disposal, dredging and the disposal of dredged material and fill, MATERIAL means matter of any kind or description which is subject to regulation as waste, or any material dredged from the navigable waters of the United States. See also, DREDGED MATERIAL.

Maximum Daily Effluent Limitation (MDEL)
The highest allowable daily discharge of a pollutant.

Method Detection Limit (MDL)
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 title 40 of the Code of Federal Regulations, Part 136, Appendix B.

Minimum Level (ML)
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.

Natural Light
Reduction of natural light may be determined by the San Diego Water Board by measurement of light transmissivity or total irradiance, or both, according to the monitoring needs of the San Diego Water Board.

Not Detected (ND)
Those sample results less than the laboratory's MDL.

Ocean Waters
The territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. If a discharge outside the territorial waters of the State could affect the quality of the waters of the State, the discharge may be regulated to assure no violation of the Ocean Plan will occur in ocean waters.

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

PCBs (polychlorinated biphenyls)
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.

Pollutant Minimization Program (PMP)
PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP is to reduce all potential sources of pollutants through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below water quality standards in the Ocean Plan. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative pollutants where there is evidence that beneficial uses are being impacted. The San Diego Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a PMP, if required pursuant to Water Code Section 13263.3(d), shall be considered to fulfill the PMP requirements in Section III.C.9 of the Ocean Plan.

Reported Minimum Level
The ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting sample results that are selected or established by the San Diego Water Board and USEPA, in accordance with Ocean Plan Section III.C.5. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interference. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied when there are matrix effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, the additional factor must be applied to the ML in the computation of the reported ML.

Satellite Collection System
The portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Shellfish
Organisms identified by the California Department of Public Health (DPH) as shellfish for public health purposes (i.e., mussels, clams and oysters).

Significant Difference
Defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.

Six-Month Median Effluent Limitation

The highest allowable moving median of all daily discharges for any 180-day period.

State Water Quality Protection Areas (SWQPAs)
Non-terrestrial marine or estuarine areas designated to protect marine species or biological communities from an undesirable alteration in natural water quality. All AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE (ASBS) that were previously designated by the State Water Board in Resolution No.s 74-28, 74-32, and 75-61 are now also classified as a subset of State Water Quality Protection Areas and require special protections afforded by the Ocean Plan.

TCDD Equivalents
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

Toxicity Reduction Evaluation (TRE)
A study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

Waste
As used in the Ocean Plan, waste includes a Discharger's total discharge, of whatever origin, i.e., gross, not net, discharge.

Water Reclamation

The treatment of wastewater to render it suitable for reuse, the transportation of treated wastewater to the place of use, and the actual use of treated wastewater for a direct beneficial use or controlled use that would not otherwise occur.

ATTACHMENT B – MAP

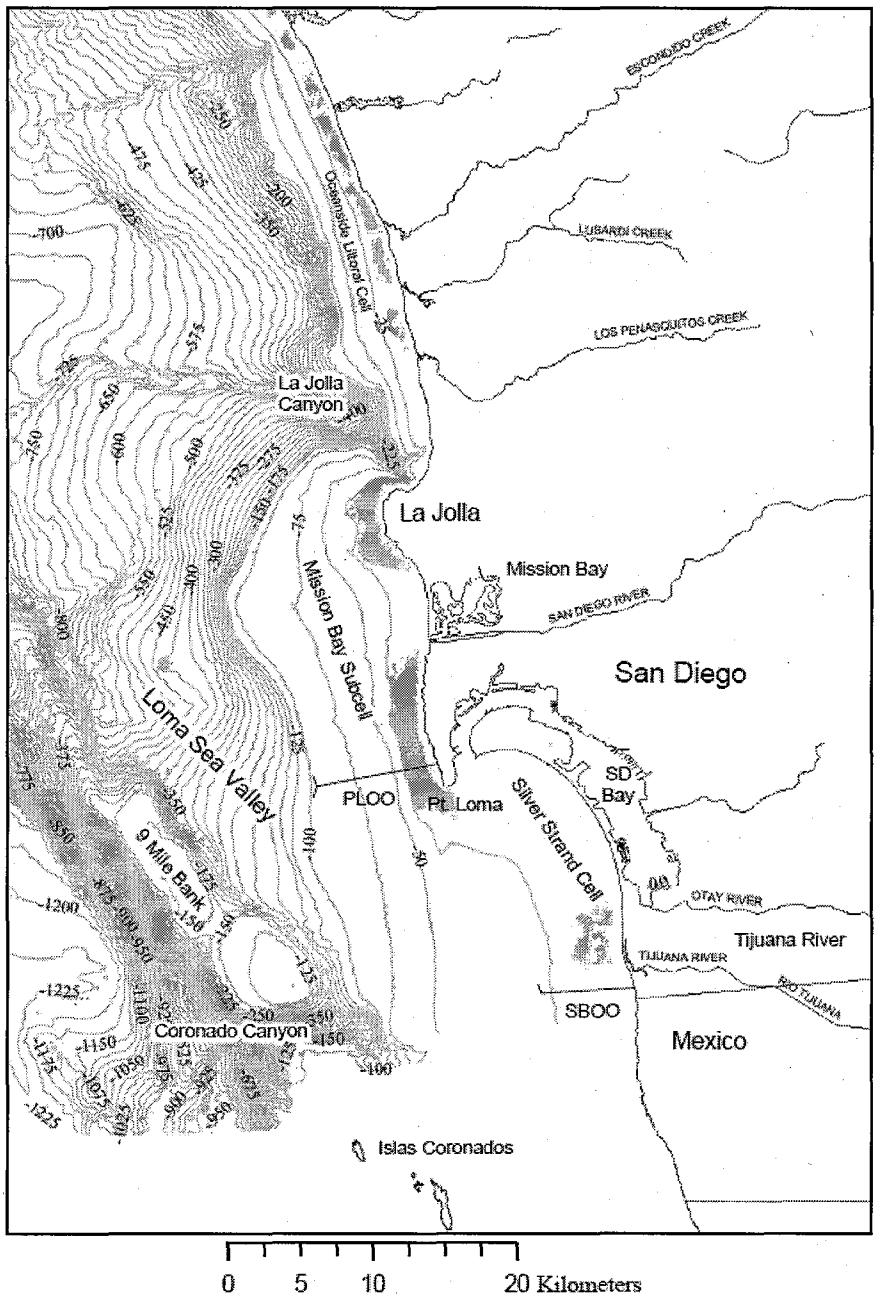
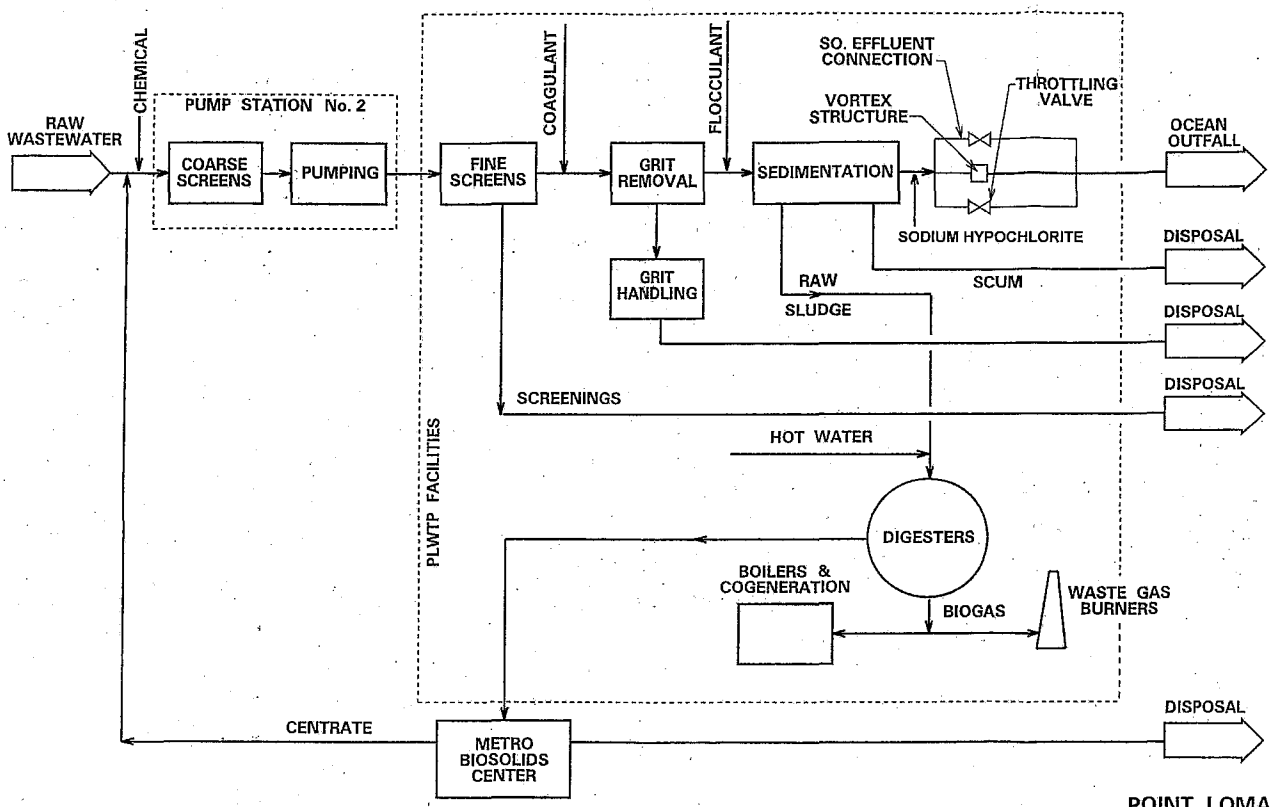


Figure 1. Map of marine shelf of San Diego County. Bathymetric units are meters. Locations of littoral cells, submarine canyons, outfalls (PLOO and SBOO), rivers, and Kelp Forests (shaded areas close to shore) are indicated.

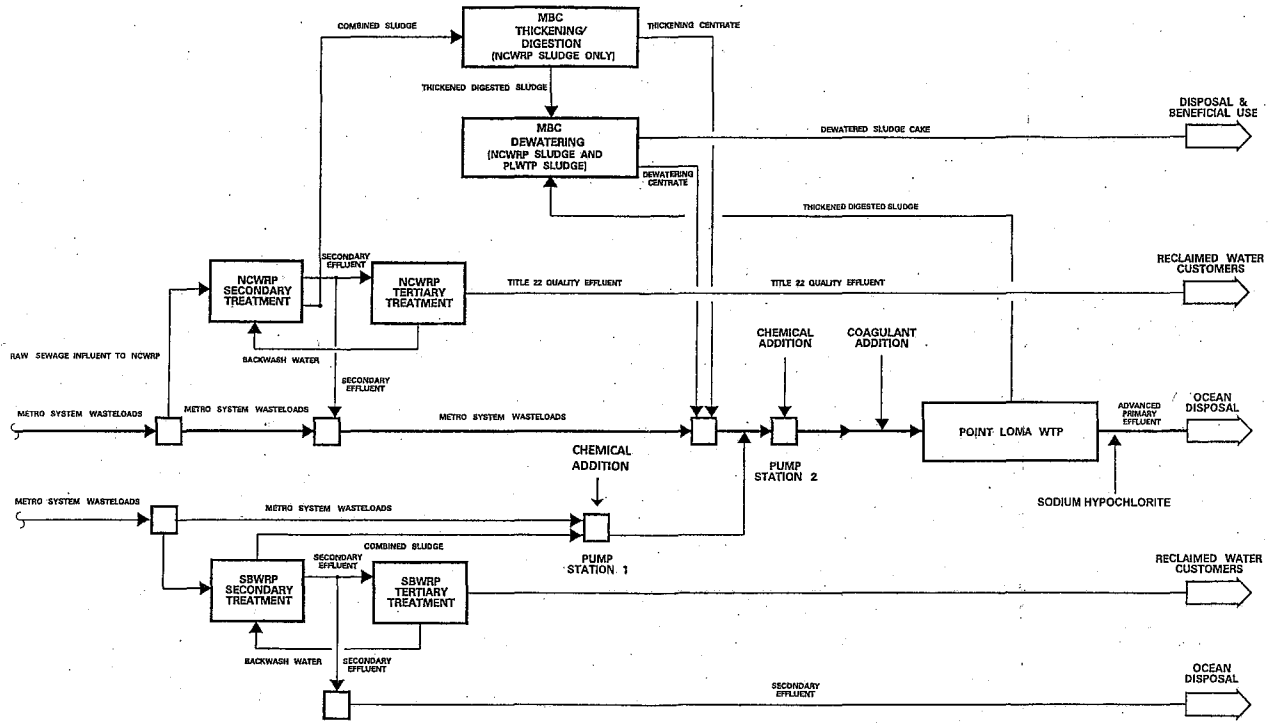
ATTACHMENT C – FLOW SCHEMATICS

C.1. Wastewater Treatment Flow Schematic



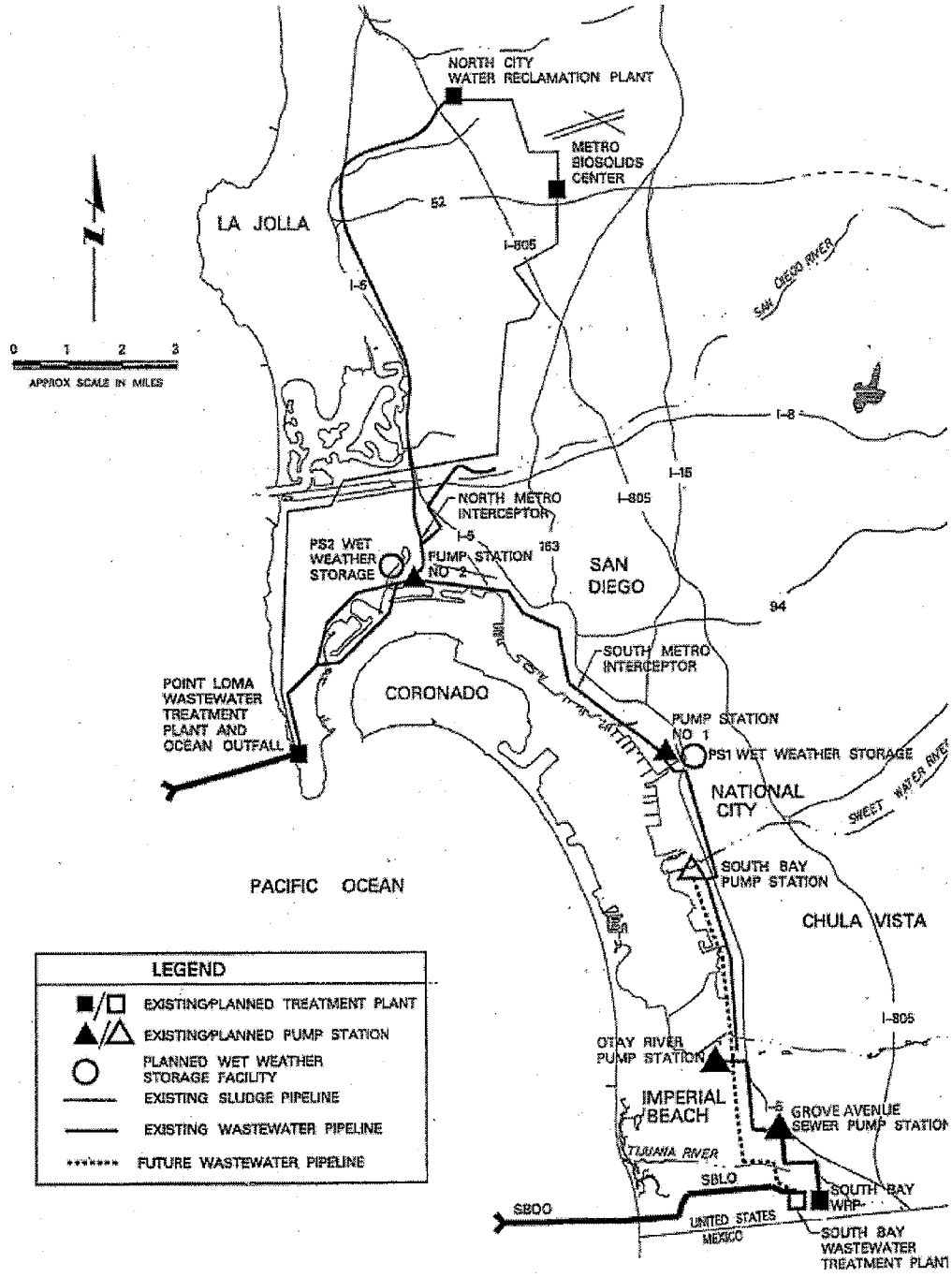
POINT LOMA WASTEWATER TREATMENT PLANT PROCESS SCHEMATIC DIAGRAM

C.2. System-Wide Flow Schematic



METRO SYSTEM PROCESS SCHEMATIC

C.3. Collection System



EXISTING AND PLANNED METRO SYSTEM FACILITIES

ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 CFR § 122.41(a).)

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use and disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 CFR § 122.41(a)(1).)

B. 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 Order. (40 CFR § 122.41(c).)

C. 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 Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 CFR § 122.41(d).)

D. 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 Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 CFR § 122.41(e).)

E. Propert y Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 CFR § 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations. (40 CFR § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the San Diego Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 CFR § 122.41(i); Water Code, § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 CFR § 122.41(i)(1));

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 CFR § 122.41(i)(2));

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 CFR § 122.41(i)(3)); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 CFR § 122.41(i)(4).)

G. Bypass

1. Definitions

   a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR § 122.41(m)(1)(i).)

   b. "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 that 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. (40 CFR § 122.41(m)(1)(ii).)

2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 CFR § 122.41(m)(2).)

3. Prohibition of bypass. Bypass is prohibited, and the San Diego Water Board and USEPA may take enforcement action against a Discharger for bypass, unless (40 CFR § 122.41(m)(4)(i)):

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR § 122.41(m)(4)(i)(A));

   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 that occurred during normal periods of equipment downtime or preventive maintenance (40 CFR § 122.41(m)(4)(i)(B)); and

   c. The Discharger submitted notice to the San Diego Water Board and USEPA as required under Standard Provisions – Permit Compliance I.G.5 below. (40 CFR § 122.41(m)(4)(i)(C).)

4. The San Diego Water Board and USEPA may approve an anticipated bypass, after considering its adverse effects, if the San Diego Water Board and USPEA determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 CFR § 122.41(m)(4)(ii).)

5. **Notice**

   a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass. (40 CFR § 122.41(m)(3)(i).)

   b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 CFR § 122.41(m)(3)(ii).)

H. Upset

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. (40 CFR § 122.41(n)(1).)

1. 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 Standard Provisions – Permit Compliance I.H.2 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. (40 CFR § 122.41(n)(2).)

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 CFR § 122.41(n)(3)):

   a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 CFR § 122.41(n)(3)(i));

   b. The permitted facility was, at the time, being properly operated (40 CFR § 122.41(n)(3)(ii));

   c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 CFR § 122.41(n)(3)(iii)); and

   d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 CFR § 122.41(n)(3)(iv).)

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 CFR § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 CFR § 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 CFR § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the San Diego Water Board and USEPA. The San Diego Water Board and USEPA may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 CFR § 122.41(l)(3); § 122.61.)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 CFR § 122.41(j)(1).)

B. According to test procedures approved under 40 CFR Part 136 for the analyses of pollutants or another method is required under 40 CFR subchapters N or O. In the case of pollutants for which there are no approved methods under 40 CFR Part 136 or otherwise required under 40 CFR subchapters N or O, monitoring must be conducted according to a test procedure specified in the permit for such pollutants.

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503), 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 Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the San Diego Water Board Executive Officer or USEPA Director at any time. (40 CFR § 122.41(j)(2).) It is recommended that the Discharger maintain the results of all analyses indefinitely.

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 CFR § 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 CFR § 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 CFR § 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 CFR § 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 CFR § 122.41(j)(3)(v)); and
6. The results of such analyses. (40 CFR § 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 CFR § 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 CFR § 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 CFR § 122.7(b)(2).)

V. ST ANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the San Diego Water Board, State Water Board, or USEPA within a reasonable time, any information which the San Diego Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the San Diego Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 CFR § 122.41(h); Water Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the San Diego Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 CFR § 122.41(k).)

2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 CFR § 122.22(a)(3).).

3. All reports required by this Order and other information requested by the San Diego Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 CFR § 122.22(b)(1));

   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, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 CFR § 122.22(b)(2)); and

   c. The written authorization is submitted to the San Diego Water Board, State Water Board, and USEPA. (40 CFR § 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the San Diego Water Board, State Water Board, and USEPA prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 CFR § 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above 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." (40 CFR § 122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 CFR § 122.41(i)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the San Diego Water Board, State Water Board, or USEPA for reporting results of monitoring of sludge use or disposal practices. (40 CFR § 122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, 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 San Diego Water Board or USEPA. (40 CFR § 122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 CFR § 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 CFR § 122.41(l)(5).)

E. T wenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) 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. (40 CFR § 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 CFR § 122.41(l)(6)(ii)):

   a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 CFR § 122.41(l)(6)(ii)(A).)

   b. Any upset that exceeds any effluent limitation in this Order. (40 CFR § 122.41(l)(6)(ii)(B).)

   c. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24 hours. (40 CFR §122.44(g).)

3. The San Diego Water Board and USEPA may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 CFR § 122.41(l)(6)(iii).)

F. Planned Changes

The Discharger shall give notice to the San Diego Water Board and USEPA as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 CFR § 122.41(l)(1)):

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 Section 122.29(b) (40 CFR § 122.41(l)(1)(i));

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 CFR § 122.41(l)(1)(ii)); or

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. (40 CFR§ 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the San Diego Water Board or State Water Board, and USEPA, of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. (40 CFR § 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 CFR § 122.41(l)(7).)

I. Other Information

When 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 San Diego Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 CFR § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The San Diego Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, Sections 13385, 13386, and 13387.

B. The Clean Water Act provides that any person who violates Section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such Sections in a permit issued under Section 402, or any requirement imposed in a pretreatment program approved under Sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $25,000 per day for each violation. The Clean Water Act provides that any person who *negligently* violates Sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such Sections in a permit issued under Section 402 of the Act, or any requirement imposed in a pretreatment program approved under Section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than 2 years, or both. Any person who *knowingly* violates such Sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both. Any person who knowingly violates Section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such Sections in a permit issued under Section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon

conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in Section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

C. Any person may be assessed an administrative penalty by the Administrator for violating Section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such Sections in a permit issued under Section 402 of this Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

D. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device 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. (40 CFR 122.41(j)(5).)

E. Th e 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 per violation, or by imprisonment for not more than 6 months per violation, or by both. (40 CFR 122.41(k)(2).)

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the San Diego Water Board and USEPA of the following (40 CFR § 122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to Sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 CFR § 122.42(b)(1));

2. 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 adoption of the Order. (40 CFR § 122.42(b)(2)); and

3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 CFR § 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Table of Contents

I. General Monitoring Provisions E-2
II. Monitoring Locations E-4
III. Influent and emergency connection Monitoring Requirements E-7
  A. Monitoring Location INF-001 and EMG-001 ..... E-7
IV. Effluent Monitoring Requirements E-10
V. Whole Effluent Toxicity Testing Requirements E-14
  A. Chronic Whole Effluent Toxicity Testing Requirements E-15
  B. Acute Whole Effluent Toxicity Testing Requirements E-18
VI. Land Discharge Monitoring Requirements – not applicable E-21
VII. Reclamation Monitoring Requirements – Not Applicable E-21
VIII. Receiving Water Monitoring Requirements – Surface Water and Groundwater E-21
  A. Core Monitoring E-21
  B. Strategic Process Studies E-27
  C. Regional Monitoring E-28
  D. Monitoring Location RS-001 ..... E-29
IX. Reporting Requirements E-29
  A. General Monitoring and Reporting Requirements E-29
  B. Self Monitoring Reports (SMRs) E-30
  C. Discharge Monitoring Reports (DMRs) E-33
  D. Other Reports E-34

List of Tables

Table E-1. Monitoring Station Locations E-4
Table E-2. Influent and Emergency Connection Monitoring E-7
Table E-3. Effluent Monitoring E-10
Table E-4. Whole Effluent Toxicity Testing E-14
Table E-5. General Water Quality Monitoring Requirements E-22
Table E-6. Bacteriological Monitoring Requirements E-23
Table E-7. Offshore Sediment Chemistry Monitoring E-23
Table E-8. Return Stream Monitoring Requirements E-29
Table E-9. Monitoring Periods and Reporting Schedule E-31

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations Section 122.48 requires that all NPDES permits specify monitoring and reporting requirements. Water Code Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (San Diego Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations. In addition, the Discharger must establish a monitoring and reporting program that meets the requirements of CWA Section 301(h) and 40 CFR Section 125.63.

I. GENERAL MONITORING PROVISIONS

A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified below and, unless otherwise specified, before the monitored waste stream joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to, and the approval of, the San Diego Water Board and United States Environmental Protection Agency (USEPA). Samples shall be collected at times representative of "worst case" conditions with respect to compliance with the requirements of Order No. R9-2009-0001.

B. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to ensure that the accuracy of the measurement is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than $\pm$5 percent from true discharge rates throughout the range of expected discharge volumes.

C. Monitoring must be conducted according to USEPA test procedures approved at 40 CFR Part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants*, as amended, unless other test procedures are specified in Order No. R9-2009-0001 or this MRP, or by the San Diego Water Board and USEPA.

D. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Public Health or a laboratory approved by the San Diego Water Board.

E. Records o f monitoring information shall include information required under Standard Provision, Attachment D, Section IV.

F. 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. All flow measurement devices shall be calibrated at least once per year, or more frequently, to ensure continued accuracy of the devices. Annually, the Discharger shall submit to the Executive Officer a written statement signed by a registered professional engineer certifying that all flow measurement

devices have been calibrated and will reliably achieve an accuracy with a maximum deviation of less than ±5 percent from true discharge rates throughout the range of expected discharge volumes.

G. The Discharger shall have, and implement, an acceptable written quality assurance (QA) plan for laboratory analyses. An annual report shall be submitted by March 30 of each year which summarizes the Quality Assurance activities for the previous year. Duplicate chemical analyses must be conducted on a minimum of ten percent of the samples or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. When requested by USEPA or the San Diego Water Board, the Discharger will participate in the NPDES discharge monitoring report QA performance study. The Discharger should have a success rate equal or greater than 80 percent.

H. Analysis for toxic pollutants, including acute and chronic toxicity, with performance goals based on water quality objectives of the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan) shall be conducted in accordance with procedures described in the Ocean Plan and restated in this MRP.

I. A composite sample is defined as a combination of at least eight sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24-hour period. For volatile pollutants, aliquots must be combined in the laboratory immediately before analysis. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically. The 100 milliliter minimum volume of an aliquot does not apply to automatic self-purging samplers.

J. A grab sample is an individual sample of at least 100 milliliters collected at a randomly selected time over a period not exceeding 15 minutes.

K. All influent, effluent, and receiving water data shall be submitted annually to USEPA for inclusion in the STORET database. The data shall be submitted in an electronic format specified by USEPA.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E-1. Monitoring Station Locations***

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)	Depth (m)
--	INF-001	A location upstream of plant return streams, where a representative sample of the influent can be obtained	--
--	EMG-001	A location where a representative sample of the Tijuana Cross-Border Emergency Connection can be obtained.	--
001	EFF-001	A location where a representative sample of the effluent can be obtained	--
--	RS-001	A location where a representative sample of a return stream can be obtained; for multiple return streams, the return streams shall be sampled and composited based on each return streams contributing flow (flow weighted).	--
OFFSHORE MONITORING STATIONS			
--	F-001	32.637683 N; 117.240316W	18[1]
--	F-002	32.756966 N; 117.272733W	18[1]
--	F-003	32.781833 N; 117.272416W	18[1]
--	F-004	32.594533 N; 117.26875W	60[2]
--	F-005	32.611683 N; 117.26965W	60[2]
--	F-006	32.630833 N; 117.2736W	60[2]
--	F-007	32.651134 N; 117.279994W	60[2]
--	F-008	32.67215 N; 117.283W	60[2]
--	F-009	32.68555 N; 117.286316W	60[2]
--	F-010	32.705419 N; 117.290658W	60[2]
--	F-011	32.725544 N; 117.294632W	60[2]
--	F-012	32.746583 N; 117.302066W	60[2]
--	F-013	32.765383 N; 117.3072W	60[2]
--	F-014	32.781559 N; 117.311423W	60[2]
--	F-015	32.5941 N; 117.28645W	80[3]
--	F-016	32.611833 N; 117.290066W	80[3]
--	F-017	32.630016 N; 117.294166W	80[3]
--	F-018	32.649766 N; 117.298333W	80[3]
--	F-019	32.66785 N; 117.306833W	80[3]
--	F-020	32.685416 N; 117.310966W	80[3]
--	F-021	32.7038 N; 117.318687W	80[3]
--	F-022	32.72273 N; 117.320902W	80[3]
--	F-023	32.741883 N; 117.330416W	80[3]
--	F-024	32.761216 N; 117.33645W	80[3]

--	F-025	32.77895 N; 117.343583W	80[3]
--	F-026	32.593766 N; 117.3122W	98[4]
--	F-027	32.611783 N; 117.321383W	98[4]
--	F-028	32.629287 N; 117.323721W	98[4]
--	F-029	32.647815 N; 117.32493W	98[4]
--	F-030	32.66567 N; 117.32483W	98[4]
--	F-031	32.684668 N; 117.328353W	98[4]
--	F-032	32.701416 N; 117.334166W	98[4]
--	F-033	32.720466 N; 117.339916W	98[4]
--	F-034	32.7389 N; 117.349366W	98[4]
--	F-035	32.7577 N; 117.363383W	98[4]
--	F-036	32.776783 N; 117.374566W	98[4]
KELP MONITORING STATIONS			
--	A-001	32° 39.56'; 117° 15.72'	18[1]
--	A-006	32° 41.56'; 117° 16.18'	18[1]
--	A-007	32° 40.53'; 117° 16.01'	18[1]
--	C-004	32° 39.95'; 117° 14.98'	9[5]
--	C-005	32° 40.75'; 117° 15.40'	9[5]
--	C-006	32° 41.62'; 117° 15.68'	9[5]
--	C-007	32° 42.98'; 117° 16.33'	18[1]
--	C-008	32° 43.96'; 117° 16.40'	18[1]
SHORELINE BACTERIA STATIONS			
--	D-004	At the southernmost tip of Point Loma just north of the lighthouse. 32° 39.94'; 117° 14.62'	--
--	D-005	Directly in front of the Point Loma Wastewater Treatment Plant where the outfall enters the ocean. 32° 40.85'; 117° 14.94'	--
--	D-007	Sunset Cliffs at the foot of the stairs seaward of Ladera Street. 32° 43.16'; 117° 15.44'	--
--	D-008	Ocean Beach at the foot of the stairs seaward of Bermuda Street. 32° 44.22'; 117° 15.32'	--
--	D-009	Just south of the Ocean Beach pier at the foot of the stairs seaward of Narragansett. 32° 44.80'; 117° 15.24'	--
--	D-010	Ocean Beach just north of west end of Newport Avenue, directly west of main lifeguard station. 32° 44.95'; 117° 15.18'	--
--	D-011	North Ocean Beach, directly west of south end of Dog Beach parking area at Voltaire St terminus, south of stub jetty. 32° 45.24'; 117° 15.16'	--

--	D-012	Mission Beach, directly west of main lifeguard station in Belmont Park located at the west end of Mission Bay Drive. 32° 46.28'; 117° 15.21'	--
OFFSHORE SEDIMENT STATIONS			
Primary Core Stations			
--	B-009	32° 45.33'; 117° 21.70'	98
--	B-012	32° 46.36'; 117° 22.30'	98
--	E-002	32° 37.45'; 117° 19.09'	98
--	E-005	32° 38.38'; 117° 19.28'	98
--	E-008	32° 38.91'; 117° 19.34'	98
--	E-011	32° 39.40'; 117° 19.42'	98
--	E-014	32° 39.94'; 117° 19.49'	98
--	E-017	32° 40.48'; 117° 19.54'	98
--	E-020	32° 40.96'; 117° 19.67'	98
--	E-023	32° 41.47'; 117° 19.77'	98
--	E-025	32° 42.38'; 117° 20.07'	98
--	E-026	32° 43.82'; 117° 20.57'	98
Secondary Core Stations			
--	B-008	32° 45.50'; 117° 20.77'	88
--	B-011	32° 46.57'; 117° 21.35'	88
--	E-001	32° 37.53'; 117° 18.35'	88
--	E-007	32° 39.00'; 117° 18.65'	88
--	E-019	32° 41.04'; 117° 19.18'	88
--	B-010	32° 45.22'; 117° 22.16'	116
--	E-003	32° 37.29'; 117° 20.09'	116
--	E-009	32° 38.75'; 117° 20.06'	116
--	E-015	32° 39.88'; 117° 19.91'	116
--	E-021	32° 40.89'; 117° 20.00'	116
TRAWL AND RIG FISH STATIONS			
--	SD-007 (Zone 4)	32° 35.06'; 117° 18.39'	100
--	SD-008 (Zone 3)	32° 37.54'; 117° 19.37'	100
--	SD-010 (Zone 1)	32° 39.16'; 117° 19.50'	100
--	SD-012 (Zone 1)	32° 40.65'; 117° 19.81'	100
--	SD-013 (Zone 2)	32° 42.83'; 117° 20.25'	100
--	SD-014 (Zone 2)	32° 44.30'; 117° 20.96'	100
Rig fish stations shall be located in an area centered around the following sites.			
--	RF-001	32° 40.32'; 117° 19.78'	107
--	RF-002	32° 45.67'; 117° 22.02'	96

[1] Discrete depths for bacteria samples include: 1m, 12m, and 18m.
[2] Discrete depths for bacteria samples include: 1m, 25m, and 60m.
[3] Discrete depths for bacteria samples include: 1m, 25m, 60m, and 80m.
[4] Discrete depths for bacteria samples include: 1m, 25m, 60m, 80m, and 98m.
[5] Discrete depths for bacteria samples include: 1m, 3m, and 9m.

III. INFLUENT AND EMERGENCY CONNECTION MONITORING REQUIREMENTS

A. Monitoring Location INF-001 and EMG-001

Influent monitoring is required to determine the effectiveness of pretreatment and non-industrial source control programs, to assess the performance of treatment facilities, and to evaluate compliance with effluent limitations. As such, influent monitoring results must accurately characterize raw wastewater from the entire service area of the treatment facilities, unaffected by in-plant return or recycle flows or the addition of treatment chemicals. Influent monitoring shall be conducted at INF-001 and EMG-001 (when flow is present) as shown in the table below.

Table E-2. Influent and Emergency Connection Monitoring at INF-001 and EMG-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow rate	MGD	recorder/totalizer	Continuous	[1]
Biochemical Oxygen Demand (5-day @20°C) (BOD_5)	mg/L	24-hr composite	1/Day at INF-001 1/Week at EMG-001	[1]
Volatile Suspended Solids	mg/L	24-hr composite	1/Day at INF-001 1/Week at EMG-001	[1]
Total Dissolved Solids (TDS)	mg/L	24-hr composite	1/Day at INF-001 1/Week at EMG-001	[1]
Temperature	°C	grab	1/Day at INF-001 1/Week at EMG-001	[1]
Floating Particulates	mg/L	24-hr composite	1/Day at INF-001 1/Week at EMG-001	[1]
TABLE A PARAMETERS				
Oil and Grease	mg/L	grab	1/Day at INF-001 1/Week at EMG-001	[1]
Total Suspended Solids	mg/L	24-hr composite	1/Day at INF-001 1/Week at EMG-001	[1]
Settleable Solids	ml/L	grab	1/Day at INF-001 1/Week at EMG-001	[1]
Turbidity	NTU	grab	1/Day at INF-001 1/Week at EMG-001	[1]
pH	units	grab	1/Day at INF-001 1/Week at EMG-001	[1]
TABLE B PARAMETERS FOR PROTECTION OF MARINE AQUATIC LIFE				
Arsenic, Total Recoverable	µg/L	24-hr composite	1/Week	[1]
Cadmium, Total Recoverable	µg/L	24-hr composite	1/Week	[1]
Chromium (VI) , Total Recoverable [2]	µg/L	24-hr composite	1/Week	[1]
Copper, Total Recoverable	µg/L	24-hr composite	1/Week	[1]
Lead, Total Recoverable	µg/L	24-hr composite	1/Week	[1]
Mercury, Total Recoverable[12]	µg/L	24-hr composite	1/Week	[1]
Nickel, Total Recoverable	µg/L	24-hr composite	1/Week	[1]
Selenium, Total Recoverable	µg/L	24-hr composite	1/Week	[1]
Silver, Total Recoverable	µg/L	24-hr composite	1/Week	[1]
Zinc, Total Recoverable	µg/L	24-hr composite	1/Week	[1]

Cyanide, Total Recoverable[3]	µg/L	24-hr composite	1/Week	1
Ammonia (as N)	µg/L	24-hr composite	1/Week	1
Phenolic Compounds (nonchlorinated)	µg/L	24-hr composite	1/Week	1
Phenolic Compounds (chlorinated)	µg/L	24-hr composite	1/Week	1
Endosulfan[11]	µg/L	24-hr composite	1/Week	1
Endrin	µg/L	24-hr composite	1/Week	1
HCH[4]	µg/L	24-hr composite	1/Week	1
Radioactivity	pci/l	24-hr composite	1/Month	1
TABLE B PARAMETERS FOR PROTECTION OF HUMAN HEALTH – NONCARCINOGENS				
Acrolein	µg/L	grab	1/Month	1
Antimony	µg/L	24-hr composite	1/Month	1
Bis(2-chloroethoxy)methane	µg/L	24-hr composite	1/Month	1
Bis(2-chloroisopropyl) ether	µg/L	24-hr composite	1/Month	1
Chlorobenzene	µg/L	grab	1/Month	1
Chromium (III), Total Recoverable[2]	µg/L	24-hr composite	1/Month	1
Di-n-butyl Phthalate	µg/L	24-hr composite	1/Month	1
Dichlorobenzenes[5]	µg/L	24-hr composite	1/Month	1
Diethyl Phthalate	µg/L	24-hr composite	1/Month	1
Dimethyl Phthalate	µg/L	24-hr composite	1/Month	1
4,6-dinitro-2-methylphenol	µg/L	24-hr composite	1/Month	1
2,4-dinitrophenol	µg/L	24-hr composite	1/Month	1
Ethylbenzene	µg/L	grab	1/Month	1
Fluoranthene	µg/L	24-hr composite	1/Month	1
Hexachlorocyclopentadiene	µg/L	24-hr composite	1/Month	1
Nitrobenzene	µg/L	24-hr composite	1/Month	1
Thallium, Total Recoverable	µg/L	24-hr composite	1/Month	1
Toluene	µg/L	grab	1/Month	1
Tributyltin	µg/L	24-hr composite	1/Month	1
1,1,1-trichloroethane	µg/L	grab	1/Month	1
TABLE B PARAMETERS FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS				
Acrylonitrile	µg/L	grab	1/Month	1
Aldrin	µg/L	24-hr composite	1/Week	1
Benzene	µg/L	grab	1/Month	1
Benzidine	µg/L	24-hr composite	1/Month	1
Beryllium	µg/L	24-hr composite	1/Month	1
Bis(2-chloroethyl) Ether	µg/L	24-hr composite	1/Month	1
Bis(2-ethlyhexyl) Phthalate	µg/L	24-hr composite	1/Month	1
Carbon Tetrachloride	µg/L	grab	1/Month	1
Chlordane	µg/L	24-hr composite	1/Week	1
Chlorodibromethane	µg/L	24-hr composite	1/Month	1
Chloroform	µg/L	grab	1/Month	1
DDT[6]	µg/L	24-hr composite	1/Week	1
1,4-dichlorobenzene	µg/L	24-hr composite	1/Month	1

3,3'-dichlorobenzidine	µg/L	24-hr composite	1/Month	[1]
1,2-dichloroethane	µg/L	grab	1/Month	[1]
1,1-dichloroethylene	µg/L	grab	1/Month	[1]
Dichlorobromomethane	µg/L	24-hr composite	1/Month	[1]
Dichloromethane	µg/L	grab	1/Month	[1]
1,3-dichloropropene	µg/L	24-hr composite	1/Month	[1]
Dieldrin	µg/L	24-hr composite	1/Week	[1]
2,4-dinitrotoluene	µg/L	24-hr composite	1/Month	[1]
1,2-diphenylhydrazine	µg/L	24-hr composite	1/Month	[1]
Halomethanes[7]	µg/L	24-hr composite	1/Month	[1]
Heptachlor	µg/L	24-hr composite	1/Month	[1]
Heptachlor Epoxide	µg/L	24-hr composite	1/Month	[1]
Hexachlorobenzene	µg/L	24-hr composite	1/Month	[1]
Hexachlorobutadiene	µg/L	24-hr composite	1/Month	[1]
Hexachloroethane	µg/L	24-hr composite	1/Month	[1]
Isophorone	µg/L	24-hr composite	1/Month	[1]
N-nitrosodimethylamine	µg/L	24-hr composite	1/Month	[1]
N-nitrosodi-N-propylamine	µg/L	24-hr composite	1/Month	[1]
N-nitrosodiphenylamine	µg/L	24-hr composite	1/Month	[1]
PAHs[8]	µg/L	24-hr composite	1/Month	[1]
PCBs[9]	µg/L	24-hr composite	1/Week	[1]
1,1,2,2-tetrachloroethane	µg/L	grab	1/Month	[1]
TCDD equivalents[10]	µg/L	24-hr composite	1/Month	[1]
Tetrachloroethylene	µg/L	grab	1/Month	[1]
Toxaphene	µg/L	24-hr composite	1/Week	[1]
Trichloroethylene	µg/L	grab	1/Month	[1]
1,1,2-trichloroethane	µg/L	grab	1/Month	[1]
2,4,6-trichlorophenol	µg/L	24-hr composite	1/Month	[1]
Vinyl Chloride	µg/L	grab	1/Month	[1]
Remaining priority pollutants[13]	µg/L	24-hr composite	1/Month	[1]

1 As required under 40 CFR 136.

2 Dischargers may, at their option, meet this limitation (or apply this performance goal) as a total chromium limitation (or performance goal).

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

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

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

6 DDD (dichlorodiphenyldichloroethane), DDE (dichlorodiphenyldichloroethylene), and DDT (dichlorodiphenyltrichloroethane) represent the sum of 4,4'DDT; 2,4'DDT; 4,4'DDE; 2,4'DDE; 4,4'DDD; and 2,4'DDD.

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

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

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

[10] TCDD equivalents represent the sum of concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown by the table below. USEPA Method 1613 shall be used to analyze TCDD equivalents.

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

[11] Endosulfan shall mean the sum of alpha-endosulfan, beta-endosulfan, and endosulfan sulfate.

[12] USEPA Method 1631E, with a quantitation level of 0.5 ng/L, shall be used to analyze total mercury.

[13] Also including the 301(h) pesticides listed at 40 CFR 125.58(p).

IV. EFFLUENT MONITORING REQUIREMENTS

Effluent monitoring is required to determine compliance with the permit conditions and to identify operational problems and improve plant performance. Effluent monitoring also provides information on wastewater characteristics and flows for use in interpreting water quality and biological data. The effluent sampling station shall be located where representative samples of the effluent can be obtained. The sampling station shall be located downstream from any in-plant return flows and from the last connection through which waste can be admitted to the outfalll. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level. The Discharger shall monitor effluent at EFF-001 as follows.

Table E-3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow rate	MGD	recorder/totalizer	Continuous	[1]
BOD_5@20°C	mg/L	24-hr composite	1/Day	[1]
	% removal[13]	calculate	1/Day	[1]
Volatile Suspended Solids	mg/L	24-hr composite	1/Day	[1]
Total Dissolved Solids	mg/L	24-hr composite	1/Day	[1]
Temperature	°C	grab	1/Day	[1]

Total Residual Chlorine[15]	µg/L	Continuous[12]	Continuous	[1]
Floating Particulates	mg/L	24-hr composite	1/Day	[1]
TABLE A PARAMETERS				
Oil and Grease	mg/L	grab	1/Day	[1]
Total Suspended Solids	mg/L	24-hr composite	1/Day	[1]
	% removal[13]	calculate	1/Day	[1]
Settleable Solids	ml/L	grab	1/Day	[1]
Turbidity	NTU	grab	1/Day	[1]
pH	units	grab	1/Day	[1]
Total Coliform	CFU/100ml	grab	1/Week	
Fecal Coliform	CFU/100ml	grab	1/Week	
Enterococcus	CFU/100ml	grab	1/Week	
TABLE B PARAMETERS FOR PROTECTION OF MARINE AQUATIC LIFE				
Arsenic, Total Recoverable	µg/L	24-hr composite	1/Week	[1]
Cadmium, Total Recoverable	µg/L	24-hr composite	1/Week	[1]
Chromium (VI) , Total Recoverable[2]	µg/L	24-hr composite	1/Week	[1]
Copper, Total Recoverable	µg/L	24-hr composite	1/Week	[1]
Lead, Total Recoverable	µg/L	24-hr composite	1/Week	[1]
Mercury, Total Recoverable[14]	µg/L	24-hr composite	1/Week	[1]
Nickel, Total Recoverable	µg/L	24-hr composite	1/Week	[1]
Selenium, Total Recoverable	µg/L	24-hr composite	1/Week	[1]
Silver, Total Recoverable	µg/L	24-hr composite	1/Week	[1]
Zinc, Total Recoverable	µg/L	24-hr composite	1/Week	[1]
Cyanide, Total Recoverable[3]	µg/L	24-hr composite	1/Week	[1]
Ammonia (as N)	µg/L	24-hr composite	1/Week	[1]
Phenolic Compounds (nonchlorinated)	µg/L	24-hr composite	1/Week	[1]
Phenolic Compounds (chlorinated)	µg/L	24-hr composite	1/Week	[1]
Endosulfan[11]	µg/L	24-hr composite	1/Week	[1]
Endrin	µg/L	24-hr composite	1/Week	[1]
HCH[4]	µg/L	24-hr composite	1/Week	[1]
Radioactivity	pci/l	24-hr composite	1/Month	[1]
TABLE B PARAMETERS FOR PROTECTION OF HUMAN HEALTH – NON CARCINOGENS				
Acrolein	µg/L	grab	1/Month	[1]
Antimony	µg/L	24-hr composite	1/Month	[1]
bis(2-chloroethoxy)methane	µg/L	24-hr composite	1/Month	[1]
Bis(2-chloroisopropyl) ether	µg/L	24-hr composite	1/Month	[1]
Chlorobenzene	µg/L	grab	1/Month	[1]
Chromium (III)[2]	µg/L	24-hr composite	1/Month	[1]
Di-n-butyl Phthalate	µg/L	24-hr composite	1/Month	[1]
Dichlorobenzenes[5]	µg/L	24-hr composite	1/Month	[1]
Diethyl Phthalate	µg/L	24-hr composite	1/Month	[1]
Dimethyl Phthalate	µg/L	24-hr composite	1/Month	[1]

4,6-dinitro-2-methylphenol	µg/L	24-hr composite	1/Month	[1]
2,4-dinitrophenol	µg/L	24-hr composite	1/Month	[1]
Ethylbenzene	µg/L	grab	1/Month	[1]
Fluoranthene	µg/L	24-hr composite	1/Month	[1]
Hexachlorocyclopentadiene	µg/L	24-hr composite	1/Month	[1]
Nitrobenzene	µg/L	24-hr composite	1/Month	[1]
Thallium, Total Recoverable	µg/L	24-hr composite	1/Month	[1]
Toluene	µg/L	grab	1/Month	[1]
Tributyltin	µg/L	24-hr composite	1/Month	[1]
1,1,1-trichloroethane	µg/L	grab	1/Month	[1]
TABLE B PARAMETERS FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS				
Acrylonitrile	µg/L	grab	1/Month	[1]
Aldrin	µg/L	24-hr composite	1/Week	[1]
Benzene	µg/L	grab	1/Month	[1]
Benzidine	µg/L	24-hr composite	1/Month	[1]
Beryllium	µg/L	24-hr composite	1/Month	[1]
Bis(2-chloroethyl) Ether	µg/L	24-hr composite	1/Month	[1]
Bis(2-ethlyhexyl) Phthalate	µg/L	24-hr composite	1/Month	[1]
Carbon Tetrachloride	µg/L	grab	1/Month	[1]
Chlordane	µg/L	24-hr composite	1/Week	[1]
Chlorodibromethane	µg/L	24-hr composite	1/Month	[1]
Chloroform	µg/L	grab	1/Month	[1]
DDT[6]	µg/L	24-hr composite	1/Week	[1]
1,4-dichlorobenzene	µg/L	24-hr composite	1/Month	[1]
3,3'-dichlorobenzidine	µg/L	24-hr composite	1/Month	[1]
1,2-dichloroethane	µg/L	grab	1/Month	[1]
1,1-dichloroethylene	µg/L	grab	1/Month	[1]
Dichlorobromomethane	µg/L	24-hr composite	1/Month	[1]
Dichloromethane	µg/L	grab	1/Month	[1]
1,3-dichloropropene	µg/L	24-hr composite	1/Month	[1]
Dieldrin	µg/L	24-hr composite	1/Week	[1]
2,4-dinitrotoluene	µg/L	24-hr composite	1/Month	[1]
1,2-diphenylhydrazine	µg/L	24-hr composite	1/Month	[1]
Halomethanes[7]	µg/L	24-hr composite	1/Month	[1]
Heptachlor	µg/L	24-hr composite	1/Month	[1]
Heptachlor Epoxide	µg/L	24-hr composite	1/Month	[1]
Hexachlorobenzene	µg/L	24-hr composite	1/Month	[1]
Hexachlorobutadiene	µg/L	24-hr composite	1/Month	[1]
Hexachloroethane	µg/L	24-hr composite	1/Month	[1]
Isophorone	µg/L	24-hr composite	1/Month	[1]
N-nitrosodimethylamine	µg/L	24-hr composite	1/Month	[1]
N-nitrosodi-N-propylamine	µg/L	24-hr composite	1/Month	[1]
N-nitrosodiphenylamine	µg/L	24-hr composite	1/Month	[1]
PAHs[8]	µg/L	24-hr composite	1/Month	[1]
PCBs[9]	µg/L	24-hr composite	1/Week	[1]

1,1,2,2-tetrachloroethane	µg/L	grab	1/Month	[1]
TCDD equivalents[10]	µg/L	24-hr composite	1/Month	[1]
Tetrachloroethylene	µg/L	grab	1/Month	[1]
Toxaphene	µg/L	24-hr composite	1/Week	[1]
Trichloroethylene	µg/L	grab	1/Month	[1]
1,1,2-trichloroethane	µg/L	grab	1/Month	[1]
2,4,6-trichlorophenol	µg/L	24-hr composite	1/Month	[1]
Vinyl Chloride	µg/L	grab	1/Month	[1]
Remaining priority pollutants[16]	µg/L	24-hr composite	1/Month	[1]

1 As required under 40 CFR 136.

2 Dischargers may, at their option, meet this limitation (or apply this performance goal) as a total chromium limitation (or performance goal).

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

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

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

6 DDD (dichlorodiphenyldichloroethane), DDE (dichlorodiphenyldichloroethylene), and DDT (dichlorodiphenyltrichloroethane) represent the sum of 4,4'DDT; 2,4'DDT; 4,4'DDE; 2,4'DDE; 4,4'DDD; and 2,4'DDD.

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

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

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

10 TCDD equivalents represent the sum of concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown by the table below. USEPA Method 1613 shall be used to analyze TCDD equivalents.

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

11 Endosulfan shall mean the sum of alpha-endosulfan, beta-endosulfan, and endosulfan sulfate.

[12] Continuous monitoring for total residual chlorine becomes effective 6 months after the adoption date of this Order. At a minimum, daily grab samples shall be taken until continuous monitoring becomes possible (not to exceed 180 days following the adoption of this Order).

[13] Percent removal shall be calculated and reported based on mass for the Point Loma WTP and System-Wide:

Point Loma WTP % removal = (Influent mass – effluent mass) / Influent mass
Where:
Influent mass (lbs/day) = Influent flow (MGD) x influent parameter concentration (mg/L) x 8.34
Effluent mass (lbs/day) = Effluent flow (MGD) x effluent parameter concentration (mg/L) x 8.34

System-Wide % removal = [((System Influents–Return Streams) – Outfall Discharge)/(System Influents-Return Streams)] X 100
Where:
System Influents = Point Loma WTP influent, North City Water Reclamation Plant (NCWRP) Influent Pump Station, and NCWRP Influent from Penasquitos Pump Station.
Return Streams = NCWRP Filter Backwash, NCWRP Plant Drain, NCWRP Secondary and Un-disinfected Filtered Effluent Bypass, NCWRP Final Effluent, and MBC Centrate.

[14] USEPA Method 1631E, with a quantitation level 0.5 ng/l, shall be used to analyzed total mercury.

[15] Continuous monitoring is required. Within 180 days of the effective date of this permit, the Discharger shall begin continuous monitoring for total chlorine residual. Until that time, at least four grab samples per day, representative of the daily discharge, shall be collected immediately prior to entering the PLOO and analyzed for total chlorine residual. ***

[16] Also including the 301(h) pesticides listed at 40 CFR 125.58(p).

For system-wide percent removal the TSS and BOD_5 concentration, together with flow rate, of each stream shall be measured daily and a system-wide removal rate calculated according to the above formula. In the event that a flow rate measurement, TSS concentration, or BOD_5 concentration is not obtained from a stream, the median value for the previous calendar year for that stream shall be used as a surrogate number to allow completion of the calculation. The Discharger shall be required to flag values where surrogate numbers are used in their self-monitoring reports submitted to the Executive Officer. The failure to obtain a value may still be considered a violation of the permit that could result in enforcement action depending on the frequency of failures and efforts by the Discharger to prevent such failures.

V. WHOLE EFFLUENT T OXICITY TESTING REQUIREMENTS

The Discharger shall conduct acute and chronic toxicity testing on effluent samples collected at Effluent Monitoring Station EFF-001 in accordance with the following schedule and requirements:

Table E-4. Whole Effluent Toxicity Testing

Test	Unit	Sample	Minimum Test Frequency
Acute Toxicity	TU_a	24-Hr Composite	2/Year
Chronic Toxicity	TU_c	24-Hr. Composite	1/Month

A. Chronic Whole Effluent Toxicity Testing Requirements

1. Monitoring Frequency for Chronic Toxicity

The Discharger shall conduct monthly chronic toxicity tests on 24-hour composite effluent samples. For the initial three suites of chronic toxicity tests, the Discharger shall split a 24-hour composite effluent sample and concurrently conduct toxicity tests using a fish, an invertebrate, and an alga species. After the initial screening period, the Discharger shall conduct routine monthly toxicity testing using the most sensitive species. Every other year, the Discharger shall re-screen at a different time from the prior years. Re-screening can be limited to one month, if results are the same as the previous three-month screening. However, if results of the re-screening are different, then the Discharger shall conduct two additional months of re-screening to determine the most sensitive species and then conduct routine monthly toxicity testing using the most sensitive species.

Chronic toxicity test samples shall be collected for each point of discharge at the designated NPDES sampling station for the effluent (i.e., downstream from the last treatment process and any in-plant return flows where a representative effluent sample can be obtained). A split of each sample shall be analyzed for all other monitored parameters at the minimum frequency of analysis specified by the effluent monitoring program.

2. Marine and Estuarine Species and Chronic Test Methods

Species and short-term test methods for estimating the chronic toxicity of NPDES effluents are found in the first edition of *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), as amended, and applicable water quality standards. The Discharger shall conduct a static renewal toxicity test with the topsmelt, *Atherinops affinis* (Larval Survival and Growth Test Method 1006.01); a static non-renewal toxicity test with the giant kelp, *Macrocystis pyrifera* (Germination and Growth Test Method 1009.0); and a toxicity test with one of the following invertebrate species:

a. Static renewal toxicity test with the mysid, *Holmesimysis costata* (Survival and Growth Test Method 1007.01);
b. Static non-renewal toxicity test with the Pacific oyster, *Crassostrea gigas*, or the mussel, *Mytilus* spp., (Embryo-larval Shell Development Test Method 1005.0);
c. Static non-renewal toxicity test with the red abalone, *Haliotis rufescens* (Larval Shell Development Test Method);
d. Static non-renewal toxicity test with the purple sea urchin, *Strongylocentrotus purpuratus*, or the sand dollar, *Dendraster excentricus* (Embryo-larval Development Test Method); or
e. Static non-renewal toxicity test with the purple sea urchin, *Strongylocentrotus purpuratus*, or the sand dollar, *Dendraster excentricus* (Fertilization Test Method 1008.0).

If laboratory-held cultures of the topsmelt, *Atherinops affinis*, are not available for testing, then the Discharger shall conduct a static renewal toxicity test with the inland silverside, *Menidia beryllina* (Larval Survival and Growth Test Method 1006.01), found in the third edition of *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms* (EPA/821/R-02/014, 2002; Table IA, 40 CFR Part 136).

3. Quality Assurance for Chronic Toxicity Testing

a. Quality assurance measures, instructions, and other recommendations and requirements are found in the test methods manuals previously referenced. Additional requirements are specified, below.

b. For this discharge, a mixing zone or dilution allowance is authorized. The chronic instream waste concentration (IWC) for this discharge is 0.4878% effluent. A series of at least five effluent dilutions and a control shall be tested. At minimum, the dilution series shall include and bracket the IWC.

c. Effluent dilution water and control water should be prepared and used as specified in the test methods manual *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) and/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). If the dilution water is different from test organism culture water, then a second control using culture water shall also be used. If the use of artificial sea salts is considered provisional in the test method, then artificial sea salts shall not be used to increase the salinity of the effluent sample prior to toxicity testing without written approval by the Executive Officer and USEPA.

d. If organisms are not cultured in-house, then concurrent testing with a reference toxicant shall be conducted. If organisms are cultured in-house, then monthly reference toxicant testing is sufficient. Reference toxicant tests and effluent toxicity tests shall be conducted using the same test conditions (e.g., same test duration, etc.).

e. If either the reference toxicant or effluent toxicity tests do not meet all test acceptability criteria in the test methods manual, then the Discharger must resample and retest within 14 days.

f. Following Paragraph 10.2.6.2 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), all chronic toxicity test results from the multi-concentration tests required by this permit must be reviewed and reported according to USEPA guidance on the evaluation of concentration-response

relationships found in *Method Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing* (40 CFR 136) (EPA/821/B-00-004, 2000).

g. Because this permit requires sublethal hypothesis testing endpoints from test methods 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), within-test variability must be reviewed for acceptability and a variability criterion (upper %MSD bound) must be applied, as directed under each test method. Based on this review, only accepted effluent toxicity test results shall be reported on the DMR form. If excessive within-test variability invalidates a test result, then the Discharger must resample and retest within 14 days.

h. Because this permit provides for a sublethal hypothesis testing endpoint from Method 1006.0 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), within-test variability must be reviewed for acceptability and variability criteria (upper and lower PMSD bounds) must be applied, as directed under Section 10.2.8 - Test Variability of the test methods manual *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*. Under Section 10.2.8, the calculated percent minimum significant difference (PMSD) for both reference toxicant test and effluent toxicity test results must be compared with the upper and lower PMSD bounds variability criteria specified in Table 6 - Variability Criteria (Upper and Lower PMSD Bounds) for Sublethal Hypothesis Testing Endpoints Submitted Under NPDES Permits, following the review criteria in Paragraphs 10.2.8.2.1 through 10.2.8.2.5 of the test methods manual. Based on this review, only accepted effluent toxicity test results shall be reported on the DMR form. If excessive within-test variability invalidates a test result, then the Discharger must resample and retest within 14 days.

i. If the effluent is chlorinated and discharged without further treatment, then chlorine shall not be removed from the effluent sample prior to toxicity testing without written approval by the Executive Officer and USEPA.

4. Reporting of Chronic Toxicity Monitoring Results

a. A full laboratory report for all toxicity testing shall be submitted for the month in which the toxicity test was conducted and shall also include the toxicity test results as TUc = 100/NOEC and as EC25 (or IC25), reported according to the test methods manual chapter on report preparation and test review; the dates of sample collection and initiation of each toxicity test; water quality measurements monitored in the Toxicology Lab concurrently with the toxicity test(s); and progress reports on accelerated testing and TRE/TIE investigations.

b. The Discharger shall notify the San Diego Water Board and USEPA in writing within 14 days of exceedance of the chronic toxicity effluent limit. This notification shall describe actions the Discharger has taken or will take to investigate, identify, and correct the causes of toxicity; the status of actions required by this permit; and schedule for actions not yet completed; or reason(s) that no action has been taken.

B. Acute Whole Effluent Toxicity Testing Requirements

1. Monitoring Frequency for Acute Toxicity

The Discharger shall conduct semi-annual acute toxicity tests on 24-hour composite effluent samples. For the initial three suites of acute toxicity tests, performed concurrently, the Discharger shall split a 24-hour composite effluent sample and conduct toxicity tests using a fish and an invertebrate. After the initial screening period, the Discharger shall conduct routine semi-annual toxicity testing using the most sensitive species. Every other year, the Discharger shall re-screen at a different time from the prior years. Re-screening can be limited to one month, if results are the same as the previous three-month screening. However, if results of the re-screening are different, then the Discharger shall conduct two additional months of re-screening to determine the most sensitive species and then conduct routine semi-annual toxicity testing using the most sensitive species.

Acute toxicity test samples shall be collected for each point of discharge at the designated NPDES sampling station for the effluent (i.e., downstream from the last treatment process and any in-plant return flows where a representative effluent sample can be obtained). A split of each sample shall be analyzed for all other monitored parameters at the minimum frequency of analysis specified by the effluent monitoring program.

2. Marine and Estuarine Species and Acute Test Methods

The Discharger shall conduct 96-hour static renewal toxicity tests with the following vertebrate species:

a. The topsmelt, *Atherinops affinis* (Larval Survival and Growth Test Method 1006.0 in the first edition of 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) (preferred for Pacific Coast waters);

b. The Inland silverside, *Menidia beryllina*; Atlantic silverside, *Menidia menidia*; or Tidewater silverside, *Menidia peninsulae* (Acute Toxicity Test Method 2006.0);

c. The sheepshead minnow, *Cyprinodon varigatus* (Acute Toxicity Test Method 2004.0);

And the following invertebrate species:

d. The West Coast mysid, *Holmesimysis costata* (Table 19 in the acute test methods manual) (preferred for Pacific Coast waters);

e. The mysid, *Americamysis bahia* (Acute Toxicity Test Method 2007.0).

Where not indicated, above, species and short-term test methods for estimating the acute toxicity of NPDES effluents are found in the fifth edition of *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA/821/R-02/012, 2002; Table IA, 40 CFR Part 136).

3. Quality Assurance for Acute Toxicity Testing

a. Quality assurance measures, instructions, and other recommendations and requirements are found in the test methods manual previously referenced. Additional requirements are specified, below.

b. For this discharge, a mixing zone or dilution allowance is authorized such that the critical IWC is set at a % effluent value lower than 100% effluent. The acute instream waste concentration (IWC) for this discharge is 15.57% effluent. A series of at least five effluent dilutions and a control shall be tested. At minimum, the dilution series shall include and bracket the IWC.

c. Effluent dilution water and control water should be prepared and used as specified in the test methods manual *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA/821/R-02/012, 2002); and/or, for *Atherinops affinis*, *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 the dilution water is different from test organism culture water, then a second control using culture water shall also be used. If the use of artificial sea salts is considered provisional in the test method, then artificial sea salts shall not be used to increase the salinity of the effluent sample prior to toxicity testing without written approval by the Executive Officer and USEPA.

d. If organisms are not cultured in-house, then concurrent testing with a reference toxicant shall be conducted. If organisms are cultured in-house, then monthly reference toxicant testing is sufficient. Reference toxicant tests and effluent toxicity tests shall be conducted using the same test conditions (e.g., same test duration, etc.).

e. If either the reference toxicant or effluent toxicity tests do not meet all test acceptability criteria in the test methods manual, then the Discharger must resample and retest within 14 days.

f. Following Paragraph 12.2.6.2 of the acute test methods manual, all acute toxicity test results from the multi-concentration tests required by this permit must be reviewed and reported according to USEPA guidance on the evaluation of

concentration-response relationships found in *Method Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing* (40 CFR 136) (EPA/821/B-00/004, 2000).

g. Within-test variability of individual toxicity tests should be reviewed for acceptability and variability criteria (upper and lower PMSD bounds) should be applied, as directed under Section 12.2.8 - Test Variability of the test methods manual, *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*. Under Section 12.2.8, the calculated percent minimum significant difference (PMSD) for both reference toxicant test and effluent toxicity test results must be compared with the upper and lower PMSD bounds variability criteria specified in Table 3-6 - Range of Relative Variability for Endpoints of Promulgated WET Methods, Defined by the 10th and 90th Percentiles from the Data Set of Reference Toxicant Tests, taken from *Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the National Pollutant Discharge Elimination System Program* (EPA/833/R-00/003, 2000). Based on this review, only accepted effluent toxicity test results shall be reported on the DMR form. If excessive within-test variability invalidates a test result, then the Discharger must resample and retest within 14 days.

h. Because this permit provides for a 96-hour LC50 endpoint from Method 1006.0 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), with-in test variability must be reviewed for acceptability and a variability criterion (upper %MSD bound) must be applied, as directed under the test method. Based on this review, only accepted effluent toxicity test results shall be reported on the DMR form. If excessive within-test variability invalidates a test result, then the Discharger must resample and retest within 14 days.

i. If the effluent is chlorinated and discharged without further treatment, then chlorine shall not be removed from the effluent sample prior to toxicity testing without written approval by the Executive Officer and USEPA.

j. Where total ammonia concentrations in the effluent are >5 mg/l, toxicity may be contributed by unionized ammonia. pH drift during the toxicity test may contribute to artifactual toxicity when ammonia or other pH-dependent toxicants (e.g., metals) are present. This problem is minimized by conducting toxicity tests in a static-renewal or flow-through mode, as outlined in Paragraph 9.5.9 of the acute test methods manual.

k. pH drift during the toxicity test may contribute to artifactual toxicity when pH-dependent toxicants (e.g., ammonia, metals) are present in an effluent. To determine whether or not pH drift during the toxicity test is contributing to artifactual toxicity, the Discharger shall conduct three sets of parallel toxicity tests, in which the pH of one treatment is controlled at the pH of the effluent and the pH of the other treatment is not controlled. Like a TIE, this test shall begin

within 14 days of receipt of test results indicating acute toxicity exceedance. Testing shall be conducted as described in Section 11.3.6.1 of the test methods manual, *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA/821/R-02/013, 2002). Toxicity is confirmed to be artifactual and due to pH drift when no toxicity above the toxicity effluent limit is observed in the treatments controlled at the pH of the effluent. If toxicity is confirmed to be artifactual and due to pH drift, then, following written approval by the Executive Officer and USEPA, the Discharger may use the procedures outlined in Section 11.3.6.2 of the test methods manual to control sample pH during the toxicity test.

4. Reporting of Acute Toxicity Monitoring Results

a. A full laboratory report for all toxicity testing shall be submitted as an attachment to the DMR for the month in which the toxicity test was conducted and shall also include: the toxicity test results—LC50; TUa = 100/LC50—reported according to the test methods manual chapter on report preparation and test review; the dates of sample collection and initiation of each toxicity test; all results for effluent parameters monitored concurrently with the toxicity test(s); and progress reports on TRE/TIE investigations.

b. The Discharger shall notify the San Diego Water Board and USEPA in writing within 14 days of exceedance of an acute toxicity effluent performance goal. This notification shall describe actions the Discharger has taken or will take to investigate, identify, and correct the causes of toxicity; the status of actions required by this permit; and schedule for actions not yet completed; or reason(s) that no action has been taken.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECLAMATION MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Core Monitoring

There are five components to the Core Monitoring Program: general water quality monitoring and bacteriological monitoring of shoreline, kelp bed, and offshore waters; offshore sediment monitoring for grain size, chemistry, and benthic infauna community structure; offshore monitoring for fish and megabenthic invertebrate communities, and contaminant body burdens of fishes; and nearshore monitoring of kelp bed canopy cover.

1. General Water Quality Monitoring of Shoreline, Kelp Bed and Offshore Waters

The general water quality monitoring program is designed to help evaluate the fate of the wastewater plume under various conditions and to determine if Ocean Plan

water quality standards are being met. The Discharger shall monitor the receiving water at the offshore, kelp bed, and shoreline monitoring stations, as follows:

Table E-5. General Water Quality Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency			Required Analytical Test Method
			Offshore Stations	Kelp Stations	Shoreline Stations	
Temperature	°C	Profile	1/Quarter	5/Month	--	[1]
Salinity	ppt	Profile	1/Quarter	5/Month	--	[1]
Dissolved Oxygen	mg/L	Profile	1/Quarter	5/Month	--	[1]
Light Transmittance	%	Profile	1/Quarter	5/Month	--	[1]
Chlorophyll a	µg/L	Profile	1/Quarter	5/Month	--	[1]
pH	units	Profile	1/Quarter	5/Month	--	[1]
Ammonium	mg/L	Grab	1/Quarter	1/Quarter	--	[3]
Visual Observations[2]	--	Visual	1/Quarter	5/Month	5/Month	--

1 As specified in 40 CFR 136.3.

2 Visual observations shall note the presence or absence of floatable materials of sewage origin. Observations of wind (direction and speed), weather (e.g., cloudy, sunny, or rainy), and tidal conditions (e.g., high or low tide) shall be recorded. Observations of water color, discoloration, oil and grease, turbidity, odor, materials of sewage origin in the water or on the beach shall be recorded. These observations shall be recorded whenever a sample is collected. Further, the nature and extent of primary contact recreation use in federal waters must be noted and reported.

3 Shall be monitored in State jurisdictional waters only, at the same discrete depths specified for bacterial monitoring in Table E-1.

Within 180 days of the effective date of this permit, the Discharger shall develop and implement a methodology for data analysis which identifies and logically evaluates out-of-range occurrences (ORO) for compliance with Ocean Plan water quality standards for transmissivity, dissolved oxygen, and pH, at offshore water quality stations. Data should be statistically evaluated by stratum (e.g., above, within, below pycnocline) and station. Sampling date reference station(s) should be identified using ocean current measurements and the location of the wastewater plume, etc. For analysis and discussion, stations may be grouped into relevant zones. The total number of out-of-compliance (OOC) events should be summed by parameter and the percentage of OROs and OOC calculated based on comparison with the total number of observations. Coordination with the State and San Diego Water Boards, USEPA, and SCCWRP is encouraged.

2. Bacteriological Monitoring of Shoreline, Kelp Bed and Offshore Waters

The bacteriological monitoring program is designed to help evaluate the fate of the wastewater plume under various conditions, to determine if Ocean Plan water quality standards for recreational waters are being met, and to address issues of beach water quality at the shoreline. The Discharger shall monitor the receiving water at the offshore, kelp bed, and shoreline monitoring stations, as follows:

Table E-6. Bacteriological Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency			Required Analytical Test Method
			Offshore Stations	Shoreline Stations	Kelp Stations	
Total Coliform	CFU/100ml	Grab	--	5/Month	5/Month	[1,2]
Fecal Coliform	CFU/100ml	Grab	--	5/Month	5/Month	[1,2]
Enterococcus	CFU/100ml	Grab	1/Quarter	5/Month	5/Month	[1,2]

[1] As specified in 40 CFR 136.3.
[2] Shall be monitored at all applicable discrete depths specified for bacterial monitoring in Table E-1.
[3] Total coliform, fecal coliform, and enterococcus shall be sampled at the eight kelp bed stations at least five times per month, such that each day of the week is represented over a two month period.

3. Offshore Sediment Monitoring

The physical and chemical properties of sediments and the biological communities that live in or on these sediments are monitored to evaluate potential effects of the PLOO discharge and compliance with narrative water quality standards in the Ocean Plan. The core sediment monitoring program is designed to assess spatial and temporal trends. At the direction of the San Diego Water Board and USEPA, the requirement for sampling the secondary stations for the offshore sediment monitoring program can be relaxed to allow Discharger participation in Bight-wide regional monitoring efforts, or to accommodate Strategic Process Studies.

Twice per year (January and July), sediment samples for grain size and chemistry shall be collected from the offshore sediment monitoring locations specified in Table E-1, which consists of 12 primary stations and an additional 10 secondary stations. Sediment grab samples shall be taken using a 0.1 square meter modified Van Veen grab sampler. Samples for grain size and chemical analyses shall be taken from the top 2 centimeters of the grab. These samples shall be analyzed for the list of constituents, below. Chemical analysis of sediment shall be conducted using USEPA approved methods, methods developed by NOAA's National Status and Trends for Marine Environmental Quality, or methods developed in conjunction with the Southern California Bight Regional Monitoring Program. For chemical analysis of sediment, sample results shall be reported on a dry weight basis.

Table E-7. Offshore Sediment Chemistry Monitoring

Parameter	Units	Type of Sample	Minimum Frequency
Sediment grain size	µm	grab	2/Year[2]
Total Organic Carbon	Percent	grab	2/Year[2]
Total Nitrogen	Percent	grab	2/Year[2]
Acid Volatile Sulfides	mg/kg	grab	2/Year[2]
METALS			
Aluminum, Total Recoverable	mg/kg	grab	2/Year[2]
Antimony, Total Recoverable	mg/kg	grab	2/Year[2]
Arsenic, Total Recoverable	mg/kg	grab	2/Year[2]
Cadmium, Total Recoverable	mg/kg	grab	2/Year[2]

Parameter	Units	Type of Sample	Minimum Frequency
Chromium, Total Recoverable	mg/kg	grab	2/Year[2]
Copper, Total Recoverable	mg/kg	grab	2/Year[2]
Iron, Total Recoverable	mg/kg	grab	2/Year[2]
Lead, Total Recoverable	mg/kg	grab	2/Year[2]
Manganese, Total Recoverable	mg/kg	grab	2/Year[2]
Mercury, Total Recoverable	mg/kg	grab	2/Year[2]
Nickel, Total Recoverable	mg/kg	grab	2/Year[2]
Selenium, Total Recoverable	mg/kg	grab	2/Year[2]
Silver, Total Recoverable	mg/kg	grab	2/Year[2]
Tin, Total Recoverable	mg/kg	grab	2/Year[2]
Zinc, Total Recoverable	mg/kg	grab	2/Year[2]
PCBs AND CHLORINATED PESTICIDES			
PCBs[1]	ng/kg	grab	2/Year[2]
2,4-DDD	ng/kg	grab	2/Year[2]
4,4-DDD	ng/kg	grab	2/Year[2]
2,4-DDE	ng/kg	grab	2/Year[2]
4,4-DDE	ng/kg	grab	2/Year[2]
2,4-DDT	ng/kg	grab	2/Year[2]
2,4-DDT	ng/kg	grab	2/Year[2]
Aldrin	ng/kg	grab	2/Year[2]
Alpha-Chlordane	ng/kg	grab	2/Year[2]
Dieldrin	ng/kg	grab	2/Year[2]
Endosulfan	ng/kg	grab	2/Year[2]
Endrin	ng/kg	grab	2/Year[2]
Gamma-BHC	ng/kg	grab	2/Year[2]
Heptachlor	ng/kg	grab	2/Year[2]
Heptachlor Epoxide	ng/kg	grab	2/Year[2]
Hexachlorobenzene	ng/kg	grab	2/Year[2]
Mirex	ng/kg	grab	2/Year[2]
Trans-Nonachlor	ng/kg	grab	2/Year[2]
POLYCYLIC AROMATIC HYDROCARBONS			
Acenapthene	µg/kg	grab	2/Year[2]
Acenaphthylene	µg/kg	grab	2/Year[2]
Anthracene	µg/kg	grab	2/Year[2]
Benzo(a)anthracene	µg/kg	grab	2/Year[2]
Benzo(o)fluoranthene	µg/kg	grab	2/Year[2]
Benzo(k)fluoranthene	µg/kg	grab	2/Year[2]
Benzo(ghi)pyrelene	µg/kg	grab	2/Year[2]
Benzo(a)pyrene	µg/kg	grab	2/Year[2]
Benzo(e)pyrene	µg/kg	grab	2/Year[2]
Biphenyl	µg/kg	grab	2/Year[2]
Chrysene	µg/kg	grab	2/Year[2]
Dibenz(ah)anthrace	µg/kg	grab	2/Year[2]
Fluoranthene	µg/kg	grab	2/Year[2]
Fluorene	µg/kg	grab	2/Year[2]

Parameter	Units	Type of Sample	Minimum Frequency
Ideno(123cd)pyrene	µg/kg	grab	2/Year[2]
Naphthalene	µg/kg	grab	2/Year[2]
1-Methylnaphthalene	µg/kg	grab	2/Year[2]
2-Methylnaphthalene	µg/kg	grab	2/Year[2]
2,6-Dimethylnaphthalene	µg/kg	grab	2/Year[2]
2,3,5-Trimethylnaphthalene	µg/kg	grab	2/Year[2]
Perylene	µg/kg	grab	2/Year[2]
Phenanthrene	µg/kg	grab	2/Year[2]
1-Methylphenanthrene	µg/kg	grab	2/Year[2]
Pyrene	µg/kg	grab	2/Year[2]

[1] For sediment and fish tissue PCBs shall mean the sum of the following congeners: 18, 28, 37, 44, 49, 52, 66, 70, 74, 77, 81, 87, 99, 101, 105, 110, 114, 118, 119, 123, 126, 128, 138, 149, 151, 153, 156, 157, 158, 167, 168, 169, 170, 177, 180, 183, 187, 189, 194, 201, and 206. These represent consensus based numbers developed by agencies participating in offshore regional monitoring programs in Southern California. These 41 congeners are thought to represent the most-important PCB congeners in terms of mass and toxicity.

[2] To occur in January and July.

Twice per year (January and July), sediment samples for benthic infauna community structure shall be collected from the offshore sediment monitoring locations specified in Table E-1, which consists of 12 primary stations and an additional 10 secondary stations. Two replicate samples shall be taken using a 0.1 square meter modified Van Veen grab sampler. These samples shall be separate from those collected for grain size and chemistry. The samples shall be sieved using a 1.0-mm mesh screen. The benthic organisms retained on the sieve shall be fixed in 10 percent buffered formalin and transferred to at least 70 percent ethanol within two to seven days for storage. All retained benthic infauna organisms 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.

Analysis of benthic community structure shall include determination of the number of species, number of individuals per species, and total numerical abundance present. The following parameters shall be calculated for each grab sample and summarized by station as appropriate:

a. Number of species per $0.1m^2$ (species richness);
b. Total (cumulative) number of species per station;
c. Total numerical abundance;
d. Benthic response index (BRI);
e. Swartz's 75% dominance index;
f. Shannon's diversity index (H'); and
g. Pielou's evenness index (J').

4. Fish and Invertebrate Monitoring

Epibenthic trawls shall be conducted to assess the structure of demersal fish and megabenthic invertebrate communities, while the presence of priority pollutants in

fish will be analyzed from species captured using both trawling and rig fishing techniques. Single community trawls for fish and invertebrates shall be conducted semi-annually at six trawl stations specified in Table E-1. These stations represent two areas near Discharge Point No. 001 (Stations SD-010 and SD-012), two areas upcoast of Discharge Point No. 001 (Stations SD-013 and SD-014), and two areas downcoast of Discharge Point No. 001 (SD-007 and SD-008). Trawls shall be conducted using a Marinovich 7.62 m (25 ft) head rope otter trawl, using the guidance specified in the field manual developed for the Southern California Bight Regional Monitoring Surveys. Captured organisms shall be identified at all stations.

All fish and megabenthic invertebrates collected by trawls should be identified to species if possible. For fish, community structure analysis shall consist of determining the total wet weight and total number of individuals per species, the total numerical abundance of all fish, species richness, species diversity (H'), and multivariate pattern analyses (e.g., ordination and classification analyses). The presence of any physical abnormalities or disease symptoms (e.g., fin erosion, external lesions, tumors) or parasites shall also be recorded. For invertebrates, community structure shall be summarized as the total number of individuals per species, the total numerical abundance of all invertebrates, species richness, and species diversity (H').

Chemical analyses of fish tissues shall be performed annually on target species collected at or near the trawl and rig fishing stations. The various stations are classified into zones for the purpose of collecting sufficient numbers of fish for tissue analyses. Trawl Zone 1 represents the nearfield zone, defined as the area within a 1-km radius of stations SD-010 and/or SD-012; Trawl Zone 2 is considered the northern farfield zone, defined as the area within a 1-km radius of stations SD-013 and/or SD-014; Trawl Zone 3 represents the LA-5 disposal site zone, and is defined as the area centered within a 1-km radius of station SD-008; Trawl Zone 4 is considered the southern farfield zone, and is defined as the area centered within a 1-km radius of station SD-007. Rig Fishing Zone 1 is the nearfield area centered within a 1-km radius of Station RF-001; Rig Fishing Zone 2 is considered the farfield area centered within a 1-km radius of station RF-002. There are no depth requirements for these six zones with regards to the collection of fishes for tissue analysis.

Liver tissues shall be analyzed annually (i.e., during October) from fishes collected in each of the above four trawl zones. No more than a maximum of five 10-minute (bottom time) trawls shall be required per zone in order to acquire sufficient numbers of fish for composite samples; these trawls may occur anywhere within a defined zone. Three replicate composite samples shall be prepared from each trawl zone, with each composite consisting of tissues from as least three individual fish of the same species. These liver tissues shall be analyzed for the presence and concentrations of lipids, PCB (congeners), chlorinated pesticides, and the following three metals: mercury, arsenic and selenium. The species of fish targeted for tissue analysis from the trawl sites shall be primarily flatfish, including, but not limited to, the longfin sanddab (*Citharichthys xanthostigma*) and the Pacific sanddab

(*Citharichthys sordidus*). If sufficient numbers of these primary species are not present in a zone, secondary candidate species such as other flatfish or rockfish may be collected as necessary.

Muscle tissues shall be analyzed annually (i.e., during October) from fishes collected in each of the above two rig fishing zones in order to monitor the uptake of pollutants in species and tissues that are consumed by humans. These species shall be representative of those caught by recreational and/or commercial fishery activities in the region. All fish shall be collected by hook and line or by setting baited lines or traps within the two rig fishing zones described above. The species targeted for analysis at the rig fishing sites shall be primarily rockfish, which may include, but are not limited to, the vermilion rockfish (*Sebastes miniatus*) and the copper rockfish (*Sebastes caurinus*). If sufficient numbers of these primary species are not present or cannot be caught in a particular zone, secondary target species (e.g., rockfish, scorpionfish) may be collected and analyzed as necessary. Three replicate composite samples of the target species shall be obtained from each zone, with each composite consisting of a minimum of three individual fish. Muscle tissues shall be removed from the composites and analyzed for the presence and concentrations of lipids, PCB (congeners), chlorinated pesticides, and the following nine metals: arsenic, cadmium, chromium, copper, lead, mercury, selenium, tin and zinc.

5. Kelp Bed Canopy Monitoring

Kelp bed monitoring is intended to assess the extent to which the discharge of waste may affect the aerial extent and health of coastal kelp beds. The Discharger shall participate with other ocean Dischargers in the San Diego Region in an annual regional kelp bed photographic survey. Kelp beds shall be monitored annually by means of vertical aerial infrared photography to determine the maximum aerial extent of the region's coastal kelp beds within the calendar year. Surveys shall be conducted as close as possible to the time when kelp bed canopies cover the greatest area. The entire San Diego Region coastline, from the international boundary to the San Diego Region/Santa Ana Region boundary shall be photographed on the same day. The images produced by the surveys shall be presented in the form of a 1:24,000 scale photo-mosaic of the entire San Diego Region coastline. Onshore reference points, locations of all ocean outfalls and diffusers, and the 30-foot (MLLW and 60-foot (MLLW) depth contours shall be shown. The aerial extent of the various kelp beds photographed in each survey shall be compared to that noted in surveys of previous years. Any significant losses which persist for more than one year shall be investigated by divers to determine the probable reason for the loss.

B. Strategic Process Studies

Special studies are an integral part of the permit monitoring program. They differ from other elements of the monitoring program in that they are intended to be short-term and

are designed to address specific research or management issues that are not addressed by the routine core monitoring elements.

The scope of the special studies shall be determined by the Discharger in coordination with the Executive Officer and the USEPA. The Discharger may include input from whatever sources they deem appropriate. Each year, the Discharger shall submit proposals for strategic process studies to the Executive Officer and the USEPA by September 30, for the following year's monitoring effort (July through June). The following calendar year, detailed scopes of work for the proposals, including reporting schedules, shall, if requested by the Executive Officer, be presented by the Discharger at a spring San Diego Water Board meeting. Upon approval by the Executive Officer and the USEPA, the Discharger shall implement the special study. Reporting requirements and deadlines for the results of the special project studies will be determined and set at the time of project approval. Strategic studies conducted during the period of this permit shall be at a level of effort equal to that under Order No. R9-2002-0025, unless the Executive Officer, USEPA, and the Discharger agree otherwise.

C. Regional Monitoring

The Discharger shall participate in regional monitoring activities coordinated by the Southern California Coastal Water Research Project (SCCWRP). The procedures for Executive Officer and USEPA approval shall be the same as detailed above for the strategic process studies. The intent of regional monitoring activities is to maximize the efforts of all monitoring partners using a more cost-effective monitoring design and to best utilize the pooled scientific resources of the region. During these coordinated sampling efforts, the Discharger's sampling and analytical effort may be reallocated to provide a regional assessment of the impact of the discharge of municipal wastewater to the Southern California Bight. Anticipated modifications to the monitoring program will be coordinated so as to provide a more comprehensive picture of the ecological and statistical significance of monitoring results and to determine cumulative impacts of various pollution sources. The Discharger has participated in regional monitoring efforts in 1994, 1998, 2003, and 2008, and will participate in the regional monitoring effort planned for the timeframe around 2013. The level of effort will be provided to the Executive Officer and USEPA for approval. Proposed regional monitoring activities are defined by the Bight Steering Committee for the regional monitoring effort years.

The Discharger will be responsible for submitting the data collected during their portion of the regional monitoring program according to the prescribed schedule and procedures set by the Bight Steering Committee for that project's effort. Detailed analyses of these data will not be required separately by the Discharger, since they will participate in the analysis and write-up of the complete results from regional monitoring efforts. The final results will be published as part of the comprehensive monitoring effort for the Bight regional monitoring surveys.

It is anticipated that regional monitoring efforts will occur at five-year intervals.

D. Monitoring Location RS-001

1. The Discharger shall monitor return streams at RS-001 as follows:

Table E-8. Return Stream Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flowrate	MGD	Recorder/totalizer	Continuous	[1]
Total Suspended Solids	mg/L	24-hr Composite	1/Day	[1]
BOD_5@20°C	mg/L	24-hr Composite	1/Day	[1]

[1] As specified in 40 CFR 136.3.

IX. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

2. Reports of marine monitoring surveys conducted to meet receiving water monitoring requirements of this MRP shall include, as a minimum, the following information:

   a. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

   b. The Discharger shall report all instances of noncompliance not reported under Attachment D, Sections III, V, and VI, of Order No. R9-2009-0001, at the time the monitoring reports are submitted.

   c. By July 1 of each year, the Discharger shall submit an annual report to the San Diego Water Board and USEPA that contains tabular and graphical summaries of the effluent and receiving water monitoring data obtained during the previous year. The Discharger shall discuss the compliance record and corrective actions taken, or which may be needed, to bring the discharge into full compliance with the requirements of this permit. The report shall restate, for the record, the laboratories used by the Discharger to monitor compliance with this permit, and provide a summary of performance relative to the permit requirements. Lists of analytical methods used to monitor pollutants should include available CAS numbers and published MDLs/MLs for the analytical methods.

   d. By April 1 of each year, the Discharger shall submit an annual report to the San Diego Water Board; USEPA Region 9; State Water Board, Division of Water Quality, Regulations Unit; and the San Diego County Department of Health Services, Hazardous Materials Division, describing its pretreatment activities over the previous calendar year, as specified elsewhere in this Order.

e. By April 1 of each year, the Discharger shall submit an annual report to the San Diego Water Board; USEPA; State Water Board, Division of Water Quality, Regulations Unit; and Arizona Department of Environmental Quality, describing its biosolids activities over the previous calendar year, as specified elsewhere in this Order.

f. Reports of marine monitoring surveys conducted to meet receiving water monitoring requirements of this MRP shall include, as a minimum, the following information:

   i. A description of climatic and receiving water characteristics at the time of sampling (weather observations, floating debris, discoloration, wind speed and direction, swell or wave action, time of sampling, tide height, etc.).

   ii. A description of sampling stations, including differences unique to each station (e.g., station location, sediment grain size, distribution of bottom sediments, rocks, shell litter, calcareous worm tubes, etc.).

   iii. A description of the sample collection and preservation procedures used in the survey.

   iv. A description of the specific method used for laboratory analysis.

   v. An in-depth discussion of the results of the survey. All tabulations and computations shall be explained.

The annual report for all receiving water monitoring is due by July 1 and shall include detailed descriptions of the statistical designs and statistical analyses of all collected data. 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 spatial and temporal trends in the data.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or San Diego Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). Until such notification is given, the Discharger shall submit hard copy SMRs. For this purpose, a hard copy signed penalty of perjury statement accompanying a CD with a single file in PDF format (including the certification specified in Section V.B. 5 of Attachment D) shall qualify as a hard copy SMR. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under Sections III through IX. The Discharger shall submit monthly SMRs

including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-9. Monitoring Periods and Reporting Schedule

Reports	Report Period	Report Due
MONTHLY REPORTS Influent and effluent Solids removal/disposal Receiving water quality Tijuana cross-border emergency connection (when flowing)	Monthly	By the 1st day of 2nd following month (e.g., March 1 for January)
QUARTERLY REPORTS Sludge analysis	January-March April-June July-September October-December	June 1 September 1 December 1 March 1
SEMI-ANNUAL REPORTS Pretreatment report	January-June July-December	September 1 March 1
ANNUAL REPORTS Pretreatment report Sludge analysis QA report Flow measurement Outfall inspection Receiving waters monitoring Kelp report	January-December	April 1 April 1 April 1 July 1 July 1 July 1 October 1

4. Reporting Protocols. The Discharger shall report with each sample result the applicable reported Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in Part 136. For each numeric effluent limitation or performance goal for a parameter identified in Table B of the Ocean Plan, the Discharger shall not use a ML greater than that specified in Appendix II of the Ocean Plan.

   The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

   a. 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).

b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

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

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

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

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

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

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

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

7. The Discharger shall submit SMRs in accordance with the following requirements:

a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

c. SMRs must be submitted to the San Diego Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4340

C. Discharge Monitoring Reports (DMRs)

1. As described in Section IX.B.1 above, at any time during the term of this permit, the State or San Diego Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.

2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to the State Water Board address listed below, and one copy of the DMR to the USEPA address listed below:

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

U.S. EPA, Region 9
ATTN: WTR-7, NPDES/DMR
75 Hawthorne Street
San Francisco, CA 94105

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated will not be accepted unless they follow the exact same format of USEPA Form 3320-1.

D. Other Reports

1. The Discharger shall report the results of any acute and chronic toxicity testing, TRE/TIE, Antidegradation Analysis, Treatment Plan Capacity Study, Sludge Disposal Report, Pretreatment Report, and Collection System Report of Non-compliance, as required by Special Provisions – VI.C. of this Order. The Discharger shall submit reports with the first monthly SMR scheduled to be submitted on or immediately following the report due date.

ATTACHMENT F – FACT SHEET

Table of Contents

I. Permit Information F-4
II. Facility Description F-6
A. Description of Wastewater and Biosolids Treatment or Controls F-6
1. North City Water Reclamation Plant (North City WRP) F-6
2. Metro Biosolids Center (MBC) F-7
3. South Bay Water Reclamation Plant (South Bay WRP) F-7
4. South Bay Ocean Outfall (SBOO) F-7
5. Pump Station No. 1 ..... F-7
6. Pump Station No. 2 ..... F-7
7. Point Loma WTP F-8
B. Discharge Points and Receiving Waters F-9
C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data F-9
D. Compliance Summary F-12
E. Planned Changes F-12
III. Applicable Plans, Policies, and Regulations F-15
A. Legal Authorities F-15
B. California Environmental Quality Act (CEQA) F-15
C. State and Federal Regulations, Policies, and Plans F-15
D. Impaired Water Bodies on CWA 303(d) List F-17
E. Other Plans, Polices and Regulations F-17
1. 301(h) Waiver and Primary Treatment Requirements. F-17
2. Storm Water. F-21
3. Pretreatment. F-21
4. Collection System. F-21
5. Biosolids. F-21
IV. Rationale For Effluent Limitations and Discharge Specifications F-21
A. Discharge Prohibitions F-22
B. Technology-Based Effluent Limitations F-22
1. Scope and Authority F-22
2. Applicable Technology-Based Effluent Limitations F-23
C. Water Quality-Based Effluent Limitations (WQBELs) F-25
1. Scope and Authority F-25
2. Applicable Beneficial Uses and Water Quality Criteria and Objectives F-25
3. Determining the Need for WQBELs F-26
4. WQBEL Calculations F-31
5. Whole Effluent Toxicity (WET) F-34
D. Final Effluent Limitations F-34
E. Performance Goals F-36
1. Satisfaction of Anti-Backsliding Requirements F-41
2. Satisfaction of Antidegradation Policy F-42
3. Stringency of Requirements for Individual Pollutants F-43
F. Toxic Mass Emission Benchmarks F-43

G. Interim Effluent Limitations – Not Applicable F-46
H. Land Discharge Specifications – Not Applicable F-46
I. Reclamation Specifications – Not Applicable F-46
V. Rationale for Receiving Water Limitations F-46
VI. Rationale for Monitoring and Reporting Requirements F-46
A. Influent Monitoring F-47
B. Effluent Monitoring F-47
C. Whole Effluent Toxicity Testing Requirements F-47
D. Receiving Water Monitoring F-47
1. Core Monitoring Program for Surface Water F-47
E. Strategic Process Studies and Regional Monitoring Requirements F-49
VII. Rationale for Provisions F-50
A. Standard Provisions F-50
B. Special Provisions F-50
1. Re-opener Provisions F-50
2. Special Studies and Additional Monitoring Requirements F-51
3. Best Management Practices and Pollution Prevention – Not Applicable F-53
4. Construction, Operation, and Maintenance Specifications – Not Applicable F-53
5. Special Provisions for Municipal Facilities (POTWs Only) F-53
6. Other Special Provisions F-54
7. Compliance Schedules - Not Applicable F-54
VIII. Public Participation F-54
A. Notification of Interested Parties F-55
B. Written Comments F-55
C. Public Hearing F-56
D. Information and Copying F-56
E. Register of Interested Persons F-56
F. Waste Discharge Requirements Petitions F-56
G. Appeal of Federal Permit F-57
H. Additional Information F-57

List of Tables

Table F-1. Facility Information F-4
Table F-2. Metro System Participating Agencies F-6
Table F-3a. Historic Effluent Limitations and Monitoring Data (BOD_5 and TSS) Based on CWA Sections 301(h) and (j)(5) F-9
Table F-3b. Historic Effluent Limitations and Monitoring Data (Ocean Plan Parameters – Table A) F-10
Table F-3c. Historic Effluent Limitations and Monitoring Data (Ocean Plan Parameters – Table B, For the Protection of Aquatic Life) F-10
Table F-3d. Historic Effluent Limitations and Monitoring Data (Ocean Plan Parameters – Table B, For the Protection of Human Health) F-11
Table F-4. Bacterial Water Quality Objectives in the Ocean Plan for State Waters Designated REC-1 ..... F-13
Table F-5. Basin Plan Beneficial Uses F-15
Table F-6. Ocean Plan Beneficial Uses F-16
Table F-7. Effluent Limitations Based on CWA Sections 301(h) and (j)(5) F-18
Table F-8. Summary of Technology-based Effluent Limitations from Table A of the Ocean Plan F-22
Table F-9a. Summary of Technology-based Effluent Limitations Based on CWA Sections 301(h) and (j)(5) F-24
Table F-9b. Summary of Technology-based Effluent Limitations Based on the Ocean Plan F-24
Table F-10. RPA Results Summary F-28
Table F-11. Pollutants Having Background Concentrations F-32
Table F-12. Example Parameter Water Quality Objectives F-32
Table F-13. Summary of Water Quality-based Effluent Limitations F-33
Table F-14.a. Effluent Limitations Based on CWA Sections 301(h) and (j)(5) F-34
Table F-14.b. Effluent Limitations Based on Advanced Primary Treatment and Table A of the Ocean Plan F-35
Table F-15. Effluent Limitations Based on Table B of the Ocean Plan F-35
Table F-16. Performance Goals Based on the Ocean Plan F-36
Table F-17. Effluent Mass Emission Benchmarks F-44

ATTACHMENT F – FACT SHEET

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

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	**9 000000275**
Discharger	**City of San Diego Metropolitan Wastewater Department**
Name of Facility	**E.W. Blom Point Loma Wastewater Treatment Plant**
Facility Address	**1902 Gatchell Road**
	San Diego, CA 92106
	San Diego County
Facility Contact, Title and Phone	**Jim Barrett Director of Public Utilities (619) 533-7555**
Authorized Person to Sign and Submit Reports	**Jim Barrett Director of Public Utilities (619) 533-7555**
Mailing Address	**600 B Street, Suite 400 San Diego, CA 92101-4514**
Billing Address	**9192 Topaz Way San Diego, CA 92123**
Type of Facility	**Publicly-Owned Treatment Works (POTW) (SIC Code 4592)**
Major or Minor Facility	**Major**
Threat to Water Quality	**1**
Complexity	**A**
Pretreatment Program	**Yes**
Reclamation Requirements	**NA**
Facility Permitted Flow	**240 Million Gallons per Day (MGD)**
Facility Design Flow	**240 MGD**
Facility Projected End-of-Permit Flow	**205 MGD**
Watershed	**Pacific Ocean**
Receiving Water	**Pacific Ocean**
Receiving Water Type	**Ocean Waters**

A. The City of San Diego Metropolitan Wastewater Department (hereinafter Discharger) is the owner and operator of E.W. Blom Point Loma Wastewater Treatment Plant (hereinafter Point Loma WTP or Facility), a publicly-owned treatment works (POTW).

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

B. The Facility discharges wastewater to the Pacific Ocean, a water of the United States, and is currently regulated by Order No. R9-2002-0025 which was adopted on April 10, 2002. Following adoption by the Regional Water Quality Control Board (hereinafter, San Diego Water Board), this order was subsequently appealed to the State Water Resources Control Board (hereinafter, State Water Board) and amended by State Water Board Order No. 2002-0013 on August 15, 2002. On September 13, 2002, the 301(h)-modified permit (NPDES No. CA0107409) was issued by the United States Environmental Protection Agency (USEPA). On October 10, 2002, USEPA issued a minor modification to the federal permit correcting typographical errors. The federal NPDES permit was appealed by several petitioners to the Environmental Appeals Board, on October 16, 2002. Uncontested federal permit provisions became effective on June 16, 2003. During this time period, Order No. R9-2002-0025 was amended by the San Diego Water Board and USEPA to modify the monitoring and reporting program (June 11, 2003). On March 29, 2004, the Environmental Appeals Board dismissed the federal permit appeals in accordance with, and pursuant to, the joint stipulation of the petitioners and USEPA. The federal permit expired on June 15, 2008. On August 13, 2008, the San Diego Water Board adopted effluent limitations and conditions providing for chlorination of the PLOO discharge.

The terms and conditions of the current Order have been automatically continued and remain in effect until new Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit are adopted pursuant to this Order.

C. The Discharger filed a report of waste discharge (ROWD) and submitted an application for renewal of its WDRs and NPDES permit on December 14, 2007. Supplemental information was requested on March 3, 2008 and received on June 6, 2008. A site visit was conducted on March 17, 2008, to observe operations and collect additional data to develop permit limitations and conditions.

D. On December 10, 2007, the Discharger submitted an application for renewal of their 301(h)-modified NPDES permit for the Point Loma WTP to USEPA. In this application, the Discharger requested a renewal of their variance (sometimes informally called a "waiver" or "modification") under CWA Section 301(h), 33 U.S.C. Section 1311(h), and the Ocean Pollution Reduction Act of 1994, 33 U.S.C. Section 1311(j)(5), from federal secondary treatment standards contained in CWA Section 301(b)(1)(B), U.S.C. Section 1311(b)(1)(B). The Discharger has proposed alternative effluent limitations for total suspended solids (TSS) and biochemical oxygen demand (BOD_5), described elsewhere in this Fact Sheet. The 2007 301(h) application is based on an improved discharge, as defined at 40 CFR 125.58(i).

II. FACILITY DESCRIPTION

A. Description of Wastewater and Biosolids Treatment or Controls

The E.W. Blom Point Loma Wastewater Treatment Plant is a terminal treatment facility of the San Diego Metropolitan Sewage System (Metro System). The Metro System collects and treats wastewater from the City of San Diego and 15 other cities and agencies within a 450 square mile service area throughout San Diego County. Metro System facilities are owned by the City of San Diego and are managed and operated by the City's Metropolitan Wastewater Department (MWWD). Approximately 70 percent of the total Metro System flows are from the City of San Diego, with the remaining flow from the 15 contributing Metro System participating agencies, listed in Table F-2. The Metro Systems participating agencies are summarized below:

Table F-2. Metro System Participating Agencies

Municipalities	Water/Wastewater Districts	Sanitation/Maintenance Districts
City of Chula Vista	Otay Water District	Lakeside/Alpine Sanitation District
City of Coronado	Padre Dam Municipal Water District	Lemon Grove Sanitation District
City of Del Mar		Spring Valley Sanitation District
City of El Cajon		East Otay Sewer Maintenance District
City of Imperial Beach		Winter Gardens Sewer Maintenance District
City of La Mesa		
City of National City		
City of Poway		

Wastewater collection systems that discharge to the Metro System are owned and operated by respective participating agencies.

The City of San Diego owns and operates Metro System collection, treatment, and effluent disposal facilities.

Primary Metro System facilities include:

1. North City Water Reclamation Plant (North City WRP)

The North City WRP has a design capacity of 30 million gallons per day (MGD). North City WRP is an advanced wastewater treatment facility capable of producing recycled water that complies with the requirements of Title 22, Division 4 of the California Code of Regulations for unrestricted body contact (Title 22 Regulations). Excess recycled water, secondary treated effluent, and plant waste streams from North City WRP are returned to the sewer for transport to Point Loma WTP for additional treatment. Waste solids removed during treatment at North City WRP are directed to the Metro Biosolids Center for treatment and use or disposal.

2. Metro Biosolids Center (MBC)

MBC is located on Marine Corps Air Station Miramar. MBC provides dewatering of sludge from the Point Loma WTP and thickening, anaerobic digestion, and dewatering of sludge from the North City WRP. Dewatered solids are beneficially used as an alternate daily cover at a landfill or as a soil amendment.

3. South Bay Water Reclamation Plant (South Bay WRP)

South Bay WRP has a tertiary design capacity of 15 MGD and a hydraulic capacity of 18 MGD. South Bay WRP is an advanced wastewater treatment facility producing recycled water that complies with Title 22 Regulations for customers within the South Bay region. Excess recycled water and ultraviolet disinfected secondary treated effluent is directed to the South Bay Ocean Outfall. Waste solids are directed to the Point Loma WTP through the South Metro Interceptor and Pump Station Nos. 1 and 2, for treatment and removal.

4. South Bay Ocean Outfall (SBOO)

The SBOO is jointly owned by the International Boundary and Water Commission (IBWC) and the City of San Diego. The outfall discharges wastewater from both the South Bay WRP and the IBWC International Wastewater Treatment Plant. The outfall has an average daily flow capacity of 174 MGD and a peak flow of 333 MGD. The SBOO discharges wastewater approximately 3.5 miles off the coast of the International Border at a depth of approximately 95 feet.

5. Pump Station No. 1

Pump Station No. 1 conveys wastewater from the southern portion of the Metro System through the South Metro Interceptor to Pump Station No. 2. Pump Station No. 1 has a pumping capacity of approximately 160 MGD and receives ferrous chloride for odor control.

6. Pump Station No. 2

Pump Station No. 2 receives wastewater from the north, south, and central regions of the Metro System service area and conveys all influent to the Point Loma WTP. Pump Station No. 2 also provides initial screening and chemical addition (ferric chloride for odor control and to assist in coagulation/sedimentation at the Point Loma WTP) and receives hydrogen peroxide to regenerate the iron salts. Pump Station No. 2 has a pumping capacity of approximately 432 MGD.

7. Point Loma WTP

The Point Loma WTP is a chemically-assisted primary treatment plant and is the terminal treatment plant discharging to the Point Loma Ocean Outfall (PLOO). The Facility has rated capacities of 240 MGD average annual daily flow and 432 peak wet weather flow. Treatment processes include: mechanical self-cleaning climber screens; ferric chloride addition at Parshall flumes; aerated grit removal, including grit tanks, separators, and washers; anionic synthetic polymer addition; sedimentation basins with sludge and scum removal facilities; and prototype effluent disinfection facilities providing chlorination in the effluent channel.

On November 13, 2007, the Discharger requested the ability to chlorinate to ensure compliance with all applicable receiving water objectives for bacteria. Chlorination using sodium hypochlorite was approved by the San Diego Water Board on August 13, 2008 (Addendum No. 2 to Order No. R9-2002-0025).

The treatment train at the Facility consists of five influent screens, ferric chloride injection, six aerated grit chambers, anionic polymer injection, 12 primary sedimentation basins, and sodium hypochlorite injection for chlorination.

On-site solids treatment at the Point Loma WTP consists of anaerobic sludge digestion. Dewatered solids are beneficially used as an alternate daily cover at a landfill or as a soil amendment. Digested sludge is transported via pipeline to the MBC for dewatering and disposal. Screenings, grit, and scum are trucked to a landfill for disposal.

Chlorinated advanced primary treated effluent is discharged through the PLOO to the Pacific Ocean, approximately 4.5 miles offshore. Although this is beyond the limit of State-regulated ocean waters, potential plume migration within this limit warrants joint regulation of the effluent. USEPA has primary regulatory responsibility for the discharge. However, in 1984, a Memorandum of Understanding was signed between USEPA and the State of California to jointly administer discharges that are granted modifications from secondary treatment standards. Under California's Porter-Cologne Water Quality Control Act, the San Diego Water Board issues waste discharge requirements which serve as an NPDES permit. On December 5, 2008, the USEPA and San Diego Water Board jointly proposed issuance of a draft 301(h)-modified permit incorporating both federal NPDES requirements and State Waste Discharge Requirements.

In addition to domestic sewage and industrial discharges, the Facility accepts flow and pollutants from low-flow urban runoff diversion systems and "first flush" industrial stormwater diversion systems that are routed to the sanitary sewer collection system.

B. Discharge Points and Receiving Waters

The PLOO has an average dry weather design flow of 240 MGD and a peak wet weather flow of 432 MGD. The PLOO discharges wastewater from Point Loma WTP approximately 4.5 miles off the coast of Point Loma (32° 39' 55" North; 117° 19' 25" West) at a discharge depth of approximately 310 feet (at mean lower low water - MLLW). The PLOO is 23,472 feet long and includes a wye (Y-shaped) diffuser with two 2,496 foot long diffuser legs. The diffuser has 416 discharge ports (208 on each leg).

Order No. R9-2002-0025 carried over an initial dilution value for the PLOO of 204 from previous orders for the facility. The initial dilution value of 204 was established based on the results of a modified version of the RSB model, submitted with the Discharger's 1995 ROWD and the Discharger's 1995, 2001, and 2007 301(h) applications to USEPA. This initial dilution value was predicated based on the 1995 projected end-of-permit effluent flow of 205 MGD from Point Loma WTP.

The San Diego Water Board, with assistance from the State Water Board, has established a minimum initial dilution factor for this permitting effort of 204:1, based on the projected end-of-permit flow of 205 MGD through the PLOO, as discussed in Attachment H to the permit. This minimum initial dilution value is used by the San Diego Water Board to establish water quality-based effluent limitations (WQBELs) and performance goals for Table B constituents in the Ocean Plan.

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

Effluent limitations contained in Order No. R9-2002-0025 for discharges from Discharge Point No. 001 (Monitoring Location EFF-001) and representative monitoring data from the term of Order No. R9-2002-0025 are as follows:

Table F-3a. Historic Effluent Limitations and Monitoring Data (BOD_5 and TSS) Based on CWA Sections 301(h) and (j)(5)

Effluent Constituent	Units	Effluent Limitations		Monitoring Data (from January '01 to December '07)		
		Annual Average	Monthly Average	Lowest Mean Annual Percent Removal	Lowest Mean Monthly Percent Removal	Highest Monthly Average
TSS	% removal [1]	--	≥80	--	82	--
	mg/l	--	75 [4]	--	--	51
	metric tons/year	15,000 [2]	--	--	--	--
		13,599 [3]	--	--	--	--
BOD_5	% removal [1]	≥58	--	58	--	--

1 To be calculated on a system-wide basis, as provided in Addendum No. 1 to Order No. R9-2002-0025.

2 To be achieved on the permit effective date and through December 31, 2005. Applies only to TSS discharges from POTWs owned and operated by the Discharger and the Discharger's wastewater generated in the Metro System service area; does not apply to wastewater (and the resulting TSS) generated in Mexico as a result of upset or shutdown and treated at and discharged from Point Loma WTP. Based on the 1995 and 2001 permit applications, the Discharger's 1997 projected annual average effluent flow rate of 195 MGD, and 80 percent removal of TSS required by law.

3 To be achieved on January 1, 2006. Applies only to TSS discharges from POTWs owned and operated by the Discharger and the Discharger's wastewater generated in the Metro System service area; does not apply to wastewater (and the resulting TSS) generated in Mexico as a result of upset or shutdown and treated at and discharged from Point Loma WTP. Based on the 1995 and 2001 permit applications, the Discharger's 1997 projected annual average effluent flow rate of 195 MGD, and 80 percent removal of TSS required by law.

[4] Based on average monthly performance data (1990 through 1994) for the Point Loma WTP provided by the Discharger for the 1995 permit application.

Table F-3b. Historic Effluent Limitations and Monitoring Data (Ocean Plan Parameters – Table A)

Effluent Constituent	Units	Effluent Limitations			Monitoring Data (From January '02 to December '07		
		Monthly Average (30-day)	Weekly Average (7-day)	Instantaneous Maximum	Highest Monthly Average	Highest Weekly Average	Highest Instantaneous Maximum
Oil and Grease	mg/L	25	40	75	12.8064516	15.3571429	24.4
	lbs/day[1]	34,000	68,000	130,000	--	--	--
Settleable Solids	ml/L	1.0	1.5	3.0	0.81387097	1.77142857(6/6/04-6/12/04)	7.5(6/8/04)
Turbidity	NTU	75	100	225	53.7419355	62.4285714	125
pH	pH units	--	--	6.0 – 9.0	--	--	7.87

[1] Mass-effluent limitations in the amended 2002 Order were calculated using the projected end-of-permit effluent flow for the 1995 301(h) application of 205 MGD.

Table F-3c. Historic Effluent Limitations and Monitoring Data (Ocean Plan Parameters – Table B, For the Protection of Aquatic Life)

Parameter	Units[1]	Effluent Limitation			Monitoring Data (From January '02 to December '07)		
		6-Month Median	Daily Maximum	Instantaneous Maximum	Highest 6-Month Median	Highest Daily Maximum	Highest Instantaneous Maximum
Arsenic	µg/L	1,000	5,900	16,000	1.62	2.74	2.74
Cadmium	µg/L	200	800	2,100	0.5	4.45	4.45
Chromium (Hexavalent)[2]	µg/L	400	2,000	4,100	2.5	23.4	23.4
Copper	µg/L	200	2,100	5,700	76.4	325	325
Lead	µg/L	400	2,000	4,100	9	31.5	31.5
Mercury	µg/L	8.1	33	80	0.25	0.702	0.702
Nickel	µg/L	1,000	4,100	10,000	10.3	22.3	22.3
Selenium	µg/L	3,100	12,000	30,800	1.25	1.66	1.66
Silver	µg/L	100	540	1,000	3.3	19.7	19.7
Zinc	µg/L	2,500	15,000	39,400	28	81.3	81.3
Cyanide	µg/L	200	800	2,100	4	10	10
Total Chlorine Residual	µg/L	400	2,000	12,000	<0.03	<0.03	<0.03
Ammonia (as N)	µg/L	123,000	492,000	1,230,000	31,900	36,700	36,700
Acute Toxicity	TUa	--	6.5	--	--	5.3	--
Chronic Toxicity	TUc	--	205	--	--	>667	--
Phenolic Compounds (non-chlorinated)	µg/L	6,200	24,600	61,500	14.4	25.6	25.6
Chlorinated Phenolics	µg/L	200	800	2,100	<12.67	1.85	1.85
Endosulfan	µg/L	2	3.7	5.5	<0.03	<0.03	<0.03
Endrin	µg/L	0.4	0.8	1	<0.05	<0.05	<0.05
HCH	µg/L	0.8	2	2.5	0.0135	0.175	0.175
Radioactivity	pci/l	[3]			--	--	[4]

[1] Concentration-based limitations in the amended 2002 Order were calculated using a minimum critical initial dilution of 204:1, based on the projected end-of-permit effluent flow for the 1995 301(h) application of 205 MGD.
[2] Dischargers may at their option meet these limitations as total chromium limitations.
[3] 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.
[4] Highest value of Gross Beta Radiation was 38.3 pci/l; Highest value of Gross Alpha Radiation was 3.54 pci/l.

Table F-3d. Historic Effluent Limitations and Monitoring Data (Ocean Plan Parameters – Table B, For the Protection of Human Health)

Parameter	Units[1]	Effluent Limitation	Monitoring Data (From January '02 to December '07)	
		Average Monthly	Highest Average Monthly Discharge	Highest Daily Discharge
Acrolein	µg/L	45,000	<11.4	<11.4
Antimony	µg/L	250,000	75.50	83.50
Bis(2-chloroethoxy)methane	µg/L	900	<1.57	<1.57
Bis(2-chloroisopropyl)ether	µg/L	250,000	<8.95	<8.95
Chlorobenzene	µg/L	120,000	<1	<1
Chromium (III)	µg/L	39,000,000	11.145	23.4
Di-n-butyl phthalate	µg/L	720,000	<6.49	<6.49
Dichlorobenzenes	µg/L	1,000,000	1.23	1.23
Diethyl phthalate	µg/L	6,800,000	11.2	11.2
Dimethyl Phthalate	µg/L	170,000,000	<3.26	<3.26
4,6-Dinitro-2-methylphenol	µg/L	45,000	<4.29	<4.29
2,4-Dinitrophenol	µg/L	820	<6.07	<6.07
Ethylbenzene	µg/L	840,000	<1	<1
Fluoranthene	µg/L	3,100	<6.9	<6.9
Hexachlorocyclopentadiene	µg/L	12,000	ND[2]	ND[2]
Nitrobenzene	µg/L	1,000	<1.52	<1.52
Thallium	µg/L	400	< 1.8	<40
Toluene	µg/L	17,000,000	8.05	8.05
Tributyltin	µg/L	0.29	<2	<2
1,1,1-Trichloroethane	µg/L	110,000,000	<1	<1
Acrylonitrile	µg/L	21	<13.8	<13.8
Aldrin	µg/L	0.0045	<60	<60
Benzene	µg/L	1,200	<1	<1
Benzidine	µg/L	0.014	<1.52	<1.52
Beryllium	µg/L	6.8	0.3175	0.685
Bis(2-chloroethyl)ether	µg/L	9.2	<2.62	<2.62
Bis(2-ethylhexyl)phthalate	µg/L	720	49.8	49.8
Carbon tetrachloride	µg/L	180	<1	<1
Chlordane	µg/L	0.0047	0.092 (7/04)	0.092 (7/04)
Chlorodibromomethane	µg/L	1,800	2.87	2.87
Chloroform	µg/L	27,000	11.2	11.2
DDT	µg/L	0.035	<0.14	<0.14
1,4-Dichlorobenzene	µg/L	3,700	3.75	3.75
3,3'-Dichlorobenzidine	µg/L	1.7	<2.44	<2.44
1,2-Dichloroethane	µg/L	5,700	<1	<1
1,1-Dichloroethylene	µg/L	200	0.5	0.5
Dichlorobromomethane	µg/L	1,300	3.66	3.66
Dichloromethane	µg/L	92,000	6.32	6.32
1,3-Dichloropropene	µg/L	1,800	<2	<2
Dieldrin	µg/L	0.0082	<0.05	<0.05
2,4-Dinitrotoluene	µg/L	530	<1.49	<1.49
1,2-Diphenylhydrazine	µg/L	33	<2.49	<2.49
Halomethanes	µg/L	27,000	<3	<3
Heptachlor	µg/L	0.01	0.021333 (7/04)	0.044 (7/04)
Heptachlor Epoxide	µg/L	0.004	<0.03	<0.03
Hexachlorobenzene	µg/L	0.043	<4.8	<4.8
Hexachlorobutadiene	µg/L	2,900	<2.87	<2.87
Hexachloroethane	µg/L	510	<3.55	<3.55
Isophorone	µg/L	150,000	<1.93	<1.93

Parameter	Units[1]	Effluent Limitation	Monitoring Data (From January '02 to December '07)	
		Average Monthly	Highest Average Monthly Discharge	Highest Daily Discharge
N-nitrosodimethylamine	µg/L	1,500	<2.01	<2.01
N-nitrosodi-N-propylamine	µg/L	78	<1.63	<1.63
N-nitrosodiphenylamine	µg/L	510	<2.96	<2.96
PAHs	µg/L	1.8	<72.48	<72.48
PCBs	µg/L	0.0039	<4	<4
TCDD Equivalents	µg/L	0.00000080	ND	ND
1,1,2,2-Tetrachloroethane	µg/L	470	<1	<1
Tetrachloroethylene	µg/L	410	3.4	3.4
Toxaphene	µg/L	0.43	<4	<4
Trichloroethylene	µg/L	5,500	<1	<1
1,1,2-Trichloroethane	µg/L	1,900	1.13	1.13
2,4,6-Trichlorophenol	µg/L	59	1.11875	1.85
Vinyl Chloride	µg/L	7,400	<1	<1

1 Concentration-based limitations in the amended 2002 Order were calculated using a minimum critical initial dilution of 204:1, based on the projected end-of-permit effluent flow for the 1995 301(h) application of 205 MGD.
2 All non-detect, no MDL provided.

D. Compliance Summary

As summarized in Table F-3c, an exceedance of the chronic toxicity effluent limitation of 205 TUc was reported by the Facility on May 4, 2003 with a final effluent value of >667 TUc.

No significant compliance issues were identified during the most recent compliance evaluation inspection conducted on March 17, 2008.

E. Planned Change s

CWA Section 301(h) provides for variances from federal secondary treatment standards for POTWs discharging to marine waters, including waters beyond the outer limit of territorial seas. Among other conditions, the discharge must allow for attainment or maintenance of water quality which allows for recreational activities in and on the water beyond the zone of initial dilution, and meet State water quality standards and federal criteria established under CWA Section 304(a)(1) at the time the modification becomes effective. CWA Sections 301(h)(2) and (9); 40 CFR 125.62(d); 44 Fed. Reg. 34798-99, June 15, 1979; and 47 Fed. Reg. 53671, November 26, 1982.

For marine recreational waters beyond the outer limit of territorial seas (waters beyond 3 nautical miles), the water use is defined by the CWA Section 101(a)(2) interim goal to provide water quality for recreation in and on the water, wherever attainable. USEPA describes the "primary contact recreation" use as protective when the potential for ingestion of, or immersion in, water is likely. Activities usually include swimming, water-skiing, skin-diving, surfing, and other activities likely to result in immersion (*Water Quality Standards Handbook*, EPA-823-B-94-005a, 1994, p. 2-2.). USEPA has developed 304(a)(1) ambient water quality criteria for bacteria which are recommended to protect people from gastrointestinal illness for primary contact recreation, or similar full body contact activities, in marine recreational waters (*Ambient Water Quality Criteria*

for Bacteria—1986, EPA 440/5-84-002, 1986, p. 16). In the vicinity of the PLOO, the Discharger has documented no federally-defined primary contact recreational activities occurring in waters beyond three nautical miles (see Volume V, Appendix G, of the 2007 301(h) application).

The State Water Board has established bacteriological standards in ocean waters of the State used for water contact recreation. Ocean waters are the territorial marine waters of the State as defined by California law (Ocean Plan, p. 26). The outer limit of territorial seas generally extends offshore to 3 nautical miles. The Ocean Plan (p. 3) specifies that "water contact recreation" is a beneficial use of ocean waters of the State that shall be protected. "Water Contact Recreation" or "REC-1" is a beneficial use of the State and is defined to include uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible; these uses include, but are not limited to, swimming, wading, water-skiing, skin and SCUBA diving, surfing, white water activities, fishing, or use of natural hot springs (San Diego Basin Plan, pp. 2-4). "REC-1" is designated as an existing beneficial use of coastal waters named the Pacific Ocean (San Diego Basin Plan, pp. 2-8, 2-12, and 2-52).

CWA Sections 303(i) and 512(21), together require the adoption of criteria for all coastal waters designated by States for use for swimming, bathing, surfing, or similar water contact activities, even if, as a factual matter, the waters designated for swimming are not frequently or typically used for swimming (69 Fed. Reg. 67219-20, 67222, November 16, 2004). Consistent with this requirement, on November 16, 2004, USEPA promulgated recreational water quality criteria for coastal waters in cases where States had failed to do so; these criteria apply where States have designated coastal waters for water contact recreation, but do not have in place USEPA-approved bacteria criteria that are as protective as USEPA's 1986 recommended 304(a) criteria for bacteria (69 Fed. Reg. 67218, November 16, 2004). This promulgation applies the criteria at 40 CFR 131.41(c)(2) to waters designated marine coastal recreational waters in California, excluding San Diego Water Board 4 (69 Fed. Reg. 67243, November 16, 2004). In 2005, the State Water Board adopted revised bacteria criteria for ocean waters of the State. Effective February 14, 2006, the revised Ocean Plan specifies within the zone bounded by the shoreline and 1,000 feet from the shoreline or the 30-foot depth contour (whichever is further) and in areas outside this zone used for water contact sports as determined by the San Diego Water Board (i.e., waters designated as REC-1), including kelp beds, the following bacterial objectives shall be maintained throughout the water column (Ocean Plan, p. 4). The initial dilution zone for wastewater outfalls is excluded (Ocean Plan, p. 5).

Table F-4. Bacterial Water Quality Objectives in the Ocean Plan for State Waters Designated REC-1

Indicator	30-day Geometric Mean (per 100 ml)	Single Sample Maximum (per 100 ml)
Total Coliform	1,000	10,000
Fecal Coliform	200	400
Total Coliform when Fecal Coliform: Total Coliform ratio > 0.1	--	1,000
Enterococcus	35	104

Volume V, Appendix G, of the 2007 301(h) application describes water contact recreational activities occurring in territorial waters off Point Loma and at shoreline, kelp bed, and offshore water quality monitoring stations. In Appendix G, Table 19 shows were water contact recreation takes place off Point Loma, based on the Discharger's record of visual observations during monitoring events and recreational use assessment.

The 4.5 mile long PLOO discharges beyond the 3 nautical mile outer limit of territorial seas. Table C-5 in Volume IV, Appendix C, of the 2007 301(h) application summarizes bacteriological data from offshore stations within State waters that are not located in the Point Loma kelp bed. As summarized, these offshore stations (at all water depths) achieve compliance with recreational water contact standards from 92 to 98 percent of the time, with exceedances typically limited to samples collected from water depths below 40 meters (130 feet).

Both the Discharger and USEPA compared maximum receiving water bacteriological concentrations from all offshore stations (at depth) with Ocean Plan water quality objectives to determine the degree of reduction in indicator organisms discharged through the PLOO that was needed to achieve 100 percent compliance with Ocean Plan water contact standards at all locations and all depths within 3 nautical miles. Based on an evaluation of this data, summarized in Table C-6 in Volume IV, Appendix C, of the 2007 301(h) application, the Discharger determined that a 2.1-logarithm (approximately 99 percent) reduction of total coliform indicator organisms would ensure that the PLOO discharge complies with bacteriological water quality standards at all locations and all depths within this area. Initial bench-scale laboratory tests conducted by the Discharger show that a 2.1-log reduction of indicator organisms in the effluent can be achieved by a sodium hypochlorite dose rate of 7 mg/1. Other studies show that this dose rate will be consumed in the PLOO and will not lead to non-compliance with other Ocean Plan Table B water quality objectives. Facilities currently exist at the Point Loma WTP site for storing and handling sodium hypochlorite.

On November 13, 2007, the Discharger submitted a request to the San Diego Water Board to initiate operation of prototype effluent disinfection facilities to achieve compliance with bacteriological water quality standards in State waters. On August 13, 2008, the San Diego Water Board approved modifications associated with operation of the Discharger's proposed prototype effluent disinfection facilities at Point Loma WTP. The Discharger's 2007 301(h) application is based on an improved discharge, as defined at 40 CFR 125.58(i), and incorporates effluent disinfection to achieve these standards prior to permit reissuance.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

This Order is issued pursuant to Section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the USEPA and chapter 5.5, division 7 of the California Water Code (commencing with Section 13370). It shall serve as a 301(h)-modified NPDES permit for point source discharges from this facility to surface waters, which is jointly issued by the San Diego Water Board and USEPA. This Order also serves as WDRs pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with Section 13260).

B. California Environmental Quality Act (CEQA)

Under Water Code Section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code Sections 21100 through 21177.

C. State and Federal Regulations, Policies, and Plans

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

Table F-5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	Industrial service supply; navigation; contact water recreation; non-contact water recreation; commercial and sport fishing; preservation of biological habitats of special significance; wildlife habitat; rare, threatened, or endangered species; marine habitat; aquaculture; migration of aquatic organisms; spawning, reproduction, and/or early development; and shellfish harvesting.

Requirements of this Order implement the Basin Plan.

2. **California Ocean Plan.** The State Water Board adopted the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, and 2005. The State Water Board adopted the latest amendment on April 21, 2005 and it became effective on February 14, 2006. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the State to be protected as summarized below:

Table F-6. Ocean Plan Beneficial Uses

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

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

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

4. **Antidegradation Policy.** 40 CFR 131.12 requires that the State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The San Diego Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of Section 131.12 and State Water Board Resolution No. 68-16.

5. **Anti-Backsliding Requirements.** CWA Sections 402(o) and 303(d)(4) and 40 CFR 122.44(l) prohibit renewal, reissuance, or modification of an existing NPDES permit that contains effluent limitations, permit conditions, or standards that are less stringent than those established in the previous permit, with limited exceptions for relaxing some requirements.

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

On June 28, 2007, the USEPA approved the list of impaired water bodies, prepared by the State Water Board pursuant to Section 303 (d) of the CWA, which are not expected to meet applicable water quality standards after implementation of technology-based effluent limitations for point sources. The 303 (d) list includes Sections of the Pacific Ocean shoreline inside the San Diego Region as impaired for bacteria indicators. However, the receiving waters in the immediate vicinity of the Facilities' discharge point are not included on the current 303 (d) list.

This permit implements receiving water objectives for bacterial indicators.

E. Other Plan s, Polices and Regulations

1. 301(h) Waiver and Primary Treatment Requirements.

The Discharger has submitted an application for renewal of their 301(h)-modified NPDES permit for the Point Loma WTP. The Discharger requested a renewal of their variance (informally called a "waiver" or "modification") under CWA Section 301(h) and the Ocean Pollution Reduction Act of 1994, from federal secondary treatment standards contained in CWA Section 301(b)(1)(B). The Discharger has proposed alternative effluent limitations for TSS and BOD_5, described below. The 2007 301(h) application is based on an improved discharge, as defined at 40 CFR 125.58(i). The Discharger has proposed effluent disinfection (chlorination) to achieve applicable water quality standards for bacteria in State waters, prior to permit reissuance.

The administrative processing for a CWA Section 301(h) variance by USEPA generally consists of the following actions:

- Filing of a timely application by the discharger;
- Initial screening of the application by the State and USEPA;
- USEPA preparation of a Tentative Decision Document (TDD) which involves comparison of the application with criteria set forth in applicable statutes and regulations;
- Announcement of the tentative decision for the 301(h) variance by the USEPA Regional Administrator;
- Public notice of a draft 301(h)-modified permit incorporating the Regional Administrator's tentative decision and the TDD;
- Public hearings to address public interest;

- State concurrence in the granting of a 301(h) variance through State and USEPA joint issuance of a 301(h)-modified NPDES permit, or denial by the State and/or the Regional Administrator;
- Processing of appeals in accordance with 40 CFR 124.

The Discharger has proposed the following alternative effluent limitations for TSS and BOD_5. The Discharger's percent removal limitations for TSS and BOD_5 are computed on a "system-wide" basis, whereby the Discharger receives credit for removal achieved as part of water reclamation operations in the Metro System service area which ultimately connect to Point Loma WTP and discharge through the PLOO.

Table F-7. Effluent Limitations Based on CWA Sections 301(h) and (j)(5)

Effluent Constituent	Units	Annual Average	Monthly Average
TSS	% removal[1]	---	≥80
	mg/l	---	75[4]
	metric tons/year	15,000[2]	---
		13,598[3]	---
BOD5	% removal[1]	≥58	---

[1] To be calculated on a system-wide basis, as provided in Addendum No. 1 to Order No. R9-2002-0025.
[2] To be achieved on permit effective date through December 31, 2013. Applies only to TSS discharges from POTWs owned and operated by the Discharger and the Discharger's wastewater generated in the Metro System service area; does not apply to wastewater (and the resulting TSS) generated in Mexico which, as a result of upset or shutdown, is treated at and discharged from Point Loma WTP.
[3] To be achieved on January 1, 2014. Applies only to TSS discharges from POTWs owned and operated by the Discharger and the Discharger's wastewater generated in the Metro System service area; does not apply to wastewater (and the resulting TSS) generated in Mexico which, as a result of upset or shutdown, is treated at and discharged from Point Loma WTP.
[4] Based on average monthly performance data (1990 through 1994) for the Point Loma WTP provided by the Discharger for the 1995 301(h) application.

A POTW applying for a 301(h) variance must demonstrate satisfactorily to USEPA that the modified discharge will meet the following CWA Section 301(h) requirements:

- The modified discharge will comply with all applicable water quality standards and the State has determined that the modified discharge will comply with State law;
- The modified discharge, alone or in combination with other sources, will not interfere with the attainment or maintenance of water quality that assures the protection of public water supplies; assures the protection and propagation of a balanced indigenous population of fish, shellfish, and wildlife; and allows for recreational activities;
- A monitoring program has been established by the applicant to monitor the impact of the modified discharge, including biological, water quality, and effluent monitoring;
- The modified discharge will not result in additional requirements on other point and nonpoint sources of pollutants and the State had determined that the modified discharge will not result in any such additional requirements;

- An applicant serving a population of 50,000 or more that receives toxic pollutants from industrial sources must demonstrate they have complied with urban area pretreatment requirements at the time the permit is approved;
- An applicant must make a demonstration that pretreatment requirements for industrial sources introducing wastes into the treatment works will be enforced;
- An applicant must demonstrate that a schedule of activities has been established to minimize the introduction of toxic substances from non-industrial sources onto the treatment works, including the development and implementation of programs for public education and non-industrial source control;
- An applicant must demonstrate that the modified discharge will not result in new or substantially increased discharges of the waived pollutants above the discharge specified in the 301(h)-modified permit. Projections of effluent volumes and mass emission rates for pollutants to which the modification applies must be provided in 5-year increments for the design life of the facility;
- The modified discharge must receive at least primary or equivalent treatment and must meet CWA Section 304(a)(1) criteria, in accordance with 40 CFR 125.62(a). Variances are prohibited for discharges into waters that contain significant amounts of previously discharged effluent from the treatment works, or into saline estuarine waters that do not support a balanced indigenous population, do not allow recreation, or which violate water quality standards or criteria beyond the zone of initial dilution.

Under 40 CFR 125.59(b) no 301(h)-modified permit may be issued for:

- Discharges that do not comply with 40 CFR Parts 122 and 125, Subpart G;
- Discharges of sewage sludge;
- Discharges that would not be in compliance with applicable provisions of State, local, or other federal laws and Executive Orders; or
- Discharges that enter the New York Bight Apex.

In addition, the Discharger must meet the following requirements under the Ocean Pollution Reduction Act of 1994, CWA Section 301(j)(5):

- 80 percent removal of TSS based on a system-wide monthly average;
- 58 percent removal of BOD_5 based on a system-wide annual average;
- 45 MGD of water reclamation by the year 2010; and
- Reduction of TSS discharged into the ocean during the period of the permit modification.

During the term of the 1995 permit, the Discharger implemented a reclamation program with a system capacity of 45 MGD of reclaimed water, thereby meeting the requirement for reclaimed water capacity of 45 MGD in CWA Section 301(j)(5). On a system-wide basis, the Discharger will be able to remove not less than 80 percent of TSS (on a monthly average) and not less than 58 percent of BOD_5 (on an annual average) in the discharge to which the 2007 301(h) application applies. The Discharger will be able to decrease suspended solids mass emissions during the

permit term. Reductions in TSS loadings to the marine environment during the term of the modification are shown in Figure II.A-1 of Volume III of the 2007 301(h) application.

USEPA has drafted a 301(h) Tentative Decision Document (TDD) evaluating the Discharger's proposed improved discharge and effluent limitations for TSS and BOD_5, the projected annual average end-of-permit effluent flow rate of 202 MGD (annual average daily flow), and 2002 through 2007 effluent concentrations for TSS and BOD_5, as provided in the updated 2007 301(h) application. The 2008 TDD concludes that the Discharger's 301(h) application satisfies CWA Sections 301(h) and 301(j)(5). Based on this information, it is the Regional Administrator's tentative decision to grant the Discharger's variance request for TSS and BOD_5, in accordance with the terms, conditions, and limitations of the TDD. In accordance with this decision and the 1984 301(h) Memorandum of Understanding between the State and USEPA, the San Diego Water Board and USEPA have jointly proposed issuance of a draft 301(h)-modified permit incorporating both federal NPDES requirements and State Waste Discharge Requirements. The final permit will be issued without prejudice to the rights of any party to address the legal issue of the applicability of Section 1311(j)(5) of the Act to the Discharger's future NPDES permits.

The Discharger's permit renewal of the variance from federal secondary treatment standards, pursuant to CWA Sections 301(h) and (j)(5), is contingent upon:

- Determination by the California Coastal Commission that the proposed discharge is consistent with the Coastal Zone Management Act of 1972, as amended (16 U.S.C. 1451 *et seq.*);

- Determination by the U.S. Fish and Wildlife Service and the NOAA National Marine Fisheries Service that the proposed discharge is consistent with the federal Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*);

- Determination by the NOAA National Marine Fisheries Service that the proposed discharge is consistent with the Magnuson-Stevens Fishery Conservation and Management Act, as amended (16 U.S.C. 1801, *et seq.*);

- Determination by the San Diego Water Board that the discharge will not result in additional treatment pollution control, or other requirement, on any other point or nonpoint sources (40 CFR 125.64);

- The San Diego Water Board's certification/concurrence that the discharge will comply with water quality standards for the pollutants which the 301(h) variance is requested (40 CFR 125.61) (i.e., TSS and BOD_5). The joint issuance of a NPDES permit which incorporates both the 301(h) variance and State waste discharge requirements will serve as the State's concurrence; and

- The USEPA Regional Administrator's final decision regarding the Discharger's CWA Section 301(h) variance request.

2. **Storm Water.** Sewage treatment works with a design flow of 1.0 MGD or greater are required to comply with Water Quality Order No. 97-03-DWQ (NPDES General Permit No. CAS000001), WDRs for Dischargers of Storm Water Associated with Industrial Activity, Excluding Construction Activities. The Discharger shall file a Notice of Intent within 60 days of adoption of this Order (unless already submitted under the previous Order) and comply with Order No. 97-03-DWQ or the Discharger shall provide certification to the San Diego Water Board and USEPA that all storm water is captured and treated on-site and no storm water is discharged or allowed to run off-site from the facility.

3. **Pretreatment.** Federal requirements at 40 CFR 403 establish pretreatment requirements for POTWs which receive pollutants from nondomestic users. This Order contains pretreatment requirements pursuant to 40 CFR 403.

4. **Collection System.** Publicly-owned collection systems are subject to coverage under State Water Board Order No. 2006-0003-DWQ, the Statewide General WDR For Collection System Agencies. The Discharger owns and operates a publicly-owned collection system and must retain coverage under the Statewide General WDR For Collection System Agencies.

   In addition, the previsions of this permit prohibit discharges from any point other than the authorized discharge point. Therefore, any discharges from the collection system are prohibited. Moreover, the collection system is part of the publicly-owned treatment works and, therefore, must comply with the provisions of this permit requiring reports of any noncompliance (40 CFR 122.44(l)(6) and (7)), proper operation and maintenance (40 CFR 122.41(e)), and duty to mitigate sewage spills (40 CFR 12.41(d)).

5. **Biosolids.** On February 19, 1993, the USEPA issued a final rule for the use and disposal of sewage sludge (40 CFR 503). This regulation requires that producers of sewage sludge meet certain handling, disposal, and monitoring requirements. The USEPA, not the San Diego Water Board, will oversee compliance with 40 CFR 503.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

A. Discharge Prohibitions

Discharge Prohibitions A.1, A.2, and A.3 have been carried over from Order No. R9-2002-0025 in Section III of this Order. Discharge Prohibitions A.4 and A.5 have been carried over as Discharge Provisions in Section VI.A.2 of this Order.

B. Technology-Based Effluent Limitations

1. Scope and Authority

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

As previously described, the Discharger has requested a renewal of its variance under Section 301(h) of the CWA, 33 U.S.C. Section 1311(h), and the Ocean Pollution Reduction Act of 1994, 33 U.S.C. Section 1311(j)(5), from the federal secondary treatment standards contained in Section 301(b)(1)(B) of the CWA, U.S.C. Section 1311(b)(1)(B), for the pollutants TSS and BOD_5. A modification for pH was not requested. The effluent limitations for TSS and BOD_5, based on CWA Sections 301(h) and (j)(5), are previously described in this fact sheet. The technology based effluent limitation for pH, required by 40 CFR 133, continues to apply to the discharge which must be maintained within the limits of 6.0 to 9.0 pH units, at all times.

Table A of the Ocean Plan establishes technology based effluent limitations for publicly-owned treatment works. Table A requirements are summarized, below:

Table F-8. Summary of Technology-based Effluent Limitations from Table A of the Ocean Plan

Parameter	Unit	Average Monthly	Average Weekly	Instantaneous Maximum
Grease and Oil	mg/L	25	40	75
Suspended Solids[1]	mg/L	--	--	--
Settleable Solids	ml/L	1.0	1.5	3.0
Turbidity	NTU	75	100	225
pH	standard units	--	--	[2]

[1] Dischargers shall, as a 30-day average, remove 75 percent of suspended solids from the influent stream to the Facility before discharging wastewaters to the ocean, except that the effluent limitation to be met shall not be lower than 60 mg/L.

[2] Within limit of 6.0 to 9.0 at all times.

2. Applicable Technology-Based Effluent Limitations

The Facility consistently met the removal requirements for BOD_5 and TSS established in Order No. R9-2002-0025. System-wide monthly average removal rates for BOD_5 from January 2002 through December 2007 ranged from 59 percent to 71 percent; and annual removal averages ranging from 61 percent to 68 percent. System-wide monthly average removal rates for TSS from January 2002 through December 2007 ranged from 83 percent to 92.6 percent. Based on CWA Sections 301(h) and (j)(5), the percent removal requirements of BOD_5 and TSS remain appropriate and are carried over from Order No. R9-2002-0025. TSS and BOD_5 removal is computed on a "system-wide" basis to avoid double-counting of return solids and centrate streams.

Table A of the Ocean Plan contains a percent removal requirement of 75 percent. This requirement is not computed on a system-wide basis and applies directly to the Point Loma WTP influent and effluent waste streams. It is established in this Order as an effluent limitation based on Table A of the Ocean Plan.

The mass emission limitations for TSS in the existing permit are based on the effluent limitations requested by the Discharger in the 2007 301(h) application which were evaluated by USEPA in the 2008 TDD.

The effluent limitation for TSS of 75 mg/l was contained in the 1995 and 2003 permits. It continues to be an effluent limitation requested by the Discharger in the 2007 301(h) application. The San Diego Water Board and USEPA reviewed influent TSS data for January 2002 through December 2007. For this time period, the average effluent TSS concentration is 39.6 mg/l. Thus, the Discharger is expected to comply with the proposed effluent limitation for TSS of 75 mg/l.

40 CFR 122.45(f) requires NPDES permits to contain mass-based effluent limitations and 40 CFR 122.45(b) specifies that mass limits for POTWs shall be calculated based on design flow. The annual average design flow rate for the Point Loma WTP is 240 MGD. The previous Orders have contained mass-based effluent limitations for oil and grease calculated using the Discharger's projected end-of-permit annual average flow rate of 205 MGD, taken from the 1995 301(h) application. During the term of the existing permit, the Discharger's actual annual average flow rate ranged from 169 in 2002, to 161 in 2007. The Discharger has maintained compliance with effluent limitations for mass emissions calculated using 205 MGD. In the 2007 301(h) application, the Discharger's projected flow rates for the 5-year permit term range from 191 MGD in 2008, to 202 MGD in 2014. USEPA has not evaluated the impact of the PLOO discharge and compliance with CWA Section 301(h) decision criteria at an oil and grease mass emission rate associated with a PLOO discharge of 240 MGD. Based on the 2007 301(h) application, mass emission rate effluent limits continue to be based on the flow rate of 205 MGD, as they were in the 1995 and 2003 permits.

A summary of the applicable technology-based effluent limitations is provided below:

Summary of Technology-based Effluent Limitations
Discharge Point No. 001

Table F-9a. Summary of Technology-based Effluent Limitations Based on CWA Sections 301(h) and (j)(5)

Effluent Constituent	Units	Annual Average	Monthly Average
TSS	% removal[1]	---	≥80
	mg/l	---	75[4]
	metric tons/year	15,000[2]	---
		13,598[3]	---
BOD5	% removal[1]	≥58	---

[1] To be calculated on a system-wide basis, as provided in Addendum No. 1 to Order No. R9-2002-0025.
[2] To be achieved on permit effective date through December 31, 2013. Applies only to TSS discharges from POTWs owned and operated by the Discharger and the Discharger's wastewater generated in the Metro System service area; does not apply to wastewater (and the resulting TSS) generated in Mexico which, as a result of upset or shutdown, is treated at and discharged from Point Loma WTP.
[3] To be achieved on January 1, 2014. Applies only to TSS discharges from POTWs owned and operated by the Discharger and the Discharger's wastewater generated in the Metro System service area; does not apply to wastewater (and the resulting TSS) generated in Mexico which, as a result of upset or shutdown, is treated at and discharged from Point Loma WTP.
[4] Based on average monthly performance data (1990 through 1994) for the Point Loma WTP provided by the Discharger for the 1995 301(h) application.

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

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Total Suspended Solids	% removal	--	[1]	--	--	--
Oil and Grease	mg/L	25	40	--	--	75
	lbs/day	42,743	68,388	---	--	128,228
Settleable Solids	ml/L	1.0	1.5	--	--	3.0
Turbidity	NTU	75	100	--	--	225
pH	Standard unit	--	--	--	6.0	9.0

[1] The Discharger shall, as a 30-day average, remove 75 percent of suspended solids from the influent stream to the Facility before discharging wastewaters to the ocean, except that the effluent limitation to be met shall not be lower than 60 mg/L.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

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

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

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

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

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

a. **Basin Plan.** The beneficial uses specified in the Basin Plan applicable to the Pacific Ocean are summarized in Section III.C.1 of this Fact Sheet. The Basin Plan includes water quality objectives for dissolved oxygen and pH applicable to the receiving water.

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

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

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

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

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

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

iv. Daily maximum objectives for acute and chronic toxicity.

3. Determining the Need for WQBELs

Order No. R9-2002-0025 contained effluent limitations for non-conventional and toxic pollutant parameters in Table B of the 1997 Ocean Plan. For Order No. R9-2009-0001, the need for effluent limitations based on water quality objectives in Table B of the Ocean Plan was re-evaluated in accordance with 40 CFR 122.44(d) and guidance for statistically determining the "reasonable potential" for a discharged pollutant to exceed an objective, as outlined in the revised *Technical Support Document for Water Quality-based Toxics Control* (TSD; EPA/505/2-90-001, 1991) and the Ocean Plan Reasonable Potential Analysis (RPA) Amendment that was adopted by the State Water Board on April 21, 2005. The statistical approach combines knowledge of effluent variability (as estimated by a coefficient of variation) with the uncertainty due to a limited amount of effluent data to estimate a maximum effluent value at a high level of confidence. This estimated maximum effluent value is based on a lognormal distribution of daily effluent values. Projected receiving water values (based on the estimated maximum effluent value or the reported maximum effluent value and minimum probable initial dilution), can then be compared to the appropriate objective to determine the potential for an exceedance of that objective and the need for an effluent limitation.

According to the Ocean Plan amendment, the RPA can yield three endpoints: 1) Endpoint 1, an effluent limitation is required and monitoring is required; 2) Endpoint 2, an effluent limitation is not required and the San Diego Water Board may require monitoring; 3) Endpoint 3, the RPA is inconclusive, monitoring is required, and an existing effluent limitation may be retained or a permit re-opener clause may be included to allow inclusion of an effluent limitation if future monitoring warrants the

inclusion. Endpoint 3 is typically the result when there are fewer than 16 data points and all are censored data (i.e., below quantitation or method detection levels for an analytical procedure). If no data was provided for a parameter, and a RPA could not be conducted for that parameter, reasonable potential for that parameter was carried over to this Order based on the requirements of federal and State anti-backsliding regulations.

Reasonable Potential (Endpoint 1) to exceed water quality objectives contained within the Ocean Plan was determined for chronic toxicity, chlordane, and heptachlor, thus effluent limitations for chronic toxicity, chlordane, and heptachlor have been established in Order No. R9-2009-0001 based on the revised initial dilution results.

Using the RPcalc2.0 software tool developed by the State Water Board for conducting reasonable potential analyses and the revised minimum probable initial dilution value (Dm) of 204, the San Diego Water Board has determined that the constituents listed under Table F-16, when discharged through Discharge Point No. 001, do not have the reasonable potential to exceed their Ocean Plan Table B objectives (i.e., Endpoint 2), or do not require effluent limitations due to inconclusive evidence to establish reasonable potential (i.e., Endpoint 3), in accordance with 40 CFR 122.44(d). Instead, a narrative limit statement to comply with all Ocean Plan objectives and requirements is specified this Order.

This Order includes desirable maximum effluent concentrations for constituents that do not have reasonable potential, referred to as "performance goals" that were derived using the effluent limitations procedures described below. The Discharger is required to monitor for these constituents as stated in the MRP (Attachment E) to gather data used in reasonable potential analyses for the permit and assist in the demonstrations and evaluations required by CWA Section 301(h) and 40 CFR 125, Subpart G.

The removal of WQBELs based on the results of the RPA comply with the CWA and Ocean Plan. For waters where water quality equals or exceeds that which is needed to protect beneficial uses and otherwise comply with water quality standards, WQBELs may be revised if consistent with USEPA and State antidegradation policies. The constituents for which numeric WQBELs are proposed to be removed have no reasonable potential to exceed numeric water quality standards. As discussed in more detail below (see Section IV.E.2) existing water quality is expected to be maintained for these constituents. Therefore, removal of WQBELs for these constituents is consistent with USEPA and State antidegradation policies.

The discharge has received approval by the San Diego Water Board to implement effluent chlorination using sodium hypochlorite. Based on a review of bench-scale testing, total chlorine residual and the resulting halogenated organic chemical compounds associated with chlorination are not expected to exceed Ocean Plan Table B objectives (see Volume IV, Appendix D, of the 2007 301(h) application). However, based on best professional judgment, USEPA and the San Diego Water

Board have determined that the operation of effluent disinfection using chlorination at Point Loma WTP constitutes reasonable potential for the effluent discharge to exceed Table B objectives for these constituents. Based on this determination, WQBELs for the following constituents are included in the Order: total chlorine residual, phenolic compounds, chlorinated phenolics, chlorodibromomethane, chloroform, 1,4-dichlorobenzene, dichlorobromomethane, dichloromethane (methylene chloride), and halomethanes. In addition, the permit contains a condition requiring continuous compliance monitoring for total chlorine residual.

Conventional pollutants were not a part of the reasonable potential analysis. Effluent limitations for these pollutants are included in this Order as described in Section IV.B. above.

Effluent data provided in the Discharger's monitoring reports from January 2005 to December 2007 were used in the analyses. A minimum probable initial dilution of 204 was considered in these evaluations.

A summary of the RPA results is provided below:

Table F-10. RPA Results Summary

Parameter (µg/L)	n[1]	MEC[2]	Most Stringent Criteria	Background	RPA End Point[8]
Arsenic	319	2.74	8[3]	3[6]	2
Cadmium	319	4.45	1[3]	0	2
Chromium (VI)	318	23.4	2[3]	0	2
Copper	136	72	3[3]	2[6]	2
Lead	136	5.3	2[3]	0	2
Mercury	136	0.139	0.004[3]	0.0005[6]	2
Nickel	136	21.1	5[3]	0	2
Selenium	136	1.6	15[3]	0	2
Silver	136	0.91	0.7[3]	0.16[6]	2
Zinc	136	65.8	20[3]	8[6]	2
Cyanide	135	0.004	1[3]	0	2
Total Residual Chlorine	4	<0.03	2[3]	0	1[7]
Ammonia	136	36.7	600[3]	0	2
Acute Toxicity	11	5.3	0.3[4]	0	2
Chronic Toxicity	157	>667	1[4]	0	1
Phenolic Compounds	136	25.6	30	0	1[7]
Chlorinated Phenolics	136	1.85	1	0	1[7]
Endosulfan (ng/L)	136	0.7	9[3]	0	2
Endrin	136	<0.05	0.002[3]	0	2
HCH (ng/L)	136	72.5	4[3]	0	2
Acrolein	136	<11.4	220[5]	0	2
Antimony	136	<2.9	1,200[5]	0	2
Bis(2-chloroethoxyl)methane	37	<1.57	4.4[5]	0	2
Bis(2-chloroisopropyl)ether	37	<8.95	1,200[5]	0	2
Chlorobenzene	36	<1	570[5]	0	2
Chromium (III)	136	23.4	190,000[5]	0	2
Di-n-butyl phthalate	37	<6.49	3,500[5]	0	2
Dichlorobenzenes	64	3.49	5,100[5]	0	2
Diethyl phthalate	37	11.2	33,000[5]	0	2

Parameter (µg/L)	n[1]	MEC[2]	Most Stringent Criteria	Background	RPA End Point[8]
Dimethyl phthalate	37	<3.26	820,000[5]	0	2
4,6-Dinitro-2-methylphenol	136	<4.29	220[5]	0	2
2,4-Dinitrophenol	136	<6.07	4[5]	0	2
Ethylbenzene	36	<1	4,100[5]	0	2
Fluoranthene	37	<6.9	15	0	2
Hexachlorocyclopentadiene	64	All non-detect, no MDL provided, assumed End Point 3			
Nitrobenzene	37	<1.52	4.9[5]	0	2
Thallium	53	<1.806	2[5]	0	2
Toluene	36	3.54	85,000[5]	0	2
Tributyltin	12	<1	0.0014	0	2
1,1,1-Trichloroethane	36	<1	540,000[5]	0	2
Acrylonitrile	36	<13.8	0.1[5]	0	2
Aldrin	36	<60	0.000022[5]	0	2
Benzene	36	<1	5.9[5]	0	2
Benzidine	35	<1.02	0.000069[5]	0	2
Beryllium	136	<0.04	0.033[5]	0	2
Bis(2-chloroethyl) ether	37	<2.62	0.045[5]	0	2
Bis(2-ethylhexyl) phthalate	33	<10.43	3.5[5]	0	2
Carbon tetrachloride	36	<1	0.9[5]	0	2
Chlordane (ng/L)	136	92	0.023	0	1
Chlorodibromomethane	36	2.87	8.6[5]	0	1[7]
Chloroform	36	<1	130[5]	0	1[7]
DDT (ng/L)	136	<140	0.17[5]	0	2
1,4-Dichlorobenzene	64	3.49	18[5]	0	1[7]
3,3-Dichlorobenzidine	35	<2.43	0.0081[5]	0	2
1,2-Dichloroethane	36	<1	28[5]	0	2
1,1-Dichloroethylene	36	<1	0.9[5]	0	2
Dichlorobromomethane	36	3.66	6.2[5]	0	1[7]
Dichloromethane	36	6.32	450[5]	0	1[7]
1,3-Dichloropropene	35	<2	8.9[5]	0	2
Dieldrin (ng/L)	136	<50	0.04[5]	0	2
2,4-Dinitrotoluene	37	<1.49	2.6[5]	0	2
1,2-Diphenylhydrazine	37	<2.49	0.16[5]	0	2
Halomethanes	36	<3	130[5]	0	1[7]
Heptachlor (ng/L)	136	44	0.05[5]	0	1
Heptachlor Epoxide (ng/L)	136	<20	0.02[5]	0	3
Hexachlorobenzene	37	<4.8	0.00021[5]	0	3
Hexachlorobutadiene	37	<2.87	14[5]	0	2
Hexachloroethane	37	<3.55	2.5[5]	0	2
Isophorone	37	<1.93	730[5]	0	2
N-nitrosodimethylamine	37	<2.01	7.3[5]	0	2
N-nitrosodi-N-propylamine	37	<1.16	0.38[5]	0	2
N-nitrosodiphenylamine	37	<2.96	2.5[5]	0	2
PAHs	37	<72.48	0.0088[5]	0	3
PCBs (ng/L)	135	<18.360	0.019[5]	0	3
TCDD equivalents	All ND's, C>MDL, thus automatic End Point 3				
1,1,2,2-Tetrachoroethane	36	<1	2.3[5]	0	2
Tetrachloroethylene	36	3.4	2	0	2
Toxaphene (ng/L)	136	<4,000	0.21[5]	0	3
Trichloroethylene	36	<1	27[5]	0	2
1,1,2-Trichloroethane	36	1.13	9.4[5]	0	2

Parameter (µg/L)	n[1]	MEC[2]	Most Stringent Criteria	Background	RPA End Point[8]
2,4,6-Trichlorophenol	136	<1.75	0.29[5]	0	2
Vinyl Chloride	36	<1	36[5]	0	2

1 Number of data points available for the RPA.
2 If there is a detected value, the highest reported value is summarized in the table. If there are no detected values, the lowest MDL is summarized in the table.
3 Based on the 6-Month Median in the Table B of the Ocean Plan.
4 Based on the Daily Maximum in Table B of the Ocean Plan.
5 Based on 30-Day Average in Table B of the Ocean Plan.
6 Background concentrations contained in Table C of the Ocean Plan.
7 Based on BPJ due to operations at the Facility.
8 End Point 1 – Reasonable potential determined, limit required, monitoring required.
End Point 2 – Discharger determined not to have RP, monitoring may be established.
End Point 3 – RPA was inconclusive, carry over previous limits if applicable, establish monitoring.

4. WQBEL Calculations

a. Effluent limitations and performance goals for pollutants with Ocean Plan Table B water quality objectives, except for acute toxicity (if applicable) and radioactivity, were calculated according to the following equation:

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

The performance goal for acute toxicity is calculated according to the following equation where all variables are as previously indicated. This equation applies only when Dm > 24:

$Ce = Co + (0.1) Dm (Co - Cs)$

The Dm is based on observed waste flow characteristics, receiving water density structure, and the assumption that no currents of sufficient strength to influence the initial dilution process flow across the discharge structure.

b. The State Water Board had accepted the minimum initial dilution factor, Dm, for the PLOO to be 204 to 1. This determination is based on the results of a modified version of the RSB model, submitted with the Discharger's 1995 ROWD and the Discharger's 1995 301(h) application to USEPA.

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

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

Table F-11. Pollutants Having Background Concentrations

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

d. As examples, performance goals for copper and lead are determined as follows:

Water quality objectives from the Ocean Plan for copper and lead are:

Table F-12. Example Parameter Water Quality Objectives

Pollutant	6-Month Median	30-Day Average	Daily Maximum	Instantaneous Maximum
Copper (µg/L)	3	--	12	30
Chlordane (µg/L)	--	0.000023	--	--

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

Copper

Ce = 3 + 204 (3 – 2) = 207 µg/L (6-Month Median)
Ce = 12 + 204 (12 – 2) = 2,052 µg/L (Daily Maximum)
Ce = 20 + 204 (20 – 2) = 3,692 µg/L (Instantaneous Maximum)

Chlordane

Ce = 0.000023 + 204 (0.000023 – 0) = 4.7E-03 µg/L (30-Day Average)

Based on the implementing procedures described above, effluent limitations or performance goals have been calculated for all Table B pollutants from the Ocean Plan and incorporated into Order No. R9-2009-0001.

e. Title 40 CFR 122.45(f)(1) requires effluent limitations be expressed in terms of mass, with some exceptions, and 40 CFR 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. This Order includes effluent limitations expressed in terms of mass and concentration.

Mass-based effluent limitations were calculated using the following equation, based on projected end-of-permit of 205 MGD:

Lbs/day = Projected End-of-Permit Flow (MGD) x Pollutant Concentration (mg/L) x 8.34

f. A summary of the WQBELs established in Order No. R9-2009-0001 is provided below:

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

Table F-13. Summary of Water Quality-based Effluent Limitations

Parameter	Unit	Water Quality-Based Effluent Limitations			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
BASED ON OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE					
Chronic Toxicity[1]	TUc	--	205	--	--
Total Chlorine Residual	µg/L	4.1E+02	1.6E+03	1.2E+04	--
	lbs/day	7.0E+02	2.8E+03	2.1E+04	--
Phenolic Compounds (non-chlorinated)	µg/L	6.2E+03	2.5E+04	6.2E+04	--
	lbs/day	1.1E+04	4.2E+04	1.1E+05	--
Chlorinated Phenolics	µg/L	2.1E+02	8.2E+02	2.1E+03	--
	lbs/day	3.5E+02	1.4E+03	3.5E+03	--
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS					
Chlordane[2]	µg/L	--	--	--	4.7E-03
	lbs/day	--	--	--	8.1E-03
Chlorodibromomethane	µg/L	--	--	--	1.8E+03
	lbs/day	--	--	--	3.0E+03
Chloroform	µg/L	--	--	--	2.7E+04
	lbs/day	--	--	--	4.6E+04
1,4-Dichlorobenzene	µg/L	--	--	--	3.7E+03
	lbs/day	--	--	--	6.3E+03
Dichlorobromomethane	µg/L	--	--	--	1.3E+03
	lbs/day	--	--	--	2.2E+03
Dichloromethane	µg/L	--	--	--	9.2E+04
	lbs/day	--	--	--	1.6E+05
Halomethanes[3]	µg/L	--	--	--	2.7E+04
	lbs/day	--	--	--	4.6E+04
Heptachlor	µg/L	--	--	--	1.0E-02
	lbs/day	--	--	--	1.8E-02

1 Chronic toxicity is expressed as Chronic Toxicity Units (TUc) = 100/NOEL, where NOEL (No Observed Effect Level) is expressed as the maximum percent effluent that causes no observable effect on a test organism.
2 Chlordanes represent the sum of chlordane-alpha, chlordane-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.
3 Halomethanes represent the sum of bromoform, bromomethane (methyl bromide), and chloromethane (methyl chloride).

g. A summary of the performance goals established in Order No. R9-2009-0001 is provided in Table F-16 of this Fact Sheet.

5. Whole Effluent Toxicity (WET)

a. Implementing provisions at Section III.C of the Ocean Plan require chronic toxicity monitoring for ocean waste discharges with minimum initial dilution factor between 100 and 350. RPA results based on procedures specified in the Ocean Plan indicate that the effluent has the reasonable potential to exceed the chronic toxicity water quality objective. Based on methods contained in the Ocean Plan, a maximum daily effluent limitation of 205 TU_c is established in this Order and monthly monitoring is carried over from Order No. R9-2002-0025. New permit conditions for quality assurance and test review are added based on USEPA guidance for whole effluent toxicity programs.

b. Implementing provisions at Section III.C of the Ocean Plan allow for the establishment of acute toxicity testing, in addition to chronic, for ocean waste discharges with minimum initial dilution factors between 100 and 350. A performance goal for acute toxicity of 6.42 TUa is established based on "Equation 2" provided in Section III.C.3.b of the Ocean Plan. Semi-annual acute toxicity monitoring is carried over from Order No. R9-2002-0025. New permit conditions for quality assurance and test review are added based on USEPA guidance for whole effluent toxicity testing programs.

D. Final Effluent Limitations

The following tables list the effluent limitations established by Order No. R9-2009-0001. Where Order No. R9-2009-0001 establishes mass emission limitations, these limitations have been derived based on a flow of 205 MGD.

Table F-14.a. Effluent Limitations Based on CWA Sections 301(h) and (j)(5)

Effluent Constituent	Units	Annual Average	Monthly Average
TSS	% removal[1]	---	≥80
	mg/l	---	75[4]
	metric tons/year	15,000[2]	---
		13,598[3]	---
BOD5	% removal[1]	≥58	---

[1] To be calculated on a system-wide basis, as provided in Addendum No. 1 to Order No. R9-2002-0025.
[2] To be achieved on permit effective date through December 31, 2013. Applies only to TSS discharges from POTWs owned and operated by the Discharger and the Discharger's wastewater generated in the Metro System service area; does not apply to wastewater (and the resulting TSS) generated in Mexico which, as a result of upset or shutdown, is treated at and discharged from Point Loma WTP.
[3] To be achieved on January 1, 2014. Applies only to TSS discharges from POTWs owned and operated by the Discharger and the Discharger's wastewater generated in the Metro System service area; does not apply to wastewater (and the resulting TSS) generated in Mexico which, as a result of upset or shutdown, is treated at and discharged from Point Loma WTP.
[4] Based on average monthly performance data (1990 through 1994) for the Point Loma WTP provided by the Discharger for the 1995 301(h) application.

Table F-14.b. Effluent Limitations Based on Advanced Primary Treatment and Table A of the Ocean Plan

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Oil and Grease	mg/L	25	40	--	--	75
	lbs/day	42,743	68,388	---	--	128,228
Total Suspended Solids	% removal	[1]	--	--	--	--
Settleable Solids	ml/L	1.0	1.5	--	--	3.0
Turbidity	NTU	75	100	--	--	225
pH	Standard unit	--	--	--	6.0	9.0

[1] The Discharger shall, as a 30-day average, remove 75% of suspended solids from the influent stream to the Facility before discharging wastewaters to the ocean, except that the effluent limitation to be met shall not be lower than 60 mg/L.

Table F-15. Effluent Limitations Based on Table B of the Ocean Plan

Parameter	Unit	Water Quality-Based Effluent Limitations			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
BASED ON OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE					
Chronic Toxicity[1]	TUc	--	205	--	--
Total Chlorine Residual	µg/L	4.1E+02	1.6E+03	1.2E+04	--
	lbs/day	7.0E+02	2.8E+03	2.1E+04	--
Phenolic Compounds (non-chlorinated)	µg/L	6.2E+03	2.5E+04	6.2E+04	--
	lbs/day	1.1E+04	4.2E+04	1.1E+05	--
Chlorinated Phenolics	µg/L	2.1E+02	8.2E+02	2.1E+03	--
	lbs/day	3.5E+02	1.4E+03	3.5E+03	--
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS					
Chlordane[2]	µg/L	--	--	--	4.7E-03
	lbs/day	--	--	--	8.1E-03
Chlorodibromomethane	µg/L	--	--	--	1.8E+03
	lbs/day	--	--	--	3.0E+03
Chloroform	µg/L	--	--	--	2.7E+04
	lbs/day	--	--	--	4.6E+04
1,4-Dichlorobenzene	µg/L	--	--	--	3.7E+03
	lbs/day	--	--	--	6.3E+03
Dichlorobromomethane	µg/L	--	--	--	1.3E+03
	lbs/day	--	--	--	2.2E+03
Dichloromethane	µg/L	--	--	--	9.2E+04
	lbs/day	--	--	--	1.6E+05
Halomethanes[3]	µg/L	--	--	--	2.7E+04
	lbs/day	--	--	--	4.6E+04

Parameter	Unit	Water Quality-Based Effluent Limitations			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Heptachlor	µg/L	--	--	--	1.0E-02
	lbs/day	--	--	--	1.8E-02

1 Chronic toxicity is expressed as Chronic Toxicity Units (TUc) = 100/NOEL, where NOEL (No Observed Effect Level) is expressed as the maximum percent effluent that causes no observable effect on a test organism.
2 Chlordanes represent the sum of chlordane-alpha, chlordane-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.
3 Halomethanes represent the sum of bromoform, bromomethane (methyl bromide), and chloromethane (methyl chloride).

E. Performanc e Goals

Constituents that do not have reasonable potential are assigned performance goals in this Order. Performance goals serve to maintain existing treatment levels and effluent quality and support State and federal antidegradation policies. Where WQBELs have not been established in accordance with Ocean Plan RPA procedures, performance goals provide all interested parties with information regarding the Ocean Plan regulatory levels that effluent pollutants need to achieve in order to protect ocean water quality. An exceedance of a performance goal may prompt the San Diego Water Board or USEPA to re-open and amend the permit to incorporate WQBELs based on 40 CFR 122.44(d)(1), in accordance with 40 CFR 122.62.

The following table lists the performance goals established by Order No. R9-2009-0001. A minimum probable initial dilution factor of 204 was used in establishing the performance goals.

Table F-16. Performance Goals Based on the Ocean Plan.

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
BASED ON OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE					
Arsenic, Total Recoverable	µg/L	1.0E+03	5.9E+03	1.6E+04	--
	lbs/day	1.8E+03	1.0E+04	2.7E+04	--
Cadmium, Total Recoverable	µg/L	2.1E+02	8.2E+02	2.1E+03	--
	lbs/day	3.5E+02	1.4E+03	3.5E+03	--
Chromium VI, Total Recoverable[2]	µg/L	4.1E+02	1.6E+03	4.1E+03	--
	lbs/day	7.0E+02	2.8E+03	7.0E+03	--
Copper, Total Recoverable	µg/L	2.1E+02	2.1E+03	5.7E+03	--
	lbs/day	3.5E+02	3.5E+03	9.8E+03	--
Lead, Total Recoverable	µg/L	4.1E+02	1.6E+03	4.1E+03	--
	lbs/day	7.0E+02	2.8E+03	7.0E+03	--
Mercury, Total Recoverable[11]	µg/L	8.1	3.3E+01	8.2E+01	--
	lbs/day	1.4E+01	5.6E+01	1.4E+02	--
Nickel, Total Recoverable	µg/L	1.0E+03	4.1E+03	1.0E+04	--

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
	lbs/day	1.8E+03	7.0E+03	1.8E+04	--
Selenium, Total Recoverable	µg/L	3.1E+03	1.2E+04	3.1E+04	--
	lbs/day	5.3E+03	2.1E+04	5.3E+04	--
Silver, Total Recoverable	µg/L	1.1E+02	5.4E+02	1.4E+03	--
	lbs/day	1.9E+02	9.3E+02	2.4E+03	--
Zinc, Total Recoverable	µg/L	2.5E+03	1.5E+04	3.9E+04	--
	lbs/day	4.2E+03	2.5E+04	6.7E+04	--
Cyanide, Total Recoverable[3]	µg/L	2.1E+02	8.2E+02	2.1E+03	--
	lbs/day	3.5E+02	1.4E+03	3.5E+03	--
Ammonia (expressed as nitrogen)	µg/L	1.2E+05	4.9E+05	1.2E+06	--
	lbs/day	2.1E+05	8.4E+05	2.1E+06	--
Acute Toxicity	TUa	NA	6.42	NA	--
Endosulfan[10]	µg/L	1.8	3.7	5.5	--
	lbs/day	3.2	6.3	9.5	--
Endrin	µg/L	0.41	0.82	1.2	--
	lbs/day	0.7	1.4	2.1	--
HCH[4]	µg/L	0.82	1.6	2.5	--
	lbs/day	1.4	2.8	4.2	--
Radioactivity	pci/l	Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30253 of the California Code of Regulations, Reference to Section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.			
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – NONCARCINOGENS					
Acrolein	µg/L	--	--	--	4.5E+04
	lbs/day	--	--	--	7.7E+04
Antimony	µg/L	--	--	--	2.5E+05
	lbs/day	--	--	--	4.2E+05
Bis(2-chloroethoxy) Methane	µg/L	--	--	--	9.0E+02
	lbs/day	--	--	--	1.5E+03
Bis(2-chloroisopropyl) ether	µg/L	--	--	--	2.5E+05
	lbs/day	--	--	--	4.2E+05
Chlorobenzene	µg/L	--	--	--	1.2E+05
	lbs/day	--	--	--	2.0E+05
Chromium (III), Total Recoverable[2]	µg/L	--	--	--	3.9E+07
	lbs/day	--	--	--	6.7E+07
Di-n-butyl Phthalate	µg/L	--	--	--	7.2E+05
	lbs/day	--	--	--	1.2E+06
Dichlorobenzenes[5]	µg/L	--	--	--	1.0E+06

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
	lbs/day	--	--	--	1.8E+06
Diethyl Phthalate	µg/L	--	--	--	6.8E+06
	lbs/day	--	--	--	1.2E+07
Dimethyl Phthalate	µg/L	--	--	--	1.7E+08
	lbs/day	--	--	--	2.9E+08
4,6-dinitro-2-methylphenol	µg/L	--	--	--	4.5E+04
	lbs/day	--	--	--	7.7E+04
2,4-dinitrophenol	µg/L	--	--	--	8.2E+02
	lbs/day	--	--	--	1.4E+03
Ethylbenzene	µg/L	--	--	--	8.4E+05
	lbs/day	--	--	--	1.4E+06
Fluoranthene	µg/L	--	--	--	3.1E+03
	lbs/day	--	--	--	5.3E+03
Hexachlorocyclopentadiene	µg/L	--	--	--	1.2E+04
	lbs/day	--	--	--	2.0E+04
Nitrobenzene	µg/L	--	--	--	1.0E+03
	lbs/day	--	--	--	1.7E+03
Thallium, Total Recoverable	µg/L	--	--	--	4.1E+02
	lbs/day	--	--	--	7.0E+02
Toluene	µg/L	--	--	--	1.7E+07
	lbs/day	--	--	--	3.0E+07
Tributyltin	µg/L	--	--	--	2.9E-01
	lbs/day	--	--	--	4.9E-01
1,1,1-trichloroethane	µg/L	--	--	--	1.1E+08
	lbs/day	--	--	--	1.9E+08
BASED ON OBJECTIVES FOR PROTECTION OF HUMAN HEALTH - CARCINOGENS					
Acrylonitrile	µg/L	--	--	--	21
	lbs/day	--	--	--	35
Aldrin	µg/L	--	--	--	4.5E-03
	lbs/day	--	--	--	7.7E-03
Benzene	µg/L	--	--	--	1.2E+03
	lbs/day	--	--	--	2.1E+03
Benzidine	µg/L	--	--	--	1.4E-02
	lbs/day	--	--	--	2.4E-02
Beryllium	µg/L	--	--	--	6.8
	lbs/day	--	--	--	1.2E+01
Bis(2-chloroethyl) Ether	µg/L	--	--	--	9.2
	lbs/day	--	--	--	1.6E+01

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Bis(2-ethlyhexyl) Phthalate	µg/L	--	--	--	7.2E+02
	lbs/day	--	--	--	1.2E+03
Carbon Tetrachloride	µg/L	--	--	--	1.8E+02
	lbs/day	--	--	--	3.2E+02
DDT[6]	µg/L	--	--	--	3.5E-02
	lbs/day	--	--	--	6.0E-02
3,3'-dichlorobenzidine	µg/L	--	--	--	1.7
	lbs/day	--	--	--	2.8
1,2-dichloroethane	µg/L	--	--	--	5.7E+03
	lbs/day	--	--	--	9.8E+03
1,1-dichloroethylene	µg/L	--	--	--	1.8E+02
	lbs/day	--	--	--	3.2E+02
1,3-dichloropropene	µg/L	--	--	--	1.8E+03
	lbs/day	--	--	--	3.1E+03
Dieldrin	µg/L	--	--	--	8.2E-03
	lbs/day	--	--	--	1.4E-02
2,4-dinitrotoluene	µg/L	--	--	--	5.3E+02
	lbs/day	--	--	--	9.1E+02
1,2-diphenylhydrazine	µg/L	--	--	--	3.3E+01
	lbs/day	--	--	--	5.6E+01
Heptachlor Epoxide	µg/L	--	--	--	4.1E-03
	lbs/day	--	--	--	7.0E-03
Hexachlorobenzene	µg/L	--	--	--	4.3E-02
	lbs/day	--	--	--	7.4E-02
Hexachlorobutadiene	µg/L	--	--	--	2.9E+03
	lbs/day	--	--	--	4.9E+03
Hexachloroethane	µg/L	--	--	--	5.1E+02
	lbs/day	--	--	--	8.8E+02
Isophorone	µg/L	--	--	--	1.5E+05
	lbs/day	--	--	--	2.6E+05
N-nitrosodimethylamine	µg/L	--	--	--	1.5E+03
	lbs/day	--	--	--	2.6E+03
N-nitrosodi-N-propylamine	µg/L	--	--	--	7.8E+01
	lbs/day	--	--	--	1.3E+02
N-nitrosodiphenylamine	µg/L	--	--	--	5.1E+02
	lbs/day	--	--	--	8.8E+02
PAHs[7]	µg/L	--	--	--	1.8
	lbs/day	--	--	--	3.1

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
PCBs[8]	µg/L	--	--	--	3.9E-03
	lbs/day	--	--	--	6.7E-03
TCDD equivalents[9]	µg/L	--	--	--	8.0E-07
	lbs/day	--	--	--	1.4E-06
1,1,2,2-tetrachloroethane	µg/L	--	--	--	4.7E+02
	lbs/day	--	--	--	8.1E+02
Tetrachloroethylene	µg/L	--	--	--	4.1E+02
	lbs/day	--	--	--	7.0E+02
Toxaphene	µg/L	--	--	--	4.3E-02
	lbs/day	--	--	--	7.4E-02
Trichloroethylene	µg/L	--	--	--	5.5E+03
	lbs/day	--	--	--	9.5E+03
1,1,2-trichloroethane	µg/L	--	--	--	1.9E+03
	lbs/day	--	--	--	3.3E+03
2,4,6-trichlorophenol	µg/L	--	--	--	5.9E+01
	lbs/day	--	--	--	1.0E+02
Vinyl Chloride	µg/L	--	--	--	7.4E+03
	lbs/day	--	--	--	1.3E+04

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

2 Dischargers may, at their option, meet this limitation (or apply this performance goal) as a total chromium limitation (or performance goal).

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

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

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

6 DDD (dichlorodiphenyldichloroethane), DDE (dichlorodiphenyldichloroethylene), and DDT (dichlorodiphenyltrichloroethane) represent the sum of 4,4'DDT; 2,4'DDT; 4,4'DDE; 2,4'DDE; 4,4'DDD; and 2,4'DDD.

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

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

[9] TCDD equivalents represent the sum of concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown by the table below. USEPA Method 1613 shall be used to analyze TCDD equivalents.

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

[10] Endosulfan shall mean the sum of alpha-endosulfan, beta-endosulfan, and endosulfan sulfate.
[11] USEPA Method 1631E, with a quantitation level of 0.5 ppt (0.5 ng/L), shall be used to analyze total mercury.

1. Satisfaction of Anti-Backsliding Requirements

The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, with the exception of the parameters summarized in Table F-16, for which performance goals have been established in the place of effluent limitations.

Effluent limitations from Order No. R9-2002-0025 are not retained for constituents where RPA results indicated Endpoint 2 or Endpoint 3; instead, performance goals have been established for these constituents. In the 1995 and 2003 permits, WQBELs for Table B constituents were established using Ocean Plan procedures in effect at that time. CWA 402(o)(2) allows relaxation of WQBELs in certain situations, but does not apply to "new information" that includes revised regulations. Moreover, new information can only be used when the revised WQBELs will result in a net reduction in pollutant loading. Relaxation of WQBELs can be authorized under CWA Sections 402(o)(1)/303(d)(4) for attainment waters, but only if consistent with antidegradation policies and existing Ocean Plan WQS are protected (CWA Section 402(o)(3)).

The MRP for this Order is designed to obtain additional information to determine if reasonable potential exists for these constituents and assist in the demonstration and evaluation of CWA Section 301(h) criteria.

This permit complies with all applicable statutory and regulatory federal and State anti-backsliding requirements.

2. Satisfaction of Antidegradation Policy

Waste Discharge Requirements for the Discharger must conform with federal and State antidegradation policies provided at 40 CFR 131.12 and in State Water Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California.* These antidegradation policies require beneficial uses and the water quality necessary to maintain those uses to be maintained and protected in waters receiving the discharge. Moreover, if existing water quality is better than the quality required to maintain beneficial uses, then existing water quality must be maintained and protected, unless the San Diego Water Board determines that allowing a lowering of existing water quality is necessary to accommodate important economic and social development, or consistent with maximum benefit to the people of California. Satisfaction of these policies is explained, below.

a. The Technology-based Effluent Limitations

The effluent limitations based on CWA Sections 301(h) and (j)(5) and technology-based effluent limitations taken from Ocean Plan Table A requirements are as stringent as those in the previous permit and no lowering of existing water quality is expected beyond the zone of initial dilution, consistent with applicable water quality standards.

b. Water Quality-based Effluent Limitations

The water quality-based effluent limitations contained in this Order have been modified from previous NPDES permits for the Discharger, including Order No. R9-2002-0025, due removal of effluent limitations after a RPA. In accordance with the State Water Board's Administrative Procedures Update, the San Diego Water Board assessed the potential impact of the modified effluent limitations on existing water quality and the need for an antidegradation analysis as follows:

i. PLOO Initial Dilution Factor

As discussed elsewhere in this Fact Sheet, the initial dilution factor of 204, Dm, was carried over for this permit renewal.

ii. Removal of Effluent Limitations after a RPA

Although the 1995 and 2003 permits included WQBELs for all Ocean Plan Table B constituents, following Ocean Plan procedures in place at the time, this permit only includes WQBELs for those Table B constituents found to cause, have the reasonable potential to cause, or contribute to an excursion above water quality standards, in accordance with 40 CFR 122.44(d) and RPA procedures in the 2006 Ocean Plan. For Table B constituents without WQBELs, this permit includes performance goals which will indicate the levels of discharge that protect water quality standards. The removal of WQBELs is not expected to cause a change in the chemical nature of the effluent discharge, impact beneficial uses, or lower existing receiving water quality.

Coupled with the inclusion of performance goals, toxics mass emission benchmarks from previous permits, and retention of the monitoring and reporting program, existing water quality is expected to be maintained by the discharge. For these reasons, the San Diego Water Board has determined that an antidegradation analysis is not needed.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD_5, TSS, oil and grease, settleable solids, turbidity, and pH. Restrictions on these pollutants are discussed in Section IV.B of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. These limitations are not more stringent than required by the CWA.

Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. The scientific procedures for calculating individual water quality-based effluent limitations are taken from the Ocean Plan which was approved by USEPA on February 14, 2006. All beneficial uses and water quality objectives contained in the Basin Plan were approved under State law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR 131.21(c)(1). The limitations and restrictions on individual parameters are not more stringent than required by the CWA.

F. Toxic Mass Emission Benchmarks

Order No. 95-106 and Order No. R9-2002-0025 contained toxics mass emission benchmarks for effluent discharged through the PLOO. These benchmarks were established to address the uncertainty due to projected increases in toxic pollutant loadings from the Point Loma WTP to the marine environment during the 5-year 301(h) variance, and to establish a framework for evaluating the need for an antidegradation analysis to determine compliance with water quality standards at the time of permit reissuance. The benchmarks contained in Order No. R9-2002-0025 are retained for this permit.

The annual mass emission benchmarks for the 1995 permit were determined using 1990 through April 1995 n-day average monthly performance (95th percentile) of the Point Loma WTP and the Discharger's projected end-of-permit effluent flow of 205 MGD for the 1995 301(h) application. For the 2003 permit, mass emission benchmarks for copper and selenium were recalculated using the 1994 n-day average monthly performance (95th percentile) and 205 MGD and the mass emission benchmark for

cyanide was corrected. Average monthly performance was calculated as outlined in Appendix E of *Technical Support Document for Water Quality-based Toxics Control* (EPA/5005/2-90-001, 1991; TSD).

These mass emission benchmarks are not water quality-based effluent limitations and are not enforceable, as such. The mass emission threshold values may be re-evaluated and modified during the permit term, or the permit may be modified to incorporate water quality-based effluent limits, in accordance with the requirements set forth at 40 CFR 122.62 and 124.5. The following effluent mass emission benchmarks for toxic and carcinogenic materials apply to the undiluted effluent from Point Loma WTP discharged to the PLOO:

Table F-17. Effluent Mass Emission Benchmarks

Effluent Constituent	Units	Annual Mass Emission
Arsenic	mt/yr	0.88
Cadmium	mt/yr	1.4
Chromium (hexavalent)	mt/yr	14.2
Copper	mt/yr	26
Lead	mt/yr	14.2
Mercury[10]	mt/yr	0.19
Nickel	mt/yr	11.3
Selenium	mt/yr	0.44
Silver	mt/yr	2.8
Zinc	mt/yr	18.3
Cyanide[1]	mt/yr	1.57
Ammonia (as N)	mt/yr	8018
Phenolic compounds (non-chlorinated)	mt/yr	2.57
Chlorinated phenolics	mt/yr	1.73
Endosulfan[9]	mt/yr	0.006
Endrin	mt/yr	0.008
HCH[2]	mt/yr	0.025
Acrolein	mt/yr	17.6
Antimony	mt/yr	56.6
Bis(2-chloroethoxy) methane	mt/yr	1.5
Bis(2-chloroisopropyl) ether	mt/yr	1.61
Chlorobenzene	mt/yr	1.7
Di-n-butyl phthalate	mt/yr	1.33
Dichlorobenzenes[3]	mt/yr	2.8
Diethyl phthalate	mt/yr	6.23
Dimethyl phthalate	mt/yr	1.59
4,6-dinitro-2-methylphenol	mt/yr	6.8
2,4-dinitrophenol	mt/yr	11.9
Ethylbenzene	mt/yr	2.04
Flouranthene	mt/yr	0.62
Nitrobenzene	mt/yr	2.07
Thallium	mt/yr	36.8
Toluene	mt/yr	3.31
Tributyltin	mt/yr	0.001

Effluent Constituent	Units	Annual Mass Emission
1,1,1-trichloroethane	mt/yr	2.51
Acrylonitrile	mt/yr	5.95
Aldrin	mt/yr	0.006
Benzene	mt/yr	1.25
Benzidine	mt/yr	12.5
Beryllium	mt/yr	1.42
Bis(2-chloroethyl) ether	mt/yr	1.61
Bis(2-ethylhexyl) phthalate	mt/yr	2.89
Carbon tetrachloride	mt/yr	0.79
Chlordane[5]	mt/yr	0.014
Chloroform	mt/yr	2.19
DDT[4]	mt/yr	0.043
1,4-dichlorobenzene	mt/yr	1.25
3,3'-dichlorobenzidine	mt/yr	4.67
1,2-dichloroethane	mt/yr	0.79
1,1-dichloroethylene	mt/yr	0.79
Dichloromethane	mt/yr	13.7
1,3-dichloropropene	mt/yr	1.42
Dieldrin	mt/yr	0.011
2,4-dinitrotoluene	mt/yr	1.61
1,2-diphenylhydrazine	mt/yr	1.52
Halomethanes[6]	mt/yr	5.86
Heptachlor	mt/yr	0.001
Heptachlor epoxide	mt/yr	0.024
Hexachlorobenzene	mt/yr	0.54
Hexachlorobutadiene	mt/yr	0.54
Hexachloroethane	mt/yr	1.13
Isophorone	mt/yr	0.71
N-nitrosodimethylamine	mt/yr	0.76
N-nitrosodiphenylamine	mt/yr	1.47
PAHs[7]	mt/yr	15.45
PCBs[8]	mt/yr	0.275
1,1,2,2-tetrachloroethane	mt/yr	1.95
Tetrachloroethylene	mt/yr	4
Toxaphene	mt/yr	0.068
Trichloroethylene	mt/yr	1.56
1,1,2-trichloroethane	mt/yr	1.42
2,4,6-trichlorophenol	mt/yr	0.96
Vinyl chloride	mt/yr	0.4

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

[2] HCH (hexachlorocyclohexane) represents the sum of the alpha, beta, gamma (lindane), and delta isomers of hexachlorocyclohexane.

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

[4] DDD (dichlorodiphenyldichloroethane), DDE (dichlorodiphenyldichloroethylene), and DDT (dichlorodiphenyltrichloroethane) represent the sum of 4,4'DDT; 2,4'DDT; 4,4'DDE; 2,4'DDE; 4,4'DDD; and 2,4'DDD.

[5] Chlordanes represent the sum of chlordane-alpha, chlordane-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

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

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

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

[9] Endosulfan shall mean the sum of alpha-endosulfan, beta-endosulfan, and endosulfan sulfate.

[10] USEPA Method 1631E, with a quantitation level of 0.5 ppt (0.5 ng/L), shall be used to analyze total mercury

G. Interim Effluent Limitations – Not Applicable

H. Land Discharge Specifications – Not Applicable

I. Reclamation Specifications – Not Applicable

V. R ATIONALE FOR RECEIVING WATER LIMITATIONS

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

Receiving water limits for enterococcus in ocean waters beyond the outer limit of the territorial seas are based on CWA Section 304(a) water quality criteria and must be achieved beyond the zone of initial dilution in areas where primary contact recreation, as defined in USEPA guidance, occurs. USEPA describes the "primary contact recreation" use as protective when the potential for ingestion of, or immersion in, water is likely. Activities usually include swimming, water-skiing, skin-diving, surfing, and other activities likely to result in immersion. (*Water Quality Standards Handbook*, EPA-823-B-94-005a, 1994, p. 2-2.) The nature and extent of primary contact recreational use in federal waters is noted and reported during offshore monitoring.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code Sections 13267 and 13383 authorizes the San Diego Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and State requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring

Influent monitoring is required to determine the effectiveness of pretreatment and non-industrial source control programs, to assess the performance of treatment facilities, and to evaluate compliance with effluent limitations.

Influent monitoring requirements have been carried over from the previous Order.

B. Effluent Monitoring

Effluent monitoring is required to determine compliance with the permit conditions and to identify operational problems and improve plant performance. Effluent monitoring also provides information on wastewater characteristics and flows for use in interpreting water quality and biological data.

Effluent monitoring requirements have been carried over from the previous Order. In addition, weekly monitoring for total coliform, fecal coliform, and enterococcus has been established to determine if the effluent is contributing to exceedances of water quality objectives for these parameters. Further, continuous monitoring for total residual chlorine has been established due to the Facility's plans to implement chlorination.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity testing (acute and chronic) have been established to determine compliance with the effluent limitation for chronic toxicity, and the performance goal for acute toxicity.

D. Receiving Water Monitoring

1. Core Monitoring Program for Surface Water

A monitoring program at the current discharge site has existed since 1991 and has focused on physical, chemical, and biological patterns in the region. The monitoring program underwent significant revision in 2003 to reallocate the level of effort that was in place at the time, in order to address crucial processes not addressed by earlier monitoring programs and provide a regional framework for interpreting discharge-related effects. The existing monitoring program reflects the principles expressed in the "Model Monitoring Program for Large Ocean Dischargers in Southern California" (SCCWRP, 2002). Since 2003, the following three components have constituted the Discharger's receiving water monitoring program: (1) Core Monitoring; (2) Strategic Process Studies; and (3) Regional Monitoring. These three components are needed to evaluate compliance with the permit, federal 301(h) decision criteria, and State water quality standards; and to assess the effects of the discharge on the marine environment.

There are five components to the Core Monitoring Program: general water quality monitoring; bacteriological monitoring of shoreline, kelp bed, and offshore waters; sediment monitoring for grain size, chemistry, and benthic infauna community

structure; monitoring for fish and megabenthic invertebrate communities, and contaminant body burdens of fishes; and monitoring of kelp bed canopy cover.

a. General Water Quality

The offshore and kelp bed water quality sampling program is designed to help evaluate the fate of the wastewater plume under various conditions and to determine if the water quality objectives contained in the Ocean Plan are being achieved in the receiving water.

Salinity, temperature, density, pH, transmissivity, dissolved oxygen, and chlorophyll a are monitored throughout the entire water column quarterly at 36 offshore stations and five times per month at eight kelp bed stations. Ammonium is monitored at those stations which are located within State jurisdictional waters, on a quarterly basis and at the same discrete depths specified for bacterial monitoring.

General water quality monitoring requirements have been carried over from the previous Order.

b. Microbiological

Bacteria indicator sampling is required to help track the wastewater plume in federal and State offshore waters and evaluate compliance with recreational water quality standards in State waters within three nautical miles of the shoreline. In federal and State offshore waters, the nature and extent of primary contact recreational use in federal waters is noted and reported. A grid of 36 offshore stations is monitored quarterly for enterococcus. Eight kelp bed stations and eight shoreline stations are monitored five times per month for enterococcus, total coliform, and fecal coliform. At offshore and kelp bed stations, these parameters are monitored in the water column at fixed intervals. At shoreline stations, these parameters are monitored in the surf zone using grab samples.

General microbiological monitoring requirements have been carried over from the previous Order.

c. Sediment

The physical and chemical properties of sediments and the biological communities that live in or on these sediments are monitored to evaluate potential effects of the PLOO discharge and compliance with narrative water quality standards in the Ocean Plan. The core sediment monitoring program is designed to assess spatial and temporal trends. A core set of 12 to 22 stations are monitored twice each year, in January and July, using grab samples. Twelve primary stations are located along the 98-meter depth contour and 10 secondary stations are located along the 88-meter and 116-meter depth contours. The requirement for sampling at the secondary stations can be relaxed by the San

Diego Water Board and USEPA to allow the Discharger to participate in Bight-wide regional monitoring efforts. For sediment chemistry, monitored parameters include sediment grain size, metals, PCBs and chlorinated pesticides, and PAHs. Benthic community structure is evaluated using separate grab samples, in January and July.

General sediment monitoring requirements have been carried over from the previous Order.

d. Fish and Invertebrate

Epibenthic trawls at four trawl zone stations are used to assess the structure of demersal fish and megabenthic invertebrate communities and to evaluate compliance with narrative water quality standards in the Ocean Plan. Chemical analyses of fish tissues are performed annually on target species collected at or near the four trawl and two rig fishing stations. Species targeted for analysis are selected based on their ecological and/or commercial importance. Liver tissue is monitored at trawl stations to assess general fish health. Muscle tissue is monitored at rig fishing stations to assess the uptake of pollutants in fish species commonly consumed by humans in the region. Fish tissues are monitored for lipids, metals, PCBs, and chlorinated pesticides.

General fish and invertebrate monitoring has been carried over from the previous Order.

e. Kelp Bed Canopy

Annual kelp bed surveys are intended to assess the extent to which the discharge of wastes may affect the aerial extent and health of coastal kelp beds. This monitoring effort is conducted with other ocean dischargers in the San Diego Region and covers the entire San Diego Region coastline, from the international boundary to the San Diego Region/Santa Ana Region boundary. In each annual survey, the aerial extent of the various kelp beds are photographed and compared to previous surveys; further investigation is required if significant losses are observed to persist for more than one year.

Kelp bed monitoring has been carried over from the previous Order.

E. Strategic Process Studies and Regional Monitoring Requirements

In addition to Core Monitoring activities, the Discharger is required to conduct Strategic Process Studies and participate in Regional Monitoring activities coordinated by the Southern California Coastal Water Research Project (SCCWRP).

Strategic Process Studies are an integral part of the permit monitoring program and differ from other elements of the monitoring program (e.g., core monitoring, regional monitoring, other permit special studies). They are intended to be short-term and are

designed to address specific research or management issues related to receiving water monitoring that are not addressed by core and regional monitoring elements. The scope of special studies is determined by the Discharger, in coordination with the San Diego Water Board Executive Officer and USEPA. Each year, the Discharger is required to submit proposals for strategic process studies for the following year's effort. Detailed scopes of work for each study are provided by the Discharger and approved by the Executive Officer and USEPA, prior to study implementation.

The intent of Regional Monitoring activities is to maximize the efforts of all monitoring partners using a more cost-effective monitoring design and best utilize the pooled scientific resources of the region. During these coordinated large-scale sampling efforts, the Discharger's sampling and analytical effort may be reallocated to provide a regional assessment of the impact of the discharge of municipal wastewater to the Southern California Bight. Anticipated modifications to the monitoring program will be coordinated so as to provide a more comprehensive picture of the ecological and statistical significance of monitoring results and determine cumulative impacts of various pollution sources. Under previous permits, the Discharger participated in regional monitoring efforts in 1994, 1998, 2003, and 2008. The Discharger provides its level of effort for Regional Monitoring for Executive Officer and USEPA approval, following the procedures and schedule established for approval of Strategic Process Studies.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

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

40 CFR 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits and must be incorporated into a permit either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the permit. 40 CFR 123.25(a)(12) allows the State to omit or modify federal provisions to impose more stringent State requirements. In accordance with 40 CFR 123.25(a)(12), the State-issued permit omits provisions at 40 CFR 122.41(j)(5) and 40 CFR 122.41(k)(2); in lieu of these provisions, the State permit references California Water Code section 13387(e) because enforcement under the Water Code is the more stringent requirement. However standard provisions at 40 CFR 122.41(j)(5) and 40 CFR 122.41(k)(2) are incorporated into the federal permit as standard provisions VI.D and VI.E.

B. Special Provisions

1. Re-opener Provisions

Order No. R9-2009-0001 may be re-opened and modified, revoked and reissued, or terminated, in accordance with 40 CFR Parts 122, 123, 124, and 125. The San Diego Water Board and USEPA may re-open the permit to modify conditions or

requirements. Causes for modification include, but are not limited to, promulgation of new regulations by the State Water Board, San Diego Water Board, or USEPA, and revisions to the Basin Plan. Also, specific re-opener conditions are contained in the permit (e.g., for whole effluent toxicity, toxics mass emission benchmarks, regional monitoring, antidegradation, etc.).

2. Special Studies and Additional Monitoring Requirements

a. Whole Effluent Toxicity (WET)

i. Implementing provisions at Section III.C of the Ocean Plan require chronic toxicity monitoring for ocean waste discharges with minimum initial dilution factors between 100 and 350. In addition, the RPA results for this discharge show that the effluent has the reasonable potential to exceed the water quality objective for chronic toxicity. On May 4, 2003 chronic toxicity tests exceeded the existing permit limit of 205 TUc. Based on procedures in the Ocean Plan, a maximum daily limit of 205 TUc is established in the Order and monthly monitoring is carried over from the previous permit.

ii. Implementing provisions at Section III.C of the Ocean Plan allow for the establishment of acute toxicity monitoring, in addition to chronic, for ocean waste discharges with minimum initial dilution factors between 100 and 350. A performance goal for acute toxicity of 6.42 TUa is established based on "Equation 2" in Section III.C.3.b of the Ocean Plan. Semi-annual acute toxicity monitoring is carried over from the previous permit.

iii. Th e previous permit required the Discharger to submit a Toxicity Reduction Evaluation (TRE) workplan to the San Diego Water Board and USEPA, 180 days after the permit effective date. This Order requires the Discharger to maintain an up-to-date TRE workplan and to submit an updated workplan to the San Diego Water Board and USEPA, 90 days after the effective date of this Order. The TRE workplan describes steps the Discharger intends to follow if the effluent limitation for chronic toxicity (205 TUc) or the performance goal for acute toxicity (6.42 TUa) is exceeded.

iv. Similar to the existing permit, this Order provides for accelerated toxicity testing upon an exceedance of the chronic toxicity effluent limit, or an excursion above the acute toxicity performance goal. If toxicity is observed in any of the additional toxicity tests, the Discharger is required to conduct a TRE/TIE, as directed by the San Diego Water Board Executive Officer or USEPA.

b. Antidegradation Analysis

In the 1995 and 2003 permits, USEPA and the San Diego Water Board established annual mass based performance goals for Ocean Plan Table B parameters based on Point Loma WTP effluent data from 1990 through April

1995. For most Table B parameters, the numerical benchmarks are set below the levels prescribed for water quality based effluent limits. The benchmarks are designed to provide an early measure of changes in effluent quality which may substantially increase the mass of toxic pollutants discharged to the marine environment. Consistent with State and federal antidegradation policies, these benchmarks are intended to serve as triggers for antidegradation analyses during renewal of the permit.

Under 40 CFR 131.12, State antidegradation polices and implementation practices must ensure that: (1) existing uses and the level of water quality necessary to protect such uses are maintained and protected (Tier I requirement); and (2) where water quality is better than necessary to support the propagation of fish, shellfish, and wildlife and recreation in and on the water, the level of water quality shall be maintained and protected unless the permitting authority finds that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located; existing uses are fully protected; and the highest statutory and regulatory requirements are achieved for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control (Tier II requirement).

An analysis of compliance with the mass emission benchmarks in the existing permit is presented in Volume II, Part 3, of the application. During 2002 through 2006, the City achieved compliance with all benchmarks except for phenol (2.57 MT/yr) which was exceeded by about eight percent. Phenol is regularly detected in the Point Loma WTP effluent. According to the Discharger, phenol is a common chemical used in industrial and non-industrial applications as solvents, disinfectants and cleaning compounds; it is also a constituent in paints, inks, and photographic chemicals. Phenol has a variety of household uses including medical and household disinfectants, pharmaceuticals, solvents and cleaners, paints, inks, and photo supplies. It is identified by the Discharger as a pollutant of concern, but does not have an existing local pretreatment limit. Industrial discharges of phenols to the sewer system are regulated by the City. Federal categorical industrial dischargers, hospitals, and laboratories are regulated by the applicant's "toxic organic management plans". Electroplating and metal finishing industries are regulated by federal total toxic organics limits. The Discharger states that these existing practices are effective in limiting industrial discharges of phenol from electroplating and metal finishing industries, hospitals, laboratories, and other significant industrial users.

Point Loma WTP influent and effluent data presented in Table 2-5, in Volume II, Part 3, of the application, demonstrate that the upward trend in phenol mass emissions is consistent and not an artifact of a few high concentrations in a limited number of samples. Historical annual average mass emissions for phenol are: 2.2 MT/yr (1990-1995), 3.3 MT/yr (1996-2001), and 2.7 MT/yr (2002-2006). During these periods, the average percent removal for phenol has improved: 17 percent (1990-1995), 20 percent (1996-2001), and 27 percent (2002-2006).

During these periods, the average concentrations for phenol in the effluent are: 8.2 ug/l (1990-1995), 13.4 ug/l (1996-2001), and 11.5 ug/l (2002-2006). The Discharger has not requested changes to the mass emission benchmark or the water quality based effluent limits for phenolic compounds in the existing permit.

Based on this information, USEPA and the San Diego Water Board have concluded that a full antidegradation analysis justifying the continued increase in effluent loading of phenolic compounds (non-chlorinated) to a Tier II waterbody may be necessary. For phenolic compounds (non-chlorinated), the Discharger shall conduct a thorough analysis of the projected effluent load above the mass emission benchmark level, the resulting impact to receiving water quality of the total effluent load, and opportunities for effluent load reduction through additional treatment or controls and pollution prevention. If this analysis shows that the total effluent load for phenolic compounds (non-chlorinated) produces either (1) a receiving water concentration at the boundary of the zone of initial dilution that is less than ten percent above the ambient (farfield) concentration, or (2) the receiving water concentration at the boundary of the zone of initial dilution is less than 50 percent of the Ocean Plan water quality objectives for phenolic compounds (non-chlorinated), then the resulting impact to water quality is not considered "significant" and further analysis is not required at this time. However, if the change in receiving water quality is found to be "significant" upon review by USEPA and the San Diego Water Board, then the Discharger must conduct a socioeconomic analysis considering the full benefits and costs of the increased effluent loading of phenolic compounds (non-chlorinated), including environmental impacts.

3. Best Management Practices and Pollution Prevention – Not Applicable

4. Construction, Operation, and Maintenance Specifications – Not Applicable

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Treatment Plant Capacity

Order No. R9-2009-0001 establishes a requirement for a treatment plant capacity study which serves as an indicator to the San Diego Water Board and USEPA of the Facility's hydraulic capacity and potential growth in the service area.

b. Biosolids. The use and disposal of biosolids is regulated under federal and State laws and regulations at 40 CFR 503. This permit incorporates biosolids requirements under 40 CFR 503. USEPA, not the San Diego Water Board, will oversee compliance with 40 CFR 503.

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

c. Pretreatment Requirements

CWA Section 307 and 40 CFR 403 establish pretreatment requirements for publicly-owned treatment works which receive pollutants from non-domestic users. This Order contains pretreatment program requirements pursuant to 40 CFR 403 that are applicable to the Discharger. Also, the Order incorporates conditions for implementing urban area pretreatment program requirements under CWA Section 301(h) and 40 CFR 125.

d. Collection System. The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ (General Order) on May 2, 2006. The General Order requires public agencies that own or operate sanitary sewer systems with greater than one mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs), among other requirements and prohibitions.

Furthermore, the General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. Inasmuch that the Discharger's collection system is part of the publicly-owned treatment works or Facility that is subject to this Order, certain standard provisions are applicable as specified in Provisions, Section VI.C.5. For instance, the 24-hour reporting requirements in this Order are not included in the General Order. The Discharger must comply with both the General Order and this Order. The Discharger and public agencies that are discharging wastewater into the facility were required to obtain enrollment for regulation under the General Order by December 1, 2006.

6. Other Special Provisions

a. Continuous Monitoring of Residual Chlorine. On November 13, 2007, the Discharger requested the ability to use sodium hypochlorite for effluent disinfection to ensure compliance with applicable State water quality standards for bacteria indicators. To ensure compliance with WQBELs for total chlorine residual, continuous monitoring is required. Within 180 days of the effective date of this permit, the Discharger shall begin continuous monitoring for total chlorine residual. Until that time, at least four grab samples per day, representative of the daily discharge, shall be collected immediately prior to entering the PLOO and analyzed for total chlorine residual.

7. Compliance Schedules - Not Applicable

VIII. PUBLIC PARTICIPATION

The San Diego Water Board and USEPA Region IX are jointly issuing a notice of proposed actions under the Clean Water Act and Division 7 of the California Water Code, and regulations thereunder. The San Diego Water Board and USEPA are proposing to jointly

reissue Waste Discharge Requirements and an NPDES permit to the City of San Diego for the E.W. Blom Point Loma Metropolitan Wastewater Treatment Plant. The NPDES permit and Waste Discharge Requirements are based on a variance from federal secondary treatment standards at 40 CFR 133, as provided for improved discharges under CWA Section 301(h) and 40 CFR 125, Subpart G. The San Diego Water Board's participation in the reissuance of a 301(h)-modified NPDES permit will ensure that all applicable State water quality standards are satisfied, and as such, the San Diego Water Board intends that issuance of the permit with USEPA will serve as its certification of the federal permit under CWA Section 401. The San Diego Water Board and USEPA encourage public participation in this reissuance process.

A. Notification of Interested Parties

The San Diego Water Board and USEPA have notified the Discharger, interested agencies, and the public of the proposed actions, joint public hearing, and the opportunity to provide comments. Notification was provided through the San Diego Union Tribune on December 5, 2008.

B. Written Comments

The proposed actions are tentative. Beginning December 5, 2008, interested persons are invited to submit written comments concerning the Administrative Record, including the draft Order and 301(h)-modified NPDES permit and fact sheet, comments received, 301(h) permit application and ROWD, USEPA's 301(h) Tentative Decision Document, and other relevant documents. Interested persons may submit written comments during the public comment period, either in person or by mail, to the San Diego Water Board and USEPA addresses, below:

Executive Officer
San Diego Regional Water Quality Control Board
Regional Board Meeting Room
9174 Sky Park Court, Suite 100
San Diego, California

Robyn Stuber
U.S. Environmental Protection Agency, Region IX
NPDES Permits Office (WTR-5)
75 Hawthorne Street
San Francisco, CA 94105

To facilitate consideration by the San Diego Water Board and USEPA at the public hearing, written comments should be received at the San Diego Water Board and USEPA offices by 5:00 p.m., on January 7, 2009. All written comments must be received by 5:00 p.m., on January 28, 2009.

C. Public Hearing

The San Diego Water Board and USEPA will conduct a joint public hearing on these proposed actions during the Board meeting on the following date, time, and location:

Date:	**January 21, 2009**
Time:	**9:00 a.m.**
Location:	**San Diego Regional Water Quality Control Board** **9174 Sky Park Court, Suite 100** **San Diego, California**

Interested persons are invited to attend. At the joint public hearing, the San Diego Water Board and USEPA Hearing Officer will hear testimony on the proposed actions. Although oral testimony will be heard, for record accuracy, important testimony should be in writing.

The San Diego Water Board will not be acting on the NPDES permit at the January 21, 2009 hearing, but will formally act on the tentative Order at a subsequent Board meeting. Upon issuance of the final Order and 301(h)-modified NPDES permit decision and response to comments, the San Diego Water Board and USEPA will notify the Discharger and persons who submitted written comments, or requested notice of the final decision.

Please be aware that dates and venues may change. The San Diego Water Board's Web address is http:/www.swrcb.ca.gov/rwqcb9 where the current agenda for changes in Board meeting dates and locations can be accessed.

D. Information and Copying

The documents, above, are available for public inspection at the San Diego Water Board and USEPA office locations, Monday through Friday, between 8:30 a.m. and 4:30 p.m. Copying of documents may be arranged by calling the San Diego Water Board at (858) 467-2952, or USEPA at (415) 972-3524.

E. Register of Inter ested Persons

Information and Copying": "Any person interested in being placed on the mailing list for information regarding these proposed actions should contact the San Diego Water Board and USEPA, reference this facility, and provide a name, address, and phone number.

F. Waste Discharge Requirements Petitions

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

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

G. Appeal of Federal Permit

When a final 301(h)-modified NPDES permit is issued by USEPA, 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 is filed, only those permit conditions which are uncontested will go into effect pending deposition 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 tentative decision and draft permit, or participated in the public hearing, except as provided in 40 CFR 124.19. Otherwise, any such request for review may be filed only to the extent of changes from the draft permit to the final permit decision.

H. Additional Information

Requests for additional information or questions regarding this order should be directed to Melissa Valdovinos of the San Diego Water Board at (858) 467-2724 and Robyn Stuber of USEPA at (415) 972-3524.

Attachment G - Summary of Discharge Prohibitions contained in the Ocean Plan and Basin Plan

I. 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 except as provided in Chapter III.E. of the Ocean Plan.

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. 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.

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] is prohibited.

II. Basin Plan Discharge Prohibitions

A. The discharge of waste to waters of the State in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in Water Code Section 13050, is prohibited.

B. The discharge of waste to land, except as authorized by WDRs or the terms described in Water Code Section 13264 is prohibited.

C. The discharge of pollutants or dredged or fill material to waters of the United States except as authorized by an NPDES permit or a dredged or fill material permit (subject to the exemption described in Water Code Section 13376) is prohibited.

D. Discharges of recycled water to lakes or reservoirs used for municipal water supply or to inland surface water tributaries thereto are prohibited, unless this San Diego Water Board issues a NPDES permit authorizing such a discharge; the proposed discharge has been approved by the State Department of Public Health and the operating agency of the impacted reservoir; and the discharger has an approved fail-safe long-term disposal alternative.

E. The discharge of waste to inland surface waters, except in cases where the quality of the discharge complies with applicable receiving water quality objectives, is prohibited. Allowances for dilution may be made at the discretion of the San Diego Water Board. Consideration would include streamflow data, the degree of treatment provided and safety measures to ensure reliability of facility performance. As an example, discharge of secondary effluent would probably be permitted if streamflow provided 100:1 dilution capability.

F. The discharge of waste in a manner causing flow, ponding, or surfacing on lands not owned or under the control of the discharger is prohibited, unless the discharge is authorized by the San Diego Water Board.

G. The dumping, deposition, or discharge of waste directly into waters of the State, or adjacent to such waters in any manner which may permit its being transported into the waters, is prohibited unless authorized by the San Diego Water Board.

H. Any discharge to a storm water conveyance system that is not composed entirely of storm water is prohibited unless authorized by the San Diego Water Board. [The federal regulations, 40 CFR 122.26(b)(13), define storm water as storm water runoff, snow melt runoff, and surface runoff and drainage. 40 CFR 122.26(b)(2) defines an illicit discharge as any discharge to a storm water conveyance system that is not composed entirely of storm water except discharges pursuant to a NPDES permit and discharges resulting from fire fighting activities.] [Section 122.26 amended at 56 FR 56553, November 5, 1991; 57 FR 11412, April 2, 1992].

I. The unauthorized discharge of treated or untreated sewage to waters of the State or to a storm water conveyance system is prohibited.

J. The discharge of industrial wastes to conventional septic tank/ subsurface disposal systems, except as authorized by the terms described in Water Code Section 13264, is prohibited.

K. The discharge of radioactive wastes amenable to alternative methods of disposal into the waters of the State is prohibited.

L. The discharge of any radiological, chemical, or biological warfare agent into waters of the State is prohibited.

M. The discharge of waste into a natural or excavated site below historic water levels is prohibited unless the discharge is authorized by the San Diego Water Board.

N. The discharge of sand, silt, clay, or other earthen materials from any activity, including land grading and construction, in quantities which cause deleterious bottom deposits, turbidity or discoloration in waters of the State or which unreasonably affect, or threaten to affect, beneficial uses of such waters is prohibited.

O. The discharge of treated or untreated sewage from vessels to Mission Bay, Oceanside Harbor, Dana Point Harbor, or other small boat harbors is prohibited.

P. The discharge of untreated sewage from vessels to San Diego Bay is prohibited.

Q. The discharge of treated sewage from vessels to portions of San Diego Bay that are less than 30 feet deep at MLLW is prohibited.

R. The discharge of treated sewage from vessels, which do not have a properly functioning USCG-certified Type 1 or Type II marine sanitation device, to portions of San Diego Bay that are greater than 30 feet deep at MLLW, is prohibited.

Attachment H - Dilution Model Summary

Initial dilution for the Point Loma Ocean Outfall (PLOO) was assessed using an U.S. Environmental Protection Agency (USEPA) modeling application, Visual Plumes (UM3). UM3 is an acronym for the three-dimensional Updated Merge model for simulating single and multi-port submerged discharges. The USEPA Visual Plumes website is located at:

<http://www.epa.gov/ceampubl/swater/vplume/index.htm>.

The diffuser is a simple wye diffuser. The PLOO is 2,472 feet long and includes a wye (Y-shaped) diffuser with two 2,496 feet long diffuser legs. The diffuser has 416 discharge ports (208 on each leg).

A. Dilution

Initial dilution is defined in the Ocean Plan as follows:

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

Initial dilution, as defined by the Ocean Plan, is interpreted to be when the effluent plume either surfaces or reaches its initial trapping level (level at which the density of the effluent equals that of the ambient background and the effluent no longer has upward momentum based solely on buoyancy).

Dilution is a function of various characteristics of the diffuser, effluent, and ambient background. Dilution of an effluent plume into a receiving water is dependent on the flow of effluent, the momentum of the effluent flow into the receiving water (highly dependent on the effluent flow, shape, size, and number of diffuser ports), the buoyancy of the effluent within the receiving water (highly dependent between the delta between effluent and the ambient background of salinity and temperature), the placement of diffuser ports (space between diffuser ports and directional settings of each port), and the available volume and boundaries of the receiving water.

To effectively model dilution, Visual Plumes breaks data entry into the modeling system into three main components:

1. Diffuser and Effluent Characteristics

2. An Ambient Profile

3. Special Settings

   A summary of each of these components and the assumptions for each of these components while conducting the modeling effort is provided below.

B. Diffuser and Effluent Characteristics

Diffuser and effluent characteristics are necessary to determine the momentum of the effluent as it enters the receiving water, and the density of the effluent (which will affect it's buoyancy in the receiving water).

The input fields for the model are listed below with applicable explanations for the input into each field:

1. <u>Port Diameter</u>

   In the Report of Waste Discharge (ROWD) the Discharger provided a summary of the diffuser set up, including the number of ports and their respective diameters. Visual Plumes data entry limitations include only allowing a single input for "Port Diameter". Thus, a single port diameter must be determined. This was done by taking an average port size (as cm^2) of all the ports as summarized below:

Port area for each leg

Number of Ports	Diameter (cm)	Radius (cm)	Area for port	Total Area per size
84	9.53	4.77	71.33	5991.76
70	10.8	5.40	91.61	6412.61
54	12.07	6.04	114.42	6178.71

Total # of Ports (per leg) = 208 **Total Area per leg =** 18583.09

Total Area of ports in wye = Total Area per leg X 2 = 37166.1724

Port area for single diffuser head just prior to wye

Number of Ports	Diameter (cm)	Radius (cm)	Area for port	Total Area
1	5.08	2.54	20.27	20.27

Total Area per Port = Total Area of ports in wye + Total Area (for single diffuser head just prior to wye) = 37186.44

Average area per port = Total Area per Port/(Total # of Ports (for each leg) X 2 + 1) = 89.18

Average radius per port = square root of (Area/3.14159)
Average radius per port = square root of (28.3856 cm)
Average radius per port = 5.328 cm
Average diameter per port = 10.6556 cm

A port diameter of 10.66 cm was entered.

2. Port Elevation

The port elevation (or height of the port from the sea bed) was not specified in the ROWD. Diffuser drawings were provided by the facility upon request. On October 27, 2008 the Discharger provided a report on dilution indicating that the elevation of the ports was 7 feet. Based on this information, a port elevation of 7 feet was entered.

3. Vertical Angle

The vertical angle is defined in the Visual Plumes manual (4th Edition) as the discharge angle relative to the horizontal with zero being horizontal, 90 being vertical upward, and -90 being vertically downward. The ROWD indicates that the ports are located on the diffuser facing opposing directions, 180 degrees away from each other. A data entry limitation of Visual Plumes is that only one vertical angle may be entered. The Visual Plumes manual suggests that a fairly simple and accurate approach to modeling such a situation is to treat the diffuser as if all ports are on one side with half the spacing. In the October 27, 2008 report the Discharger contends that modeling all the ports on one side and reducing the spacing in half over simplifies the modeling for the PLOO and results in the combined outfall plume from all outfall ports being squeezed into a significantly reduced volume. The Discharger further states that because the Ocean Plan requires initial dilution be assessed on the basis of zero ocean currents and the PLOO's high horizontal discharge velocities, no cross-merging of the plumes from either side of the diffuser will occur prior to initial dilution. Using UM3 modeling the Discharger demonstrates that the plume does not cross the diffuser centerline (which would indicate merging). A single vertical angle of 0 was used in the model.

Because the plumes from each side of the diffuser do not merge, a single representative side of the diffuser can be modeled and assumed for each individual plume on each side of the diffuser. To accurately calculate proper effluent velocity, the total flow through the diffuser must be reduced in half to accurately represent flow through a single side of the diffuser. An effluent flow of 120 MGD was used.

4. Horizontal Angle

The horizontal angle is defined in the Visual Plumes manual as the angle of the diffuser relative to the x-coordinate. Assuming that the default units (degrees) are used, zero is in the direction of the x-coordinate (flow towards the east) and 90 in the direction of the y-coordinate (flow towards the north). The ROWD indicates that the two legs of the wye diffuser extend approximately 150 degrees in separate directions (roughly one

towards 255 degrees and one towards 75 degrees). A data entry limitation of Visual Plumes is that only one vertical angle may be entered. A middle direction was chosen, 180 degrees was entered into the data field. This field is important when considering currents and stream flow, both of which are not considered when modeling for ocean discharges to which the Ocean Plan is applicable. Thus, this data entry field was not expected to have an effect on the final initial dilution.

5. Number of Ports

Based on the number of ports specified in the ROWD (and summarized in the Port Diameter portion of this Attachment), 208 was entered into the data field to account for each side of the diffuser.

6. Port Spacing

The ROWD indicated that the ports were approximately 7.33 meters apart. This value did not include an additional discharge port located on the diffuser just upstream of the wye structure. Thus using the total distance of the length of the diffuser on which the ports are located, the port spacing was recalculated and determined to be 7.3 meters.

7. Acute Mix Zone/Chronic Mix Zone

This value is not relevant to the final initial dilution calculations.

8. Port Depth

The ROWD indicates that the length of diffuser on which diffuser ports are located, is between 93.3 meter to 95.5 meters deep under the ocean surface. An average between these two values was taken, and 94.35 meters was entered into the data field.

9. Effluent Flow

The maximum monthly average flow permitted for the Discharger is 240 million gallons per day (MGD). The Discharger currently discharges a monthly average flow significantly below this value which would result in a greater (and less conservative) dilution value. Because the Discharger will continue to be capable of discharging up to 240 MGD, and this is the most conservative value to use while calculating dilution, 240 MGD was considered to be the applicable discharge volume through the outfall. Due to the modeling limitations explained in Section B.3 of this summary, half the flow was used to represent the appropriate effluent flow from each side of the diffuser.

10. Effluent Conductivity

Conductivity data was available from January 2002 through December 2007. Higher levels of salinity in the effluent result in a less buoyant effluent. The highest monthly average conductivity was used, 3.125 mmho/cm was entered into the data field.

11. Effluent Temperature

Temperature data was available from January 2002 through December 2007. The smaller the Δ between the effluent and receiving water, the less dilution is likely to occur. Receiving water temperatures are significantly lower than the effluent temperature at Discharge Point No. 001. Thus, a lower effluent temperature is likely to result in lower dilution. The lowest monthly average temperature of 21.1 °C was entered into the data field.

12. Effluent Concentration

This data field is for calculating "effective dilution" and does not have an effect on the final initial dilution calculated. However a value must be entered into this field for the model to run, so "20 ppm" was chosen.

C. Ambient Profile

An ambient profile is a conservative profile of the receiving water. This profile includes components of density (temperature and salinity), current (which is always set to zero when running models for the Ocean Plan), and a far-field diffusion coefficient. The ambient profile takes into consideration the natural stratification of the receiving waters, allowing for the entry of various data points at varying depths. The model is capable (and this feature was utilized during the modeling effort for Point Loma Ocean Outfall) of extrapolating data for the depths that were not entered based on the data that is entered.

Receiving water monitoring of temperature and salinity was established during the current permit term at the following monitoring locations which are representative of the receiving water at the point of discharge:

- F-029
- F-030
- F-031

Monitoring was conducted quarterly (January, April, July, October).

Part C.3.d of the Ocean Plan states:

"For the purpose of this Plan, minimum initial dilution is the lowest average initial dilution within any single month of the year."

Using data from 2003 through 2007, the most conservative monthly profile was determined to be January. In the October 27, 2008 report from the Discharger, the Discharger provided additional depth data for January 2003, 2004, 2005, 2006, and 2007. The following dilutions for January were calculated by the Discharger using Visual Plumes and all available data:

Year	Dilution
January 2003	228.3
January 2004	249.8
January 2005	244.1
January 2006	241.1
January 2007	225.5

Based on the Discharger's results, the ambient profile for January 2007 was the most conservative. The following ambient profile for January 2007 was used to calculate the final initial dilution by the San Diego Water Board using Visual Plumes:

Depth (m)	Temperature (°C)	Density (sigma theta)
1	14.86	24.88
7	14.85	24.89
13	14.80	24.89
19	14.74	24.91
25	14.57	24.94
31	14.27	25.00
37	13.67	25.11
43	13.25	25.22
49	12.95	25.29
55	12.59	25.39
61	12.29	25.45
67	11.88	25.51
73	11.77	25.55
75	11.75	25.55
81	11.60	25.61
87	11.46	25.70
93	11.29	25.77
97	11.03	25.86

Data was extrapolated for depths at which no data was available.

1. Far-field Diffusion Coefficient

   The Visual Plumes manual recommends the use of 0.0003 m0.67/s2. This value was used in the data field as a constant (not extrapolated as the ambient temperature and density were).

D. Special Settings

1. UM3 Tidal Pollutant Buildup Parameters

   This field is used to calculate "effective dilution", which was irrelevant to the PLOO modeling effort.

2. Diffuser Port Contraction Coefficient

   The shape of the diffuser ports was not specified in the ROWD. Upon request the Discharger indicated that the diffuser ports are sharp-edged cylinders. Thus, a diffuser port contraction coefficient of 0.61 was used as recommended in the Visual Plumes manual.

3. Standard Light Adsorption Coefficient

   The value of 0.16 is recommended in the Visual Plumes manual as a conservative value. This is not relevant to final initial dilution, and is for the Mancini bacteria model applications of the model.

4. Far-field Increment (m)

   This value controls the number of lines output by the Brooks far-field algorithm. A small value produces more lines and graphic output than large values. A value between 100 to 1000 m is recommended by the Visual Plumes manual. This field has little effect on the final calculated initial dilution, a value of 100 m was used in the data field.

5. UM3 Aspiration Coefficient

   This is the rate at which ambient fluid is entrained (diluted) into the plume. The default value of 0.1 is an average that is rarely changed. A larger value causes more rapid plume spreading and affects other characteristics, like plume rise. The default value of 0.1 was used in the data field.

6. Far-field Diffusivity Option

As recommended by the Visual Plumes manual, a 4/3 Power Diffusivity was chosen for this field because the discharge is occurring in open water.

E. Final Resu lts

Four model runs were conducted using the data input specified above, one for each ambient profile (January, April, July, and October). This provided seasonal dilution values (expressed as trapping levels) when considering worst case scenarios (most conservative – high flow, high effluent salinity, low effluent temperature, etc.)

A summary of the modeling result is included below and has been copied directly from the Visual Plumes text output.

The local maximum height of rise for January 2007 was calculated to be 227.2:1 (as compared to 225.5 provided by the Discharger). The dilution provided in Order No. R9-2002-0025 is 204:1. The Discharger has recommended retaining the previously applied initial dilution value of 204:1 as more appropriate and representative of PLOO minimum month initial dilution. Because the Discharger has not requested additional dilution, a dilution of 204:1 is applied to the Discharger from PLOO without consideration of additional dilution.

Should the State determine, pursuant to 40 CFR 124.55, that a more stringent initial dilution value is appropriate to assure compliance with water quality standards, the final federal permit will be revised to reflect that initial dilution value.

JANUARY 2007

UM3. 11/14/2008 12:14:13 PM
Case 1; ambient file C:\Plumes\January additional data.001.db; Diffuser table record 2: ----------

Ambient Table:

Depth	Amb-cur	Amb-dir	Amb-den	Amb-tem	Amb-pol	Decay	Far-spd	Far-dir	Disprsn	Density
m	m/s	deg	psu	C	kg/kg	s-1	m/s	deg	m0.67/s2	sigma-T
0.0	0.0	0.0	32.65	14.86	10.0	2.0	2.0	40.0	0.0003	24.22
1.0	0.0	0.0	32.66	14.86	10.0	2.0	2.0	40.0	0.0003	24.22
7.0	0.0	0.0	32.67	14.85	10.0	2.0	2.0	40.0	0.0003	24.23
13.0	0.0	0.0	32.67	14.8	10.0	2.0	2.0	40.0	0.0003	24.24
19.0	0.0	0.0	32.69	14.74	10.0	2.0	2.0	40.0	0.0003	24.28
25.0	0.0	0.0	32.73	14.57	10.0	2.0	2.0	40.0	0.0003	24.34
31.0	0.0	0.0	32.81	14.27	10.0	2.0	2.0	40.0	0.0003	24.46
37.0	0.0	0.0	32.95	13.67	10.0	2.0	2.0	40.0	0.0003	24.7
43.0	0.0	0.0	33.09	13.25	10.0	2.0	2.0	40.0	0.0003	24.89
49.0	0.0	0.0	33.18	12.95	10.0	2.0	2.0	40.0	0.0003	25.02
55.0	0.0	0.0	33.31	12.59	10.0	2.0	2.0	40.0	0.0003	25.19
61.0	0.0	0.0	33.39	12.29	10.0	2.0	2.0	40.0	0.0003	25.31
67.0	0.0	0.0	33.47	11.88	10.0	2.0	2.0	40.0	0.0003	25.45
73.0	0.0	0.0	33.52	11.77	10.0	2.0	2.0	40.0	0.0003	25.51
75.0	0.0	0.0	33.52	11.75	10.0	2.0	2.0	40.0	0.0003	25.51
81.0	0.0	0.0	33.6	11.6	10.0	2.0	2.0	40.0	0.0003	25.6
87.0	0.0	0.0	33.71	11.46	10.0	2.0	2.0	40.0	0.0003	25.71
93.0	0.0	0.0	33.8	11.29	10.0	2.0	2.0	40.0	0.0003	25.82
97.0	0.0	0.0	33.92	11.03	10.0	2.0	2.0	40.0	0.0003	25.95

Diffuser table:

P-dia (cm)	P-elev (ft)	V-angle (deg)	H-angle (deg)	Ports ()	Spacing (m)	AcuteMZ (m)	ChrncMZ (m)	P-depth (m)	Ttl-flo (MGD)	Eff-con (mmho/cm)	Temp (C)	Polutnt (ppm)
10.66	7.0	0.0	180.0	208.0	7.3	400.0	400.0	94.35	120.0	3.125	22.6	20.0

Simulation:

Froude number: 31.49; effleunt density (sigma-T) -0.827; effleunt velocity 4.643(m/s);

Step	Depth (m)	Amb-cur (m/s)	P-dia (cm)	Polutnt (ppm)	4/3Eddy (ppm)	Dilutn ()	x-posn (m)	y-posn (m)	
0	94.35	0.0	8.326	20.0	20.0	1.0	0.0	0.0	stream limit reached;
20	94.35	0.0	12.2	3.626E+6	3.626E+6	1.473	-0.0977	0.0	
40	94.35	0.0	18.07	6.205E+6	6.205E+6	2.176	-0.244	0.0	
60	94.35	0.0	26.8	8.072E+6	8.072E+6	3.221	-0.461	0.0	
80	94.34	0.0	39.77	9.350E+6	9.350E+6	4.774	-0.784	0.0	
100	94.32	0.0	59.0	1.001E+7	1.001E+7	7.082	-1.264	0.0	
120	94.25	0.0	87.3	1.017E+7	1.017E+7	10.51	-1.974	0.0	
140	94.02	0.0	127.5	1.018E+7	1.018E+7	15.59	-2.996	0.0	
160	93.58	0.0	167.4	1.013E+7	1.013E+7	21.24	-4.044	0.0	
180	92.91	0.0	203.4	1.012E+7	1.012E+7	27.53	-5.037	0.0	
200	91.81	0.0	243.0	1.014E+7	1.014E+7	36.27	-6.113	0.0	
220	89.8	0.0	299.3	1.019E+7	1.019E+7	51.64	-7.415	0.0	
240	86.73	0.0	379.1	1.019E+7	1.019E+7	76.73	-8.754	0.0	
260	82.64	0.0	492.1	1.012E+7	1.012E+7	114.0	-10.03	0.0	
280	77.09	0.0	680.2	-9.058E+14	-9.058E+14	169.4	-11.41	0.0	
281	76.76	0.0	693.5	4.435E+15	4.435E+15	172.8	-11.49	0.0	trap level;
284	75.73	0.0	737.6	-7.016E+17	-7.016E+17	183.4	-11.73	0.0	merging;
300	69.22	0.0	1402.1	-1.040E+33	-1.040E+33	225.1	-13.6	0.0	
301	69.1	0.0	1445.7	3.961E+33	3.961E+33	225.5	-13.65	0.0	begin overlap;
320	68.05	0.0	2153.4	-3.741E+37	-3.741E+37	227.1	-14.17	0.0	
340	67.73	0.0	2782.0	-1.321E+24	-1.321E+24	227.1	-14.44	0.0	
360	67.59	0.0	3293.5	5.591E+6	5.591E+6	227.2	-14.6	0.0	

380	67.53	0.0	3670.1	1.000E+7	1.000E+7	227.2	-14.73	0.0;
400	67.5	0.0	3898.7	1.000E+7	1.000E+7	227.2	-14.83	0.0;
418	67.49	0.0	3971.5	1.000E+7	1.000E+7	227.2	-14.92	0.0; local maximum rise or fall;
420	67.49	0.0	3971.8	1.000E+7	1.000E+7	227.2	-14.93	0.0;
440	67.51	0.0	3888.3	1.000E+7	1.000E+7	227.2	-15.02	0.0;
460	67.54	0.0	3653.7	1.000E+7	1.000E+7	227.2	-15.13	0.0;
480	67.62	0.0	3279.6	1.000E+7	1.000E+7	227.2	-15.26	0.0;
500	67.78	0.0	2784.2	1.000E+7	1.000E+7	227.2	-15.43	0.0;
520	68.14	0.0	2192.9	1.000E+7	1.000E+7	227.3	-15.7	0.0;
540	69.32	0.0	1553.6	1.001E+7	1.001E+7	228.8	-16.25	0.0;
545	70.04	0.0	1407.3	1.007E+7	1.007E+7	231.3	-16.5	0.0; end overlap;
560	78.67	0.0	1207.8	-9.409E+20	-9.409E+20	273.4	-18.55	0.0; trap level;
567	82.43	0.0	1785.2	3.555E+28	3.555E+28	291.9	-19.45	0.0; begin overlap;
580	83.22	0.0	2673.0	-5.295E+31	-5.295E+31	292.9	-19.75	0.0;
600	83.55	0.0	3850.3	-1.317E+16	-1.317E+16	292.9	-19.93	0.0;
605	83.58	0.0	4118.3	-8.117E+12	-8.117E+12	292.9	-19.96	0.0; bottom hit;
620	83.66	0.0	4851.8	3.657E+6	3.657E+6	293.0	-20.03	0.0;
640	83.71	0.0	5647.2	1.000E+7	1.000E+7	293.0	-20.1	0.0;
660	83.73	0.0	6209.4	1.000E+7	1.000E+7	293.0	-20.15	0.0;
680	83.74	0.0	6519.6	1.000E+7	1.000E+7	293.0	-20.2	0.0;
692	83.74	0.0	6580.5	1.000E+7	1.000E+7	293.0	-20.23	0.0; local maximum rise or fall;

4/3 Power Law. Farfield dispersion based on wastefield width of 582.63 m

conc (ppm)	dilutn	width (m)	distnce (m)	time (hrs)	(kg/kg)	(s-1)	(m/s)	(m0.67/s2)
1.00E+7	294.3	583.8	100.0	0.0111	10.0	2.0	2.0	3.00E-4
1.00E+7	294.0	585.3	200.0	0.025	10.0	2.0	2.0	3.00E-4
1.00E+7	293.9	586.8	300.0	0.0389	10.0	2.0	2.0	3.00E-4
1.00E+7	293.8	588.4	400.0	0.0527	10.0	2.0	2.0	3.00E-4

count: 4
;
12:14:16 PM. amb fills: 2