California Regional Water Quality Control Board
San Francisco Bay Region

Linda S. Adams
Secretary for
Environmental Protection

1515 Clay Street, Suite 1400, Oakland, California 94612
(510) 622-2300 • Fax (510) 622-2460
http://www.waterboards.ca.gov/sanfranciscobay

Arnold Schwarzenegger
Governor

ORDER NO. R2-2007-0007
NPDES NO. CA0038628

The following Discharger is authorized to discharge in accordance with the conditions set forth in this Order.

Table 1. Discharger Information

Discharger	Central Marin Sanitation Agency
Name of Facility	Central Marin Sanitation Agency Wastewater Treatment Plant and its Force Main
Facility Address	1301 Andersen Drive
	San Rafael, CA 94901
	Marin County

The Discharger is authorized to discharge from the following discharge point as set forth below.

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Secondary treated POTW effluent	37° 56' 54" N	122° 27' 23" W	Central San Francisco Bay

Table 3. Administrative Information

This Order was adopted by the Regional Water Board on:	**January 23, 2007**
This Order shall become effective on:	**April 1, 2007**
This Order shall expire on:	**March 31, 2012**
The U.S. Environmental Protection Agency (U.S. EPA) and the Regional Water Board have classified this discharge as a major discharge.	
The Discharger shall file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of the Order expiration date as application for issuance of new waste discharge requirements.	

IT IS HEREBY ORDERED, that Order No. 01-105 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in Division 7 of the California Water Code (CWC) 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.

I, Bruce H. Wolfe, Executive Officer, do hereby certify the following is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on January 23, 2007.

Bruce H. Wolfe, Executive Officer

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I. FACILITY INFORMATION

The following Discharger is authorized to discharge in accordance with the conditions set forth in this Order.

Table 4. Facility Information

Discharger	Central Marin Sanitation Agency
Name of Facility	Central Marin Sanitation Agency Wastewater Treatment Plant and its Force Main
Facility Address	1301 Andersen Drive San Rafael, CA 94901 Marin County
Facility Contact, Title, and Phone	Robert Cole, Environmental Services Manager, (415) 459-1455
Mailing Address	1301 Andersen Drive San Rafael, CA 94901
Type of Facility	Publicly-Owned Treatment Plant (POTW)
Facility Design Flow	10 million gallons per day (MGD)

II. FINDINGS

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter Regional Water Board), finds:

A. Background. Central Marin Sanitation Agency (hereinafter the Discharger) is currently discharging under Order No. 01-105 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0038628. The Discharger submitted a Report of Waste Discharge, dated March 3, 2006, and applied for an NPDES permit reissuance to discharge wastewater to the Central San Francisco Bay, a water of the United States, via a submerged diffuser. The application was deemed complete on September 19, 2006.

B. Facility Description. The Discharger owns and operates a wastewater treatment plant, located at 1301 Andersen Drive, San Rafael, Marin County, California. The plant provides secondary level treatment for domestic wastewater from its four member agencies; San Rafael Sanitation District, Sanitary Districts No. 1 and 2 of Marin County, and the City of Larkspur. The Discharger also transports and treats sewage from four other sewerage agencies pursuant to separate agreements with member agencies. The four other sewerage agencies are: City of San Rafael, Murray Park Sewer Maintenance District, San Quentin Sewer Maintenance District, and California Department of Corrections (San Quentin Prison). The treatment plant has a design capacity of 10.0 million gallons per day (MGD), average dry weather flow. In wet weather, the plant was designed to provide secondary treatment for flows up to 30 MGD, primary treatment for flows up to 90 MGD, and has a hydraulic capacity of 125 MGD. The plant presently discharges an average dry weather flow of 7.5 MGD, and an annual average effluent flow of 12.2 MGD.

The Discharger owns and operates a collection system of approximately 3,784 feet of force main. Maintenance includes cathodic protection surveys for the force main. The Discharger does not own or operate a gravity sewer system with the exception of a few hundred feet of gravity sewers which serve the Discharger's administration and maintenance facilities at the wastewater treatment plant site in San Rafael. The Discharger does not own any pump stations

in the collection system. All collection system and force main pump stations are owned by the Discharger's member agencies. The Discharger is under contract to maintain pump stations for one member agency, Sanitary District No. 2 of Marin County.

Raw influent goes through comminuters at the remote pump stations, and then goes through bar screens and grit removal at the Discharger's facility prior to primary treatment using clarifiers. During normal dry weather flows, the primary clarifier effluent is then processed through high-rate trickling filters followed by conventional activated sludge and secondary clarification. The secondary clarifier effluent is chlorinated and dechlorinated prior to discharge. Sludge is anaerobically digested, dewatered using centrifuge processes, and disposed of at an authorized disposal site. During high wet weather flows, a portion of primary effluent is routed around biological treatment to the disinfection facility, providing for blending of primary and secondary effluent during wet weather periods when the secondary capacity is exceeded.

The treated effluent is discharged to a deepwater outfall in Central San Francisco Bay. The outfall was designed for a gravity feed discharge capacity of 125 MGD. The Discharger has proposed to increase the capacity of the facility for increased wet weather flows. A Wet Weather Improvements Project Preliminary Design Report completed and submitted to the Regional Water Board in February 2006 states that preliminary engineering assessments indicate the outfall would generally be adequate for the increased internal pressures resulting from the installation of a new pump station, increasing its capacity from 125 MGD to 155 MGD.

A facility map is included as Attachment B. A facility flow schematic is included as Attachment C.

C. **Legal Authorities.** This Order is issued pursuant to CWA section 402 and implementing regulations adopted by the USEPA and CWC Chapter 5.5, Division 7. It shall serve as an NPDES permit for point source discharges from the Discharger to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4 of the CWC for discharges that are not subject to regulation under CWA section 402.

D. **Background and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and through special studies. Attachments A through G, which contain background information and rationale for Order requirements, are hereby incorporated into this Order and, thus, constitute part of the Findings for this Order.

E. **California Environmental Quality Act (CEQA).** This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act in accordance with CWC section 13389.

F. **Technology-Based Effluent Limitations.** NPDES regulations at 40 CFR §122.44(a) require that permits include applicable technology-based limitations and standards. This Order includes technology-based effluent limitations based on Secondary Treatment Standards at 40 CFR Part 133, and Table 4-2 of the Basin Plan. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

G. Water Quality-based Effluent Limitations. 40 CFR Section 122.44(d) requires that where reasonable potential (RP) to cause or contribute to an exceedance of applicable water quality standards exists, permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where numeric water quality objectives (WQOs) have not been established, 40 CFR §122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a) or proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information, including site specific applicability, or an indicator parameter. A detailed discussion of the water quality-based effluent limitations is included in the Fact Sheet (Attachment F).

H. Water Quality Control Plans. The Regional Water Board adopted the *Water Quality Control Plan for the San Francisco Bay Basin* (the Basin Plan, revised in 2005) that designates beneficial uses, establishes WQOs, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Beneficial uses applicable to Central San Francisco Bay are as follows.

Table 5. Basin Plan Beneficial Uses of Central San Francisco Bay

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Central San Francisco Bay	Ocean Commercial and Sport Fishing (COMM) Estuarine Habitat (EST) Industrial Service Supply (IND) Fish Migration (MIGR), Navigation (NAV) Industrial Process Water Supply (PROC) Preservation of Rare and Endangered Species (RARE) Water Contact Recreation (REC1) Non-contact Water Recreation (REC2) Shellfish Harvesting (SHELL) Fish Spawning (SPWN) Wildlife Habitat (WILD).

Requirements of this Order specifically implement the Basin Plan.

I. National Toxics Rule (NTR) and California Toxics Rule (CTR). USEPA adopted the NTR on December 22, 1992, which was amended on May 4, 1995, and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR, which incorporated the NTR criteria that were applicable in California. The CTR was amended on February 13, 2001. These rules include water quality criteria (WQC) for priority pollutants and are applicable to this discharge.

J. State Implementation Policy. On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005.

The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

K. **Compliance Schedules and Interim Requirements.** Section 2.1 of the SIP provides that, based on a discharger's request and demonstration that it is infeasible for an existing discharger to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under Section 5.3 of the SIP, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or May 18, 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds one year, the Order must include interim numeric limitations for that constituent or parameter. Where allowed by the Basin Plan, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement new or revised WQOs. This Order includes compliance schedules and interim effluent limitations. A detailed discussion of the basis for the compliance schedules and interim effluent limitations is included in the Fact Sheet (Attachment F).

L. **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.

M. **Stringency of Requirements for Individual Pollutants.** This Order contains restrictions on individual pollutants that are no more stringent than required by the federal CWA. Individual pollutant restrictions consist of technology-based restrictions and water quality-based effluent limitations. The technology-based effluent limitations consist of restrictions on BOD or CBOD, TSS, Oil and Grease, pH, and chlorine residual. Restrictions on these pollutants are specified in federal regulations and have been in the Basin Plan since before May 30, 2000, as discussed in the attached Fact Sheet, Attachment F. The permit's technology-based pollutant restrictions are no more stringent than required by the CWA. WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR 131.38. The scientific procedures for calculating the individual WQBELs are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. Most 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 remaining water quality objectives and beneficial uses implemented by this Order were approved by USEPA on January 5, 2005, and are applicable water quality standards pursuant to 40 CFR 131.21(c)(2). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the CWA and the applicable water quality standards for purposes of the CWA.

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

O. Anti-Backsliding Requirements. CWA sections 402(o) (2) and 303(d)(4) and NPDES regulations at 40 CFR §122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. Some effluent limitations in the previous Order have been removed. As discussed in detail in the Fact Sheet (Attachment F), this removal of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

P. Monitoring and Reporting. 40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. CWC sections 13267 and 13383 authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E. The MRP may be amended by the Executive Officer pursuant to USEPA regulation 40 CFR 122.62, 122.63, and 124.5.

Q. Standard and Special Provisions. Standard Provisions, which in accordance with 40 CFR §§122.41and 122.42, apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D. The Regional Water Board has also included in this Order special provisions applicable to the Discharger (Attachment G). A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet (Attachment F).

R. Notification of Interested Parties. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements (WDRs) for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet (Attachment F).

S. Consideration of Public Comment. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet (Attachment F) of this Order.

III. DISCHARGE PROHIBITIONS

A. Discharge of treated wastewater at a location or in a manner different from that described in this Order is prohibited.

B. Discharge of treated wastewater at any point where it does not receive an initial dilution of at least 10:1 is prohibited.

C. The bypass of untreated or partially treated wastewater to waters of the United States is prohibited, except as provided for in the conditions stated in 40 CFR 122.41(m)(4) and in A.13 of the *Standard Provisions and Reporting Requirements for NPDES Surface Water Discharge Permits, August 1993* (Attachment G).

Blended wastewater is biologically treated wastewater blended with wastewater that has been diverted around biological treatment units or advanced treatment units. Such discharges are approved under the bypass conditions stated in 40 CFR 122.41(m)(4) (1) when the Discharger's peak wet weather influent flow volumes exceed the capacity of the secondary treatment unit(s) of 30 MGD, (2) when the discharge complies with the effluent and receiving water limitations contained in this Order, and (3) provided the Discharger satisfy Provision VI.C.5.c. Furthermore, the Discharger shall operate its facility as designed and in accordance with the Operation & Maintenance Manual developed for the facility. This means that it shall optimize storage and use of equalization units, and shall fully utilize the biological treatment units and advanced treatment units, if applicable. The Discharger shall report incidents of the anticipated blended effluent discharges in routine monitoring reports, and shall conduct monitoring of this discharge as specified in the attached MRP (**Attachment E**).

D. The average dry weather flow, as measured at station M-001 described in the attached MRP (**Attachment E**), shall not exceed 10 MGD. Actual average dry weather flow shall be determined for compliance with this prohibition over three consecutive dry weather months each year.

E. Any sanitary sewer overflow that results in a discharge of untreated or partially treated wastewater to waters of the United States is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

1. Effluent Limitations for Conventional Pollutants.

The discharge of secondary treated wastewater to Central San Francisco Bay shall maintain compliance with the following effluent limitations, with compliance measured at Monitoring Location M-002 as described in the attached Monitoring and Reporting Program (Attachment E). The discharge from Discharge Point No. 001 shall not exceed the following limitations.

Table 6. Conventional Effluent Limitations for Discharge Point No. 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Carbonaceous BOD, 5-day @ 20°C ($CBOD_5$)	mg/L	25	40	---	---	---
Percent Removal of $CBOD_5$	%	85	---	---	---	---
Total Suspended Solids (TSS)	mg/L	30	45	---	---	---
TSS percent removal	%	85	---	---	---	---
pH [1]	Standard units	---	---	---	6.0	9.0
Total Chlorine Residual [2]	mg/L	---	---	---	---	0.0
Oil and Grease	mg/L	10	---	20	---	---

Footnotes for Table 6:

(1) If the Discharger monitors pH continuously, Pursuant to 40 CFR § 401.17, the Discharger shall be in compliance with the pH limitation specified herein, provided that both of the following conditions are satisfied: (i) the total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and (ii) no individual excursion from the range of pH values shall exceed 60 minutes.

(2) Requirement defined as below the limit of detection in standard test methods defined in the latest edition of *Standard Methods for the Examination of Water and Wastewater*. The Discharger may elect to use a continuous on-line monitoring system(s) for measuring flows, chlorine residual and sodium bisulfite (or other dechlorinating chemical) dosage (including a safety factor) and concentration to prove that chlorine residual exceedances are false positives. If convincing evidence is provided, Regional Water Board staff may conclude that these false positive chlorine residual exceedances are not violations of this permit limitation.

2. **Total Coliform Bacteria**: The five-sample median total coliform density shall not exceed 240 MPN/100 mL and the daily maximum value shall not exceed 10,000 MPN/100mL.

3. **Effluent Limitations for Toxics Substances**: The discharge of treated wastewater shall maintain compliance with the effluent limitations listed in Table 7 for toxic pollutants, at Discharge Point 001, with compliance measured at Monitoring Location M-002 as described in the attached MRP (**Attachment E**):

Table 7. Effluent Limitations for Toxic Substances [1,5]

Constituent	Water Quality-Based Effluent Limits (WQBELs)		Interim Limits	
	Maximum Daily (MDEL) (µg/L)	Average Monthly (AMEL) (µg/L)	Maximum Daily (µg/L)	Average Monthly (µg/L)
Copper	22	13	---	---
Mercury [2]	0.040	0.021	---	0.087
Cyanide [3,4]	6.4	3.3	8.3	---
Dioxin-TEQ [6]	2.8E-08	1.4E-08		

Footnotes for Table 7:

(1) (a) All analyses shall be performed using current U.S. EPA approved methods, or equivalent methods approved in writing by the Executive Officer.

(b) Limitations apply to the average concentration of all samples collected during the averaging period (daily = 24-hour period; monthly = calendar month).

(c) All metal limitations are total recoverable.

(2) The interim limit for mercury shall remain in effect until April 27, 2010, or until the Regional Water Board adopts a TMDL-based effluent limitation for mercury. WQBELs will be superseded by the TMDL. The mercury interim limit is derived from the Regional Water Board's *Statistical Analysis of Pooled Mercury Data, 2001*.

(3) The interim limit for cyanide shall remain in effect until April 27, 2010, or until the Regional Water Board adopts a site-specific objective for cyanide. Compliance may be demonstrated by measurement of weak acid dissociable cyanide.

(4) Alternate Effluent Limits for Cyanide

a. If a cyanide SSO for the receiving water becomes legally effective, resulting in adjusted saltwater criteria CCC of 2.9 µg/L (based on the assumptions in *Draft Staff Report on Proposed Site-Specific Water Quality Objectives and Effluent Limit Policy for Cyanide for San Francisco* Bay, dated November 10, 2005), upon its effective date, the following limitations shall supersede those the cyanide limitations in Table 7: MDEL of 41µg/l and AMEL of 21µg/l (the rationale for these effluent limitations can be found in the Fact Sheet [**Attachment F**]).

b. If a different cyanide SSO for the receiving water is adopted, the alternate WQBELs based on the SSO will be determined after the SSO effective date.

(5) A daily maximum or average monthly value for a given constituent shall be considered noncompliant with the effluent limitations only if it exceeds the effluent limitation and the Reporting Level for that constituent. As outlined in Section 2.4.5 of the SIP, the table below indicates the Minimum Level (ML) upon which the Reporting Level is based for compliance determination purposes. In addition, in order to perform reasonable potential analysis for future permit reissuance, the Discharger shall use methods with MLs lower than the applicable water quality objectives or water quality criteria (e.g., copper). A Minimum Level is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Table 8. Minimum Levels

Constituent	Minimum Level	Units
Copper	0.5 or 2	µg/L
Mercury	0.0005	µg/L
Cyanide	5	µg/L
Dioxin-TEQ	½ the USEPA specified MLs for Method 1613	pg/L

Footnote for Table 8:
Pursuant to Section 2.4.2 of the SIP, the Discharger may select any of the listed ML values in Appendix 4 for the appropriate analytical method. Minimum Levels above the WQO are not appropriate.

(6) The limits for Dioxin-TEQ shall become effective starting on April 1, 2017.

4. Acute Toxicity

a. Representative samples of the discharge shall meet the following limitations for acute toxicity. Bioassays shall be conducted in compliance with Section V.A of the Monitoring and Reporting Program (MRP, Attachment E).

The survival of organisms in undiluted effluent shall be an eleven (11) sample median value of not less than 90 percent survival, and an eleven (11) sample 90 percentile value of not less than 70 percent survival.

b. These acute toxicity limitations are further defined as follows:

11 sample median: Any bioassay test showing survival of 90 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit if five or more of the past ten or less bioassay tests show less than 90 percent survival.

90th percentile: A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit if one or more of the past ten or less bioassay tests show less than 70 percent survival.

c. Bioassays shall be performed using the most up-to-date USEPA protocol and the most sensitive species as specified in writing by the Executive Officer based on the most recent screening test results. Bioassays shall be conducted in compliance with "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms," currently 5th Edition (EPA-821-R-02-012), with exceptions granted to the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP) upon the Discharger's request with justification.

d. If the Discharger can demonstrate to the satisfaction of the Executive Officer that toxicity exceeding the levels cited above is caused by ammonia and that the ammonia in the discharge is not adversely impacting receiving water quality or beneficial uses, then such toxicity does not constitute a violation of this effluent limitation.

5. Chronic Toxicity

a. Compliance with the Basin Plan narrative chronic toxicity objective shall be demonstrated according to the following tiered requirements based on results from representative samples of the discharge, as measured at M-001, meeting test acceptability criteria and Section V.B of the MRP (**Attachment E**). Failure to conduct the required toxicity tests or a TRE within a designated period shall result in the establishment of effluent limitations for chronic toxicity.

1) Conduct routine monitoring.

2) Accelerate monitoring after exceeding a three sample median value of 10 chronic toxicity units (TUc) or a single sample maximum of 20 TUc or greater. Accelerated monitoring shall consist of monthly monitoring.

3) Return to routine monitoring if accelerated monitoring does not exceed either "trigger" in (2), above.

4) If accelerated monitoring confirms consistent toxicity above either "trigger" in (2), above, initiate toxicity identification evaluation/toxicity reduction evaluation (TIE/TRE) in accordance with a workplan submitted in accordance with Section V.B of the MRP (**Attachment E**), and that incorporates any and all comments from the Executive Officer;

5) Return to routine monitoring after appropriate elements of TRE workplan are implemented and either the toxicity drops below "trigger" levels in (2), above, or, based on the results of the TRE, the Executive Officer authorizes a return to routine monitoring.

b. Test Species and Methods

The Discharger shall conduct routine monitoring with the test species and protocols specified in Section V.B of the MRP (**Attachment E**). The Discharger shall also perform Chronic Toxicity Screening Phase monitoring as described in the Appendix E-1 of the MRP (Attachment E). Chronic Toxicity Monitoring Screening Phase Requirements, Critical Life Stage Toxicity Tests and definitions of terms used in the chronic toxicity monitoring are identified in **Appendices E-1 and E-2** of the MRP (**Attachment E**).

6. Mass Emission Limit for Mercury

Until TMDL and wasteload allocation (WLA) efforts for mercury provide enough information to establish a different WQBEL, the Discharger shall demonstrate that the current mercury mass loading to the receiving water does not increase by complying with the following:

a. Mass limit. The 12-month moving average annual load for mercury shall not exceed 0.10 kilograms per month (kg/mo).

b. Compliance with this limit shall be evaluated using 12-month moving average mass loading over the previous 12 months of monitoring, computed as described below:

Monthly Mass Loading (kg/mo) = monthly plant discharge flow (in MGD) from the Outfall (001) × monthly effluent concentration measurements (in µg/L) corresponding to the above flow, for samples taken at 001 × 0.1151 (conversion factor to convert million gallons/day × µg/L to kg/mo).

12-month Moving Average Hg Mass Loading = Running average of last 12 monthly mercury mass loadings in kg/mo.

c. The mercury TMDL and its WQBELs and WLAs will supersede the mercury WQBELs listed in Table 4 and this interim mass emission limitation upon its implementation through a permit amendment. The Clean Water Act's anti-backsliding rule, Section 402(o), indicates that this Order may be modified to include a less stringent requirement following adoption of the TMDL and WLA, if the requirements for an exception to the rule are met.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. The discharge shall not cause the following in Central San Francisco Bay.

1. The discharge shall not cause the following conditions to exist in waters of the State:

   a. Floating, suspended, or deposited macroscopic particulate matter or foams;

   b. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;

   c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

   d. Visible, floating, suspended, or deposited oil and other products of petroleum origin; and

   e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or which render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State within one foot of the water surface:

   a. Dissolved Oxygen — 5.0 mg/L, minimum

      The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, then the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.

   b. Dissolved Sulfide — Natural background levels

   c. pH — Within 6.5 and 8.5

   d. Un-ionized Ammonia — 0.025 mg/L as N, annual median
      0.16 mg/L as N, max.

   e. Nutrients: — Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.

B. Groundwater Limitations

N/A

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. **Regional Water Board Standard Provisions.** The Discharger shall comply with all applicable items of the *Standard Provisions and Reporting Requirements for NPDES Surface Water Discharge Permits, August 1993* (Attachment G). Where provisions or reporting requirements specified in this Order are different for equivalent or related provisions or reporting requirements given in the Standard Provisions, the specifications of this Order shall apply. Duplicative requirements in the federal Standard Provisions in VI.A.1.2, above (Attachment D) and the regional Standard Provisions (Attachment G) are not separate requirements. A violation of a duplicative requirement does not constitute two separate violations.

B. Monitoring and Reporting Program Requirements

The Discharger shall comply with the Monitoring and Reporting Program (MRP), and future revisions thereto, in Attachment E of this Order. The Discharger shall also comply with the requirements contained in *Self-Monitoring Program, Part A, August 1993* (Attachment G).

C. Special Provisions

1. Reopener Provisions

The Regional Water Board may modify or reopen this Order prior to its expiration date in any of the following circumstances as allowed by law:

a. If present or future investigations demonstrate that the discharge(s) governed by this Order will or have a reasonable potential to cause or contribute to, or will cease to, have adverse impacts on water quality and/or beneficial uses of the receiving waters.

b. If new or revised WQOs, or TMDLs come into effect for the San Francisco Bay estuary and contiguous water bodies (whether statewide, regional, or site-specific). In such cases, effluent limitations in this Order will be modified as necessary to reflect updated WQOs and waste load allocations in TMDLs.

c. If translator or other water quality studies provide a basis for determining that a permit condition(s) should be modified.

d. If administrative or judicial decision on a separate NPDES permit or WDR that addresses requirements similar to this discharge; and

e. As authorized by law.

The Discharger may request permit modification based on b, c, d, and e above. The Discharger shall include in any such request an antidegradation and antibacksliding analysis.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Effluent Characterization for Selected Constituents

The Discharger shall continue to monitor and evaluate the discharge from M-001 for the constituents listed in Enclosure A of the Regional Water Board's August 6, 2001 Letter, according to the sampling frequency specified in the attached MRP (Attachment E). Compliance with this requirement shall be achieved in accordance with the specifications stated in the Regional Water Board's August 6, 2001 Letter under Effluent Monitoring for Major Discharger.

The Discharger shall evaluate on an annual basis if concentrations of any constituent increase over past performance. The Discharger shall investigate the cause of the increase. The investigation may include, but need not be limited to, an increase in the effluent monitoring frequency, monitoring of internal process streams, and monitoring of influent sources. This may be satisfied through identification of these constituents as "Pollutants of Concern" in the Discharger's Pollutant Minimization Program described in Provision C.3.b, below. A summary of the annual evaluation of data and source investigation activities shall also be reported in the annual self-monitoring report.

A final report that presents all the data shall be submitted to the Regional Water Board no later than 180 days prior to the Order expiration date. This final report shall be submitted with the application for permit reissuance.

b. Ambient Background Receiving Water Study

The Discharger shall collect or participate in collecting background ambient receiving water monitoring for priority pollutants that is required to perform an RPA and to calculate effluent limitations. The data on the conventional and certain non-conventional water quality parameters (pH, salinity, and hardness) shall also be sufficient to characterize these parameters in the receiving water at a point after the discharge has mixed with the receiving waters. This provision may be met through monitoring through the Collaborative BACWA Study, or a similar ambient monitoring program for San Francisco Bay. This permit may be reopened, as appropriate, to incorporate effluent limits or other requirements based on Regional Water Board review of these data.

Final Report: The Discharger shall submit a final report that presents all the data to the Regional Water Board 180 days prior to Order expiration. This requirement can be met through the submittal of receiving water data as it becomes available by BACWA or SFEI.

c. Optional Mass Offset

If the Discharger can demonstrate that further net reductions of the total mass loadings of 303(d)-listed pollutants to the receiving water cannot be achieved through economically feasible measures such as aggressive source control, wastewater reuse, and treatment plant optimization, but only through a mass offset

program, the Discharger may submit to the Regional Water Board for approval a mass offset plan to reduce 303(d)-listed pollutants to the same watershed or drainage basin. The Regional Water Board may modify this Order to allow an approved mass offset program.

d. Marine Outfall Maintenance

The Discharger shall continue to execute the Marine Outfall Retrofitting and Maintenance Plan, approved by the Executive Officer, to address the mechanisms leading to the accumulation of solids in the outfall and prevent unacceptable adverse impacts on the beneficial uses of the receiving water resulting from the accumulation of solids and their impact on the outfall to achieve the desired rapid dilution.

Annually, the Discharger must provide progress reports on the effectiveness of continued maintenance efforts to resolve the accumulation of solids in the marine outfall; this information shall be submitted in the annual self monitoring report.

e. Mercury, Cyanide, and Dioxin-TEQ Compliance Schedules

The Discharger shall comply with the following tasks and deadlines:

Task	Deadline
1. Implement source control measures identified in the Discharger's Infeasibility Report to reduce concentrations of cyanide, mercury, and dioxin-TEQ to the treatment plant, and therefore to receiving waters.	Upon the effective date of this Order.
2. The Discharger shall evaluate and report on the effectiveness of its source control measures in reducing concentrations of mercury, cyanide, and dioxin-TEQ to its treatment plant. If previous measures have not been successful in enabling the Discharger to comply with final limits for mercury, cyanide, or dioxin-TEQ, the Discharger shall also identify and implement additional source control measures to further reduce concentrations of these pollutants. If the cyanide SSO becomes effective and an alternate limit takes effect, the Discharger shall implement any applicable additional pollutant minimization measures described in Basin Plan implementation requirements associated with the cyanide SSO.	Annually in the Annual Best Management Practices and Pollutant Minimization Report required by Provision VI.C.3
3. In the event source control measures are insufficient for meeting final water quality based effluent limits specified in Effluent Limitations and Discharge Specifications 3 for mercury, cyanide, and dioxin-TEQ, the Discharger shall submit a schedule for implementation of additional actions to reduce the concentrations of these pollutants.	July 1, 2009 for mercury and cyanide April 1, 2011 for dioxin-TEQ
4. The Discharger shall commence implementation of the identified additional actions in accordance with the schedule submitted in task 3, above.	Within 45 days of the date specified for task 3, above.
5. Full Compliance with IV. Effluent Limitations and Discharger Specifications 3 for mercury and cyanide.	April 28, 2010
6. Full Compliance with IV. Effluent Limitations and Discharger Specifications 3 for dioxin-TEQ. Alternatively, the Discharger may comply with the limit in IV Effluent Limitations and Discharge Specifications through implementation of a mass offset strategy for dioxin-TEQ in accordance with the policies in effect at that time.	April 1, 2017

f. Regional Monitoring Program

The discharger shall continue to participate in the Regional Monitoring Program (RMP) for trace substances in San Francisco Bay in lieu of more extensive effluent and receiving water self-monitoring requirements that may be imposed.

3. Best Management Practices and Pollutant Minimization Program

a. The Discharger shall continue to improve, in a manner acceptable to the Executive Officer, its existing Pollutant Minimization Program to promote minimization of pollutant loadings to the treatment plant and therefore to the receiving waters.

b. The Discharger shall submit an annual report, acceptable to the Executive Officer, no later than February 28 of each calendar year. Each annual report shall include at least the following information:

i. *A brief description of its treatment plant, treatment plant processes and service area.*

ii. *A discussion of the current pollutants of concern.* Periodically, the discharger shall analyze its own situation to determine which pollutants are currently a problem and/or which pollutants may be potential future problems. This discussion shall include the reasons why the pollutants were chosen.

iii. *Identification of sources for the pollutants of concern.* This discussion shall include how the Discharger intends to estimate and identify sources of the pollutants. The Discharger should also identify sources or potential sources not directly within the ability or authority of the Discharger to control, such as pollutants in the potable water supply and air deposition.

iv. *Identification of tasks to reduce the sources of the pollutants of concern.* This discussion shall identify and prioritize tasks to address the Discharger's pollutants of concern. The Discharger may implement tasks themselves or participate in group, regional, or national tasks that will address its pollutants of concern. The Discharger is strongly encouraged to participate in group, regional, or national tasks that will address its pollutants of concern whenever it is efficient and appropriate to do so. A time line shall be included for the implementation of each task.

v. *Outreach to employees.* The Discharger shall inform employees about the pollutants of concern, potential sources, and how they might be able to help reduce the discharge of these pollutants of concern into the treatment facilities. The Discharger may provide a forum for employees to provide input to the program.

vi. *Continuation of Public Outreach Program.* The Discharger shall prepare a public outreach program to communicate pollution prevention to its service area. Outreach may include participation in existing community events such as county fairs, initiating new community events such as displays and contests during Pollution Prevention Week, conducting school outreach programs, conducting

plant tours, and providing public information in newspaper articles or advertisements, radio or television stories or spots, newsletters, utility bill inserts, and web site. Information shall be specific to the target audiences. The Discharger shall coordinate with other agencies as appropriate.

vii. *Discussion of criteria used to measure Program's and tasks' effectiveness*. The Discharger shall establish criteria to evaluate the effectiveness of its Pollution Minimization Program. This shall also include a discussion of the specific criteria used to measure the effectiveness of each of the tasks in item b.iii., b.iv., b.v., and b.vi.

viii. *Documentation of efforts and progress.* This discussion shall detail all of the Discharger's activities in the Pollution Minimization Program during the reporting year.

ix. *Evaluation of Program's and tasks' effectiveness.* This Discharger shall utilize the criteria established in v.ii. to evaluate the Program's and tasks' effectiveness.

x. *Identification of specific tasks and time schedules for future efforts.* Based on the evaluation, the Discharger shall detail how it intends to continue or change its tasks in order to more effectively reduce the amount of pollutants to the treatment plant, and subsequently in its effluent.

c. Pollutant Minimization Program for Pollutants with Effluent Limitations

The Discharger shall develop and conduct a Pollutant Minimization Program (PMP) as further described below when there is evidence (e.g., sample results reported as DNQ when the effluent limitation is less than the MDL, sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:

i. A sample result is reported as DNQ and the effluent limitation is less than the RL; or

ii. A sample result is reported as ND and the effluent limitation is less than the MDL, using definitions described in the SIP.

d. If triggered by the reasons in c. above, the Discharger's PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

i. An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and

other bio-uptake sampling, or alternative measures approved by the Executive Officer when it is demonstrated that source monitoring is unlikely to produce useful analytical data;

ii. Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system, or alternative measures approved by the Executive Officer, when it is demonstrated that influent monitoring is unlikely to produce useful analytical data;

iii. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;

iv. Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and

v. The annual report required by 3.b. above, shall specifically address the following items:

1. All PMP monitoring results for the previous year;

2. A list of potential sources of the reportable priority pollutant(s);

3. A summary of all actions undertaken pursuant to the control strategy; and

4. A description of actions to be taken in the following year.

4. Construction, Operation and Maintenance Specifications

a. Wastewater Facilities, Review and Evaluation, and Status Reports

(1) The Discharger shall operate and maintain its wastewater collection, treatment, and disposal facilities in a manner to ensure that all facilities are adequately staffed, supervised, financed, operated, maintained, repaired, and upgraded as necessary, in order to provide adequate and reliable transport, treatment, and disposal of all wastewater from both existing and planned future wastewater sources under the Discharger's service responsibilities.

(2) The Discharger shall regularly review and evaluate its wastewater facilities and operation practices in accordance with section a.1 above. Reviews and evaluations shall be conducted as an ongoing component of the Discharger's administration of its wastewater facilities.

(3) The Discharger shall provide the Executive Officer, upon his or her request, a report describing the current status of its wastewater facilities and operation practices, including any recommended or planned actions and an estimated time schedule for these actions. The Discharger shall also include, in each annual self-monitoring report, a description or summary of review and evaluation

procedures, and applicable wastewater facility programs or capital improvement projects.

b. Operations and Maintenance (O&M) Manual, Review and Status Reports

(1) The Discharger shall maintain an O&M Manual as described in the findings of this Order for the Discharger's wastewater facilities. The O&M Manual shall be maintained in usable condition, and available for reference and use by all applicable personnel.

(2) The Discharger shall regularly review, revise, or update, as necessary, the O&M Manual(s) so that the document(s) may remain useful and relevant to current equipment and operation practices. Reviews shall be conducted annually, and revisions or updates shall be completed as necessary. For any significant changes in treatment facility equipment or operation practices, applicable revisions shall be completed within 90 days of completion of such changes.

(3) The Discharger shall provide the Executive Officer, upon his or her request, a report describing the current status of its O&M Manual, including any recommended or planned actions and an estimated time schedule for these actions. The Discharger shall also include, in each annual self-monitoring report, a description or summary of review and evaluation procedures, and applicable changes to, its operations and maintenance manual.

c. Contingency Plan, Review and Status Reports

(1) The Discharger shall maintain a Contingency Plan as required by Regional Water Board Resolution No. 74-10 (Attachment G), and as prudent in accordance with current municipal facility emergency planning. The discharge of pollutants in violation of this Order where the Discharger has failed to develop and/or adequately implement a contingency plan will be the basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.

(2) The Discharger shall regularly review, and update as necessary, the Contingency Plan so that the plan may remain useful and relevant to current equipment and operation practices. Reviews shall be conducted annually, and updates shall be completed as necessary.

(3) The Discharger shall provide the Executive Officer, upon his or her request, a report describing the current status of its Contingency Plan review and update. The Discharger shall also include, in each annual self-monitoring report, a description or summary of review and evaluation procedures, and applicable changes to, its Contingency Plan.

5. Special Provisions for POTW

a. Pretreatment Program

1) Pretreatment Program: The Discharger shall implement and enforce its approved pretreatment program in accordance with Federal Pretreatment Regulations (40 CFR § 403), pretreatment standards promulgated under Section 307(b), 307(c), and 307(d) of the Clean Water Act, pretreatment requirements specified under 40 CFR § 122.44(j), and the requirements in **Attachment H**, "Pretreatment Requirements." The Discharger's responsibilities include, but are not limited to:

   i. Enforcement of National Pretreatment Standards of 40 CFR §§ 403.5 and 403.6;

   ii. Implementation of its pretreatment program in accordance with legal authorities, policies, procedures, and financial provisions described in the General Pretreatment regulations (40 CFR § 403) and its approved pretreatment program;

   iii. Submission of reports to USEPA, the State Water Board, and the Regional Water Board, as described in **Attachment H** "Pretreatment Requirements".

   iv. Evaluate the need to revise local limits under 40 CFR § 403.5(c)(1); and within 180 days after the effective date of this Order, submit a report describing the changes with a plan and schedule for implementation.

2) The Discharger shall implement its approved pretreatment program and the program shall be an enforceable condition of this permit. If the Discharger fails to perform the pretreatment functions, the Regional Water Board, the State Water Board, or the USEPA may take enforcement actions against the Discharger as authorized by the Clean Water Act.

b. Sludge Management Practices Requirements

1) All sludge generated by the Discharger must be disposed of in a municipal solid waste landfill, reused by land application, or disposed of in a sludge -only landfill in accordance with 40 CFR §503. If the Discharger desires to dispose of sludge by a different method, a request for permit modification must be submitted to USEPA 180 days before start-up of the alternative disposal practice. All the requirements in 40 CFR §503 are enforceable by USEPA whether or not they are stated in an NPDES permit or other permit issued to the Discharger. The Regional Water Board should be copied on relevant correspondence and reports forwarded to USEPA regarding sludge management practices.

2) Sludge treatment, storage and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.

3) The Discharger shall take all reasonable steps to prevent or minimize any sludge use or disposal which has a likelihood of adversely affecting human health or the environment.

4) Sludge at the Discharger's facility shall not cause waste material to be in a position where it is or can be carried from the facility and deposited in waters of the State.

5) The sludge treatment and storage site shall have facilities adequate to divert surface runoff from adjacent areas, to protect boundaries of the site from erosion, and to prevent any conditions that would cause drainage from the materials in the temporary storage site. Adequate protection is defined as protection from at least a 100-year storm and protection from the highest possible tidal stage that may occur.

6) For sludge that is applied to the land, placed on a surface disposal site, or fired in a sludge incinerator as defined in 40 CFR §503, the Discharger shall submit an annual report to USEPA and the Regional Water Board containing monitoring results and pathogen and vector attraction reduction requirements as specified by 40 CFR §503, postmarked February 15 of each year, for the period covering the previous calendar year.

7) Sludge that are disposed of in a municipal solid waste landfill must meet the requirements of 40 CFR §258. In the annual self-monitoring report, the Discharger shall include the amount of sludge disposed of and the landfill(s) to which it was sent.

8) Permanent on-site sludge storage or disposal activities are not authorized by this permit. A report of Waste Discharge shall be filed and the site brought into compliance with all applicable regulations prior to commencement of any such activity by the Discharger.

9) Sludge Monitoring and Reporting Provisions of this Regional Water Board's Standard Provisions (**Attachment G**), apply to sludge handling, disposal and reporting practices.

10) The Regional Water Board may amend this permit prior to expiration if changes occur in applicable state and federal sludge regulations.

c. Utility Analysis and Implementation Schedule for Wet Weather Bypass of Secondary Treatment

180 days prior to the Order expiration date, the Discharger shall complete a utility analysis if it seeks to continue to bypass peak wet weather flows around its secondary treatment units. The utility analysis must satisfy 40 CFR 122.4 (m)(4)(i)(A)-(C), and any applicable policy or guidance such as the process set forth in Part 1 of USEPA's Peak Wet Weather Policy's No Feasible Alternatives Analysis Process (available at *http://cfpub.epa.gov/npdes/wetweather.cfm*) once it is finalized. Specifically, the Discharger shall more fully evaluate the extent to which it maximizes its ability to reduce inflow/infiltration (I/I) throughout the entire collection system (i.e. not only the portions operated by the Discharger, but also portions operated by its member agencies), including the use of existing legal

authorities, potential improvements in the timing or quality of such efforts, and options for obtaining or expanding legal authorities to reduce I/I from satellite collection systems.

d. Sanitary Sewer Overflows and Sewer System Management Plan

The Discharger's collection system is part of the facility that is subject to this Order. As such, the Discharge must properly operate and maintain its collection system (Attachment D, Standard Provisions - Permit Compliance, subsection I.D). The Discharger must report any noncompliance (Attachment D, Standard Provision - Reporting, subsections V.E.1 and V.E.2), and mitigate any discharge from the Discharger's collection system in violation of this Order (Attachment D, Standard Provisions - Permit Compliance, subsection I.C).

6. Corrective Measures to Minimize Blending Events

The Discharger shall comply with the following tasks and deadlines to complete its Wet Weather Improvement Project, and to address Inflow and Infiltration into Satellite collection Systems:

Tasks	Compliance Date
1. *Final Design.* Complete the design and peer review of the Wet Weather Improvement Project, and have the project ready for public bid.	June 30, 2007
2. *Public Bidding Process.* Advertise the construction project for the Wet Weather Improvement Project with a public bid opening.	August 31, 2007
3. Award Contract. Board of Commissioners approves the selected responsible bidder.	November 30, 2007
4. Commencement of Construction. Commence construction of the Wet Weather Improvement Project.	January 31, 2008
5. Annual Report. The Discharger shall report on the status of its Weather Improvement Project. Additionally, the Discharger shall report on its collaboration efforts with satellite collection systems, and the measures these agencies are implementing to reduce inflow and infiltration. In this Report, the Discharger shall also consider options for expanding its legal authority to reduce I/I from satellite collection systems.	Annually with the Annual Self-Monitoring Report required pursuant to Attachment E, Section XII.B.2 (due February 1st)
6. Completion of Wet Weather Improvement Project. The Discharger shall document that it has completed installation, and that all equipment is online and operational.	October 31, 2011

VII. COMPLIANCE DETERMINATION

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

A. General.

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in the MRP and 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 priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

B. Multiple Sample Data.

When determining compliance with an AMEL, AWEL, or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. 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.

2. 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.

ATTACHMENT A - DEFINITIONS

Arithmetic Mean (m), also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

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.

Bioaccumulative pollutants are those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV) is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

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.

Detected, but Not Quantified (DNQ) are those sample results less than the RL, but greater than or equal to the laboratory's MDL.

Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Effluent Concentration Allowance (ECA) is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in U.S. EPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays means 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 the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Estimated Chemical Concentration is the estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters are all surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

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).

Maximum Daily Effluent Limitation (MDEL) means the highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median is the middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X(n+1)/2$. If n is even, then the median = $(Xn/2 + X(n/2)+1)/2$ (i.e., the midpoint between the n/2 and n/2+1).

Method Detection Limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

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

Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

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

Ocean Waters are 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. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (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 shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State or Regional Water Board.

Reporting Level (RL) is 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 a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based

on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Satellite Collection System is 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.

Source of Drinking Water is any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

Standard Deviation (σ) is a measure of variability that is calculated as follows:

$$\sigma = \sqrt{\frac{\Sigma(\bar{x} - \mu)^2}{n-1}}$$

where:

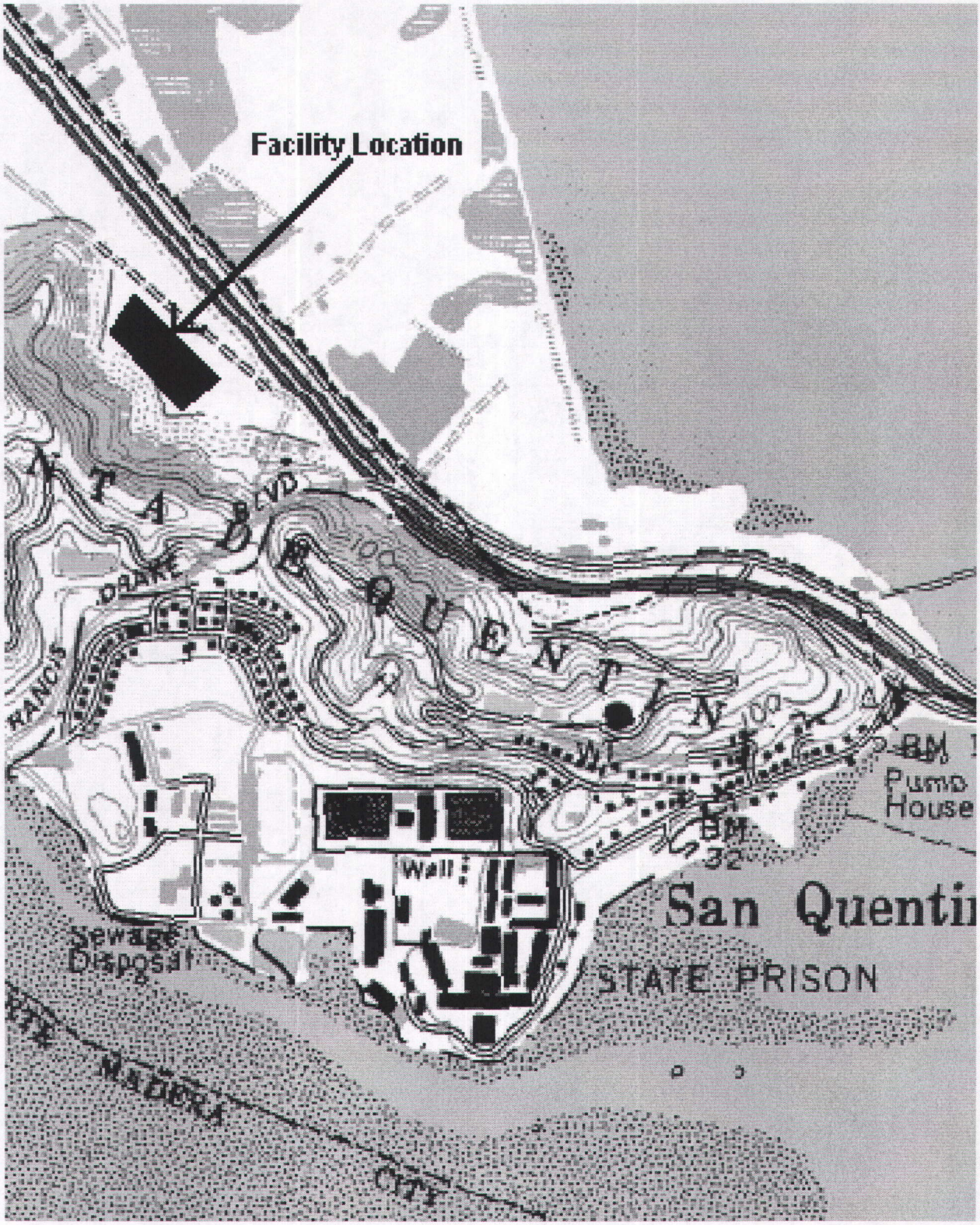
x is the observed value;

μ is the arithmetic mean of the observed values; and

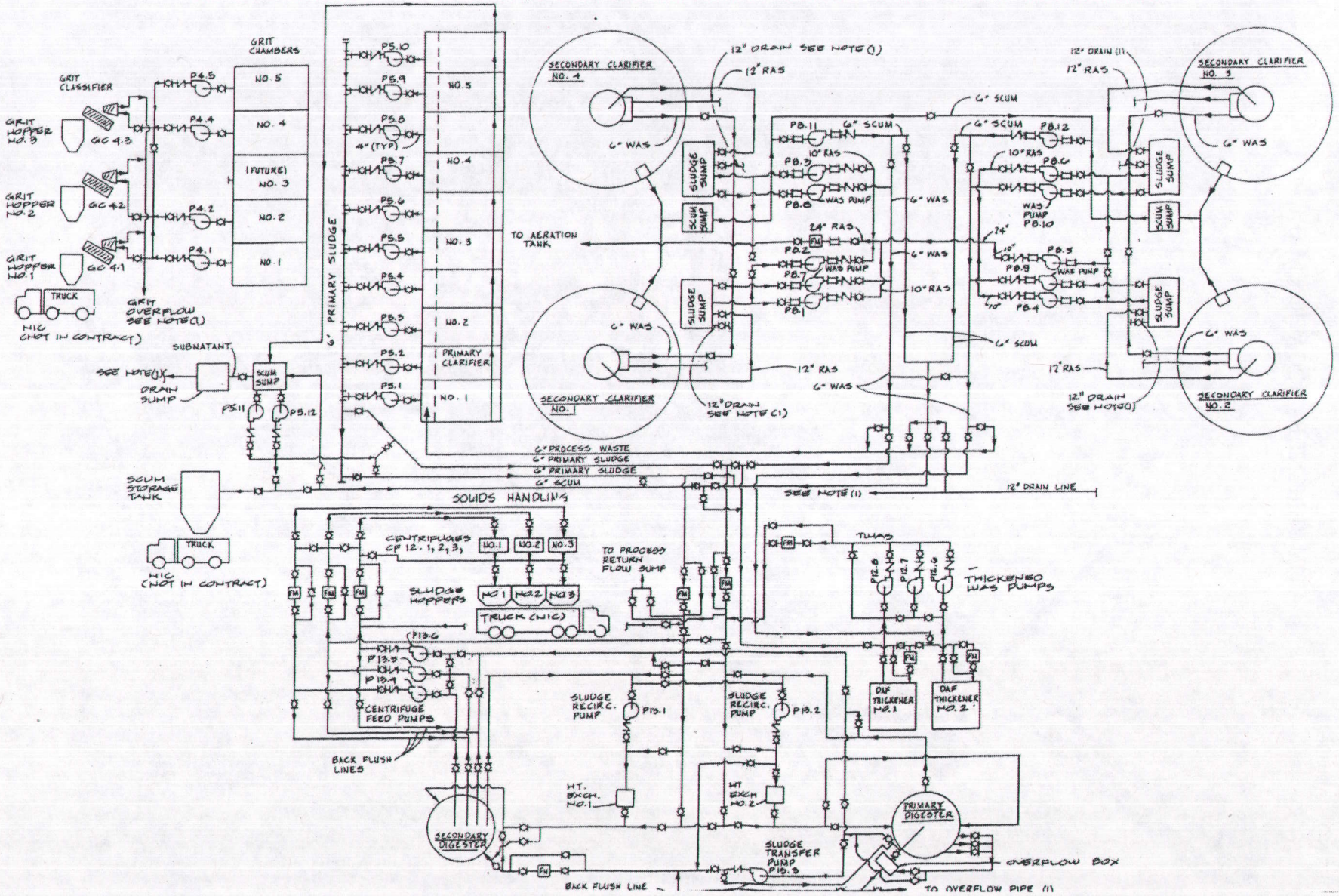
n is the number of samples.

Toxicity Reduction Evaluation (TRE) is 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.)

ATTACHMENT B - LOCATION MAP



ATTACHMENT C – CENTRAL MARIN SANITATION AGENCY WWTP FLOW SCHEMATIC



ATTACHMENT D - FEDERAL 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 (CWC) and is grounds for enforcement action, for permit termination, revocation and reissuance, 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 Clean Water Act for toxic pollutants and with standards for sewage sludge use or 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 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. Property 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 Regional Water Quality Control Board (Regional Water Board), State Water Resources Control 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)*] [*CWC 13383(c)*]:

1. Enter upon the Dischargers' 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)*];

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the CWC, 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 and I.G.5 below [*40 CFR §122.41(m)(2)*].

3. Prohibition of bypass – Bypass is prohibited, and the Regional Water Board 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)(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)(B)*]; and

c. The Discharger(s) submitted notice to the Regional Water Board as required under Standard Provision – Permit Compliance I.G.5 below [*40 CFR §122.41(m)(4)(C)*].

4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board 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(s) knows in advance of the need for a bypass, it shall submit a 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(s) shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below [*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(s). 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 paragraph H.2 of this section 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)(i)];

c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b [*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(s) 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 wish 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 Regional Water Board. The Regional Water Board 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 CWC [*40 CFR §122.41(l)(3)*] [*40 CFR §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. Monitoring results must be conducted according to test procedures under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503 unless other test procedures have been specified in this Order [40 CFR §122.41(j)(4)] [40 CFR §122.44(i)(1)(iv)].

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Dischargers' sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR 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 Regional Water Board Executive Officer at any time [*40 CFR §122.41(j)(2)*].

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. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional 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 Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order [*40 CFR §122.41(h)*] [*CWC 13267*].

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with paragraph (2.) and (3.) of this provision [*40 CFR §122.41(k)*]

2. All permit applications shall be signed as follows:

a. For a corporation: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management

decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures [*40 CFR §122.22(a)(1)*];

b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively [*40 CFR §122.22(a)(2)*]; or

c. For a municipality, State, federal, or other public agency: 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 Regional Water Board, State Water Board, or USEPA shall be signed by a person described in paragraph (b) of this provision, 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 paragraph (2.) of this provision [*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 Regional Water Board, State Water Board, or USEPA [*40 CFR §122.22(b)(3)*].

4. If an authorization under paragraph (3.) of this provision 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 paragraph (3.) of this provision must be submitted to the Regional Water Board, State Water Board or 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 paragraph (2.) or (3.) of this provision 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 in this Order [*40 CFR §122.41(l)(4)*].

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board 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 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR 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 Regional Water Board [*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. Twenty-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 in this Order to be reported within 24 hours [*40 CFR §122.41(l)(6)(ii)(C)*].

3. The Regional Water Board 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 Regional Water Board 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 40 CFR §122.29(b) [*40 CFR §122.41(l)(1)(i)*]; or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in this Order nor to notification requirements under 40 CFR Part122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1) [*40 CFR §122.41(l)(1)(ii)*].

3. The alteration or addition results in a significant change in the Dischargers' 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 Regional Water Board or State Water Board 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 E.1, E.2, and E.3 at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E [*40 CFR §122.41(l)(7)*].

I. Other Information

When the Discharger becomes aware that they failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional 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 CWA 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 CWA 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 one (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 two (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 three (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 six (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 Clean Water Act, 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 [*40 CFR §122.41(a)(2)*] [*CWC 13385 and 13387*].

B. Any person may be assessed an administrative penalty by the Regional Water Board 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 [*40 CFR §122.41(a)(3)*].

C. 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)*].

D. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order, including monitoring reports or reports of compliance or noncompliance shall, uponconviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both [*40 CFR §122.41(k)(2)*].

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural dischargers shall notify the Regional Water Board as soon as they know or have reason to believe [*40 CFR §122.42(a)*]:

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" [*40 CFR §122.42(a)(1)*]:

   a. 100 micrograms per liter (µg/L) [*40 CFR §122.42(a)(1)(i)*];

   b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony [*40 CFR §122.42(a)(1)(ii)*];

   c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [*40 CFR §122.42(a)(1)(iii)*]; or

   d. The level established by the Regional Water Board in accordance with 40 CFR §122.44(f) [*40 CFR §122.42(a)(1)(iv)*].

2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" [*40 CFR §122.42(a)(2)*]:

   a. 500 micrograms per liter (µg/L) [*40 CFR §122.42(a)(2)(i)*];

   b. 1 milligram per liter (mg/L) for antimony [*40 CFR §122.42(a)(2)(ii)*];

   c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [*40 CFR §122.42(a)(2)(iii)*]; or

d. The level established by the Regional Water Board in accordance with 40 CFR §122.44(f) [*40 CFR §122.42(a)(2)(iv)*].

B. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board 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)*]; and

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)*].

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 (MRP)

NPDES regulations at 40 CFR §122.48 require that all NPDES permits specify monitoring and reporting requirements. CWC sections 13267 and 13383 also authorize the Regional Water Board to require technical and monitoring reports. This Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements that implement the federal and State regulations.

I. GENERAL MONITORING PROVISIONS

A. The Discharger shall comply with the MRP for this Order as adopted by the Regional Water Board, and with all of the requirements contained in Self-Monitoring Program, Part A, adopted August 1993 (SMP, Attachment G). The MRP and SMP may be amended by the Executive Officer pursuant to USEPA regulations 40 CFR §§122.62, 122.63, and 124.5. If any discrepancies exist between the MRP and SMP, the MRP prevails.

B. Sampling is required during the entire year when discharging. All analyses shall be conducted using current USEPA methods, or that have been approved by the USEPA Regional Administrator pursuant to 40 CFR 136.4 and 40 CFR 136.5, or equivalent methods that are commercially and reasonably available, and that provide quantification of sampling parameters and constituents sufficient to evaluate compliance with applicable effluent limits and to perform reasonable potential analysis. Equivalent methods must be more sensitive than those specified in 40 CFR 136, must be specified in the permit, and must be approved for use by the Executive Officer, following consultation with the State Water Quality Control Board's Quality Assurance Program.

C. Sampling and analysis of additional constituents is required pursuant to Table 1 of the Regional Water Board's August 6, 2001 Letter titled Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy.

D. *Minimum Levels.* For compliance and reasonable potential monitoring, analyses shall be conducted using the commercially available and reasonably achievable detection levels that are lower than the WQOs/WQC or the effluent limitations, whichever is lower. The objective is to provide quantification of constituents sufficient to allow evaluation of observed concentrations with respect to the Minimum Levels given below. All Minimum Levels are expressed as µg/L approximately equal to parts per billion (ppb).

Table E-1 lists the test method the Discharger may use for compliance and reasonable potential monitoring for the pollutants with effluent limits.

Table E-1. Test Methods and Minimum Levels for Pollutants with Reasonable Potential

CTR #	Constituent	Types of Analytical Methods[1] Minimum Levels (µg/L)											
		GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPG FAA	HYD RIDE	CVAF	DCP
6.	Copper								0.5	2			
8.	Mercury[2]											0.0005	
14.	Cyanide				5								
	TCDD TEQ[3]	½ USEPA 1613 specified MLs											

(1) Analytical Methods / Laboratory techniques are defined as follows:

GC = Gas Chromatography;
GCMS = Gas Chromatography/Mass Spectrometry;
Color = Colorimetric;
GFAA = Graphite Furnace Atomic Absorption;
ICPMS = Inductively Coupled Plasma/Mass Spectrometry;
SPGFAA = Stabilized Platform Graphite Furnace Atomic Absorption (i.e. USEPA 200.9); and
CVAF = Cold Vapor Atomic Fluorescence.

(2) The Discharger shall use ultra-clean sampling (USEPA Method 1669) and ultra-clean analytical methods (USEPA method 1631) for mercury monitoring, which specifies a ML of 0.5 ng/L or 0.0005 µg/L.

(3) The Discharger shall achieve MLs for 2,3,7,8-TCDD and all other 16 congeners using ½ the MLs specified in USEPA method 1613. These were developed in collaboration with BACWA as levels that were achievable by BACWA participants (see BACWA Letter dated April 23, 2002). These MLs range from 5 to 50 pg/L.

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-2. Description of Monitoring Stations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
--	M-INF	At any point in the treatment facility's headworks at which all waste tributary to the treatment system is present, and proceeding any phase of treatment.
001	M-001	At any point in the outfall between the point of discharge and the point at which all waste tributary to the outfall is present.
001	M-002	At any point in the outfall following dechlorination.
--	B-001	Biosolids monitoring.

III. INFLUENT MONITORING REQUIREMENTS - MONITORING LOCATION M-INF

A. The Discharger shall monitor the influent to the facility at M-INF as specified in Table E-3:

Table E-3. Influent Monitoring Requirements for Conventional Pollutants

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow Rate[(1)]	MGD	Continuous	Daily
$CBOD_5$	mg/L	C-24	1/Week
$CBOD_5$	kg/d	Calculated	1/Week
TSS	mg/L	C-24	1/Week
TSS	kg/d	Calculated	1/Week

Legend: C-24: 24-hour composite

[(1)]Flows shall be monitored continuously and the following shall be reported in monthly self-monitoring reports:
a. Influent, average, maximum and minimum daily flows;

Influent monitoring identified in the table above is the minimum required monitoring. Additional sampling and analyses may be required in accordance with Pretreatment Program or Pollution Prevention/Source Control Program requirements (see Section IX.A below).

IV. EFFLUENT MONITORING REQUIREMENTS

A. Effluent Monitoring Requirements – Monitoring Location M-001

The Discharger shall monitor treated wastewater at M-001 as specified in Table E-4 below:

Table E-4. Schedule of Sampling, Measurement, and Analysis

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow Rate[1]	MGD	Continuous	1/Day
Dissolved Oxygen[2]	mg/L	Grab	3/Week
Total Coliform[3]	MPN/100 ml	Grab	3/Week
Standard Observations	--	--	1/Month

Legend: C-24: 24-hour composite

(1) Flows shall be monitored continuously and the following shall be reported in monthly self-monitoring reports:
a. Influent, average, maximum and minimum daily flows;

(2) These parameters shall be tested for only the sample stream used for the flow-through bioassays, beginning at the start of the bioassay and then daily for the duration of the test (i.e. 0, 24, 48, 72, and 96 hours). Ammonia nitrogen shall be tested once during the bioassay.

(3) When replicate analyses are made of a coliform sample, the reported result shall be the arithmetic mean of the replicate analysis sample.

B. Effluent Monitoring Requirements – Monitoring Location M-002

The Discharger shall monitor treated wastewater at M-002 as specified in Table E-5 below:

Table E-5. Schedule of Sampling, Measurement, and Analysis

Parameter	Units	Sample Type	Minimum Sampling Frequency
pH[1,2]	pH units	Grab	Continuous
Temperature[2]	°C	Grab	1/Day
Dissolved Oxygen[2]	mg/L	Grab	1/Day
Ammonia Nitrogen[2,3]	mg/L	C-24	1/Month
CBOD (5-day@20°C)[4]	mg/L	C-24	1/Week
Total Suspended Solids[4]	mg/L	C-24	1/Day
Oil and Grease[5]	mg/L	Grab	Quarterly
Chronic Toxicity[6]	TU_c	C-24	2/Year
Copper	µg/L	C-24	1/Month
Cyanide	µg/L	Grab	1/Month
Mercury[7]	µg/L and kg/month	Grab	1/Month
2,3,7,8-TCDD and congeners [8]	µg/L	Grab	2/Year (1 wet, 1 dry season)
Remaining Priority Pollutants	µg/L	C-24	1/Year
Chlorine Residual	mg/L	Continuous	1/ 2 Hours

Parameter	Units	Sample Type	Minimum Sampling Frequency
Acute Toxicity(9)	TU_a	C-24	1/Month

Legend: C-24: 24-hour composite

(1) If pH is monitored continuously; the minimum and maximum pH values for each day shall be reported in monthly self-monitoring reports.

(2) These parameters shall be tested for only the sample stream used for the flow-through bioassays, beginning at the start of the bioassay and then daily for the duration of the test (i.e., 0, 24, 48, 72, and 96 hours). Ammonia nitrogen shall be tested once during the bioassay.

(3) Ammonia nitrogen shall be monitored weekly during the months of July, August, and September. Monthly monitoring may occur during the remaining months.

(4) The percent removal for CBOD and TSS shall be reported for each calendar month.

(5) Each oil and grease sampling event shall consist of a composite sample comprised of three grab samples taken at equal intervals during the sample date, with each grab sample being collected in a glass container. Each glass container used for sample collection or mixing shall be thoroughly rinsed with solvent rinsing as soon as possible after each use, and solvent rinsings shall be added to the composite sample for extraction and analysis.

(6) Critical Life Stage Toxicity Test shall be performed and recorded in accordance with the Chronic Toxicity Requirements specified in Section V.B of the MRP. Note that accelerated monitoring required in Section V.B of the MRP is required to occur on a monthly basis.

(7) Mercury: The Discharger may, at its option, sample effluent mercury as grab or 24-hour composite samples

(8) Chlorinated dibenzodioxins and chlorinated dibenzofurans shall be analyzed using the latest version of USEPA Method 1613.

(9) Acute bioassay test shall be performed in accordance with Section V.A of this MRP.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

The Discharger shall monitor acute and chronic toxicity at M-002 as follows:

A. Whole Effluent Acute Toxicity

1. Compliance with the acute toxicity effluent limitations of this Order shall be evaluated by measuring survival of test organisms exposed to 96-hour continuous flow-through bioassays.

2. Test organisms shall be fathead minnow or rainbow trout.

3. All bioassays shall be performed according to the most up-to-date protocols in 40 CFR Part 136, currently in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms," 5th Edition.

4. If specific identifiable substances in the discharge can be demonstrated by the Discharger as being rapidly rendered harmless upon discharge to the receiving water, compliance with the acute toxicity limit may be determined after the test samples are adjusted to remove the influence of those substances. Written approval from the Executive Officer must be obtained to authorize such an adjustment.

5. Effluent used for fish bioassays must be dechlorinated prior to testing. Monitoring of the bioassay water shall include, on a daily basis, the following parameters: pH, dissolved oxygen, ammonia (if toxicity is observed), temperature, hardness, and alkalinity. These results shall be reported. If a violation of acute toxicity requirements occurs or if the control fish survival rate is less than 90 percent, the bioassay test shall be restarted with

new batches of fish and shall continue back to back until compliance is demonstrated.

B. Whole Effluent Chronic Toxicity

1. Chronic Toxicity Monitoring Requirements

   a. *Sampling*. The Discharger shall collect 24-hour composite samples of the effluent at M-002 in accordance with the frequency specified in the table above, for critical life stage toxicity testing as indicated below. For toxicity tests requiring renewals, 24-hour composite samples collected on consecutive days are required.

   b. *Test Species*. *Pimephales promelas*.

   c. *Methodology*. Sample collection, handling and preservation shall be in accordance with USEPA protocols. In addition, bioassays shall be conducted in compliance with the most recently promulgated test methods, as shown in **Appendix E-1.** These are "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms," currently third edition (EPA-821-R-02-014), and "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms," currently fourth Edition (EPA-821-R-02-013), with exceptions granted the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP).

   d. *Dilution Series*. The Discharger shall conduct tests at 40%, 20%, 10%, 5%, and 2.5%. The "%" represents percent effluent as discharged. Samples may be buffered using the biological buffer MOPS (3-(N-Morpholino)propanesulfonic Acid) to control pH drift and ammonia toxicity caused by increasing pH during the test.

2. Chronic Toxicity Reporting Requirements

   a. *Routine Reporting*. Toxicity test results for the current reporting period shall include, at a minimum, for each test:

      i. Sample date(s)
      ii. Test initiation date
      iii. Test species
      iv. End point values for each dilution (e.g. number of young, growth rate, percent survival)
      v. NOEC value(s) in percent effluent
      vi. IC15, IC25, IC40, and IC50 values (or EC15, EC25 ... etc.) in percent effluent
      vii. TUc values (100/NOEC, 100/IC25, or 100/EC25)
      viii. Mean percent mortality (±s.d.) after 96 hours in 100% effluent (if applicable)
      ix. NOEC and LOEC values for reference toxicant test(s)
      x. IC50 or EC50 value(s) for reference toxicant test(s)
      xi. Available water quality measurements for each test (pH, D.O., temperature, conductivity, hardness, salinity, ammonia)

b. *Compliance Summary.* The results of the chronic toxicity testing shall be provided in the next self-monitoring report and shall include a summary table of chronic toxicity data from at least three of the most recent samples. The information in the table shall include items listed above under 2.a, specifically, item numbers i, iii, v, vi (IC25 or EC25), vii, and viii.

3. Chronic Toxicity Reduction Evaluation (TRE)

a. *Generic TRE Work Plan.* To be prepared for responding to toxicity events, the Discharger shall prepare a generic TRE work plan within 90 days of the effective date of this Order. The Discharger shall review and update the work plan as necessary to remain current and applicable to the discharge and discharge facilities.

b. *Specific TRE Work Plan.* Within 30 days of exceeding either trigger for accelerated monitoring, the Discharge shall submit to the Regional Water Board a TRE work plan, which should be the generic work plan revised as appropriate for this toxicity event after consideration of available discharge data.

c. *Initiate TRE.* Within 30 days of the date of completion of the accelerated monitoring tests observed to exceed either trigger, the Discharger shall initiate a TRE in accordance with a TRE work plan that incorporates any and all comments from the Executive Officer.

d. The TRE shall be specific to the discharge and be in accordance with current technical guidance and reference materials, including USEPA guidance materials. The TRE shall be conducted as a tiered evaluation process, such as summarized below:

i. Tier 1 consists of basic data collection (routine and accelerated monitoring).
ii. Tier 2 consists of evaluation of optimization of the treatment process, including operation practices and in-plant process chemicals.
iii. Tier 3 consists of a toxicity identification evaluation (TIE).
iv. Tier 4 consists of evaluation of options for additional effluent treatment processes.
v. Tier 5 consists of evaluation of options for modifications of in-plant treatment processes.
vi. Tier 6 consists of implementation of selected toxicity control measures, and follow-up monitoring and confirmation of implementation success.

e. The TRE may be ended at any stage if monitoring finds there is no longer consistent toxicity (complying with Effluent Limitations Section IV.6.a).

f. The objective of the TIE shall be to identify the substance or combination of substances causing the observed toxicity. All reasonable efforts using currently available TIE methodologies shall be employed.

g. As toxic substances are identified or characterized, the Discharger shall continue the

TRE by determining the source(s) and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with chronic toxicity evaluation parameters.

h. Many recommended TRE elements parallel required or recommended efforts of source control, pollution prevention and storm water control programs. TRE efforts should be coordinated with such efforts. To prevent duplication of efforts, evidence of complying with requirements or recommended efforts of such programs may be acceptable to comply with TRE requirements.

i. The Regional Water Board recognizes that chronic toxicity may be episodic and identification of causes of and reduction of sources of chronic toxicity may not be successful in all cases. Consideration of enforcement action by the Regional WaterBoard will be based in part on the Discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

(Not applicable)

VII. RECLAMATION MONITORING REQUIREMENTS

(Not applicable)

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Regional Monitoring Program (RMP 1)

The Discharger shall continue to participate in the Regional Monitoring Program, which involves collection of data on pollutants and toxicity in water, sediment and biota of the Estuary. The Discharger's participation and support of the RMP is used in consideration of the level of receiving water monitoring required by this Order.

IX. OTHER MONITORING REQUIREMENTS

A. Pretreatment Requirements

The Discharger shall comply with the pretreatment requirements as specified in Table E-6 for both influent (M-INF), effluent (M-002), and biosolids (B-001):

Table E-6. Pretreatment Program Monitoring Requirements

Constituents	Location and Frequency			Required Test Methods
	Influent	Effluent	Biosolids	
VOC [1]	2/Y	2/Y	2/Y	624
BNA [1]	A	A	2/Y	625
Hexavalent Chromium [2]	M	M	2/Y	Standard Methods 3500
Metals [3]	M	M	2/Y	GFAA, ICP, ICP-MS
Mercury [4]	M	M	2/Y	EPA 245, 1631
Cyanide [4]	M	M	2/Y	Standard Methods 4500-CN^- C or I

Legend:

A = once each calendar year
M = once each month
Q = once each quarter
2/Y= each calendar year (at about 6 month intervals, once in the dry season, once in the wet season)
VOC = volatile organic compounds
BNA = base/neutrals and acids extractable organic compounds

Footnotes for Table E-6:

[1] GC/MS methods used must be able to quantify to an equivalent level as applicable GC methods (EPA 601, 602, 603, 604, 606).
[2] Total chromium may be substituted for hexavalent chromium at the Discharger's discretion.
[3] The parameters are arsenic, cadmium, selenium, copper, lead, mercury, nickel, silver, zinc, and total chromium (if the Discharger elects to substitute total chromium for hexavalent chromium).
[4] Influent and effluent monitoring conducted per Tables E-3, E-4, and E-5 can be used to satisfy these pretreatment program sampling requirements and vice versa.

B. Biosolids Monitoring (B-001E)

The Discharger shall continue to analyze sludge on a semi-annual basis prior to disposal for priority pollutant metals and organics. See above Pretreatment Monitoring for specific requirements.

X. LEGEND FOR MRP TABLES

Types of Samples

C-24	=	composite sample, 24 hours (includes continuous sampling, such as flows)
C-X	=	composite sample, X hours
G	=	grab sample

Frequency of Sampling

Cont.	=	Continuous
Cont/D	=	Continuous monitoring & daily reporting
H	=	once each hour (at about hourly intervals)
W	=	once each week
2/W	=	twice each week
4/W	=	four times each week
M	=	once each month
Q	=	once each calendar quarter (at about three month intervals)
1/Y	=	once each calendar year
2/Y	=	twice each calendar year (at about 6 months intervals, once during dry season, once during wet season)

Parameter and Unit Abbreviations

CBOD	=	Carbonaceous Biochemical Oxygen Demand
D.O.	=	Dissolved Oxygen
Est V	=	Estimated Volume (gallons)
Metals	=	Multiple metals
PAHs	=	Polycyclic Aromatic Hydrocarbons
TSS	=	Total Suspended Solids
MGD	=	million gallons per day
mg/L	=	milligrams per liter
mL/L-hr	=	milliliters per liter, per hour
µg/L	=	micrograms per liter
ng/L	=	nanograms per liter, 1 ng/L= 10^{-3} µg/L
kg/d	=	kilograms per day
kg/mo	=	kilograms per month
MPN/100 mL	=	Most Probable Number per 100 milliliters

XI. Modifications to Part A of Self-Monitoring Program

Section C.2.h of Part A shall be amended as follows:

h. When any type of bypass occurs, except for bypasses that are consistent with Prohibition III.C of this Order, composite samples shall be collected on a daily basis for constituents at all affected discharge points that have effluent limits for the duration of the bypass.

When bypassing occurs from any treatment process (primary, secondary, chlorination, dechlorination, etc.) in the Facility that is consistent with Prohibition III.B of this Order during high wet weather inflow, the self-monitoring program shall include the following sampling and analyses in addition to the schedule given in this MRP:

When bypassing occurs from any primary or secondary treatment unit(s), samples of the discharge shall be collected for the duration of the bypass event for TSS analysis

in 24-hour composite or less increments, and continuous monitoring of flow and pH, every 2 hours sampling for chlorine residual, and grabs for coliform. Samples in accordance with proper sampling techniques for all other limited pollutant parameters, except coliform, shall also be collected and retained for analysis if necessary. If a daily TSS value exceeds the weekly average effluent limit, analysis of the retained samples shall be conducted for all pollutant constituents that have limits, except toxicity and oil and grease, for the duration of the bypass event. Holding times for these retained samples must be complied with.

Modify Section F.4 as follows:

Self-Monitoring Reports

[Add the following to the beginning of the first paragraph]

For each calendar month, a self-monitoring report (SMR) shall be submitted to the Regional Water Board in accordance with the requirements listed in Self-Monitoring Program, Part A. The purpose of the report is to document treatment performance, effluent quality and compliance with waste discharge requirements prescribed by this Order, as demonstrated by the monitoring program data and the Discharger's operation practices.

[And add at the end of Section F.4 the following:]

g. If the Discharger wishes to invalidate any measurement, the letter of transmittal will include a formal request to invalidate the measurement; the original measurement in question, the reason for invalidating the measurement, all relevant documentation that supports the invalidation (e.g., laboratory sheet, log entry, test results, etc.), and discussion of the corrective actions taken or planned (with a time schedule for completion), to prevent recurrence of the sampling or measurement problem. The invalidation of a measurement requires the approval of Water Board staff and will be based solely on the documentation submitted at that time.

h. Reporting Data in Electronic Format

The Discharger has the option to submit all monitoring results in an electronic reporting format approved by the Executive Officer. If the Discharger chooses to submit SMRs electronically, the following shall apply:

1) Reporting Method: The Discharger shall submit SMRs electronically via the process approved by the Executive Officer in a letter dated December 17, 1999, Official Implementation of Electronic Reporting System (ERS) and in the Progress Report letter dated December 17, 2000, or in a subsequently approved format that the Permit has been modified to include.

2) Monthly or Quarterly Reporting Requirements: For each reporting period (monthly or quarterly as specified in SMP Part B), an electronic SMR shall be submitted to the Regional Water Board in accordance with Section F.4.a-g.

above. However, until USEPA approves the electronic signature or other signature technologies, Dischargers that are using the ERS must submit a hard copy of the original transmittal letter, an ERS printout of the data sheet, a violation report, and a receipt of the electronic transmittal.

3) Annual Reporting Requirements: Dischargers who have submitted data using the ERS for at least one calendar year are exempt from submitting an annual report electronically, but a hard copy of the annual report shall be submitted according to Section F.5 below.

XII. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

The Discharger shall comply with all Standard Provisions (Attachments D and G) related to monitoring, reporting, and recordkeeping, except as otherwise specified below.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this Order, the State or Regional Water Board may notify the Discharger to electronically submit self-monitoring reports. Until such notification is given, the Discharger shall submit self-monitoring reports in accordance with the requirements described below.

2. The Discharger shall submit monthly Self-Monitoring Reports including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order for each calendar month. Monthly SMRs shall be due on the 30th day following the end of each calendar month, covering samples collected during that calendar month; Annual reports shall be due on February 1 following each calendar year.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule as given in Table E-7:

Table E-7. Monitoring Period

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period
Continuous	Day after permit effective date	All
1 / day	Day after permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.
1 / week 2 / week 3 / week	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday
1 / month	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1st day of calendar month through last day of calendar month
1 / quarter	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31
1 / year	Closest of May 1 or November 1 following (or on) permit effective date	Alternate between once during November 1 through April 30 (one year), and once during May 1 through October 31 (following year)
2 / year	Closest of May 1 or November 1 following (or on) permit effective date	One during November 1 through April 30 One during May 1 through October 31
Each Occurrence	Anytime during the discharge event or as soon as possible after aware of the event	At a time which sampling can characterize the discharge event

4. The Dischargers shall report with each sample result the applicable Minimum Level (ML) or Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR §136.

   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 RL 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. In the ERS, the MDL is to be reported and a qualifier of "<" may be reported.

d. The Discharger shall instruct laboratories to establish calibration standards so that the RL value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. The Discharger shall not use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5. The Dischargers 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.

6. 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.

7. SMRs must be submitted to the Regional Water Board, signed and certified as required by the standard provisions (Attachment D), to the address shown below:

   Executive Officer
   California Regional Water Quality Control Board
   San Francisco Bay Region
   1515 Clay Street, Suite 1400
   Oakland, CA 94612
   ATTN: NPDES Division

8. The Discharger has the option to submit all monitoring results in an electronic reporting format approved by the Executive Officer. The Electronic Reporting System (ERS) format includes, but is not limited to, a transmittal letter, summary of violation details and corrective actions, and transmittal receipt. If there are any discrepancies between the ERS requirements and the "hard copy" requirements listed in the MRP, then the approved ERS requirements supersede.

C. Discharge Monitoring Reports (DMRs)

1. As described in Section X.C.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit self-monitoring reports. Until such notification is given, the Discharger shall submit discharge monitoring reports (DMRs) in accordance with the requirements described below.

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

   If by standard mail:

   Division of Water Quality
   c/o DMR Processing Center
   P.O. Box 100
   Sacramento, CA 95812-1000

   Or if by FedEx, UPS, or other private carrier:

   Division of Water Quality
   c/o DMR Processing Center
   1001 I Street, 15th Floor
   Sacramento, CA 95814

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated or modified cannot be accepted.

Appendix E-1

CHRONIC TOXICITY

DEFINITION OF TERMS AND SCREENING PHASE REQUIREMENTS

I. Definition of Terms

A. No observed effect level (NOEL) for compliance determination is equal to IC_{25} or EC_{25}. If the IC_{25} or EC_{25} cannot be statistically determined, the NOEL shall be equal to the NOEC derived using hypothesis testing.

B. Effective concentration (EC) is a point estimate of the toxicant concentration that would cause an adverse effect on a quantal, "all or nothing," response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Karber. EC_{25} is the concentration of toxicant (in percent effluent) that causes a response in 25 percent of the test organisms.

C. Inhibition concentration (IC) is a point estimate of the toxicant concentration that would cause a given percent reduction in a nonlethal, nonquantal biological measurement, such as growth. For example, an IC_{25} is the estimated concentration of toxicant that would cause a 25 percent reduction in average young per female or growth. IC values may be calculated using a linear interpolation method such as USEPA's Bootstrap Procedure.

D. No observed effect concentration (NOEC) is the highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specific time of observation. It is determined using hypothesis testing.

II. Chronic Toxicity Screening Phase Requirements

A. The Discharger shall perform screening phase monitoring:

1. Subsequent to any significant change in the nature of the effluent discharged through changes in sources or treatment, except those changes resulting from reductions in pollutant concentrations attributable to source control efforts, or

2. Prior to permit reissuance. Screening phase monitoring data shall be included in the NPDES permit application for reissuance. The information shall be as recent as possible, but may be based on screening phase monitoring conducted within 5 years before the permit expiration date.

B. Design of the screening phase shall, at a minimum, consist of the following elements:

1. Use of test species specified in Tables 1 and 2 (attached), and use of the protocols referenced in those tables.

2. Two stages:

a. Stage 1 shall consist of a minimum of one battery of tests conducted concurrently. Selection of the type of test species and minimum number of tests shall be based on Table 3 (attached).

b. Stage 2 shall consist of a minimum of two test batteries conducted at a monthly frequency using the three most sensitive species based on the Stage 1 test results.

3. Appropriate controls.

4. Concurrent reference toxicant tests.

Appendix E-2

SUMMARY OF TOXICITY TEST SPECIES REQUIREMENTS

Critical Life Stage Toxicity Tests for Estuarine Waters

Species	(Scientific Name)	Effect	Test Duration	Reference
Alga	*(Skeletonema costatum)* *(Thalassiosira pseudonana)*	Growth rate	4 days	1
Red alga	*(Champia parvula)*	Number of cystocarps	7–9 days	3
Giant kelp	*(Macrocystis pyrifera)*	Percent germination; germ tube length	48 hours	2
Abalone	*(Haliotis rufescens)*	Abnormal shell development	48 hours	2
Oyster Mussel	*(Crassostrea gigas)* *(Mytilus edulis)*	Abnormal shell development; percent survival	48 hours	2
Echinoderms - Urchins Sand dollar	*(Strongylocentrotus purpuratus, S. franciscanus)* *(Dendraster excentricus)*	Percent fertilization	1 hour	2
Shrimp	*(Mysidopsis bahia)*	Percent survival; growth	7 days	3
Shrimp	*(Holmesimysis costata)*	Percent survival; growth	7 days	2
Topsmelt	*(Atherinops affinis)*	Percent survival; growth	7 days	2
Silversides	*(Menidia beryllina)*	Larval growth rate; percent survival	7 days	3

Toxicity Test References:

1. American Society for Testing Materials (ASTM). 1990. Standard Guide for Conducting Static 96-Hour Toxicity Tests with Microalgae. Procedure E 1218-90. ASTM, Philadelphia, PA.
2. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine and Estuarine Organisms. EPA/600/R-95/136. August 1995.
3. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Marine and Estuarine Organisms. EPA/600/4-90/003. July 1994.

Critical Life Stage Toxicity Tests for Fresh Waters

Species	(Scientific Name)	Effect	Test Duration	Reference
Fathead minnow	*(Pimephales promelas)*	Survival; growth rate	7 days	4
Water flea	*(Ceriodaphnia dubia)*	Survival; number of young	7 days	4
Alga	*(Selenastrum capricornutum)*	Cell division rate	4 days	4

Toxicity Test Reference:

4. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, third edition. EPA/600/4-91/002. July 1994.

Toxicity Test Requirements for Stage One Screening Phase

Requirements	Receiving Water Characteristics		
	Discharges to Coast	Discharges to San Francisco Bay[2]	
	Ocean	Marine/Estuarine	Freshwater
Taxonomic diversity	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish
Number of tests of each salinity type: Freshwater[1] Marine/Estuarine	0 4	1 or 2 3 or 4	3 0
Total number of tests	4	5	3

[1] The freshwater species may be substituted with marine species if:

(a) The salinity of the effluent is above 1 part per thousand (ppt) greater than 95 percent of the time, or

(b) The ionic strength (TDS or conductivity) of the effluent at the test concentration used to determine compliance is documented to be toxic to the test species.

[2] (a) Marine/Estuarine refers to receiving water salinities greater than 1 ppt at least 95 percent of the time during a normal water year.

(b) Fresh refers to receiving water with salinities less than 1 ppt at least 95 percent of the time during a normal water year.

ATTACHMENT F – FACT SHEET

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	2 215116001
Discharger	Central Marin Sanitation Agency
Name of Facility	Central Marin Sanitation Agency Wastewater Treatment Plant and its Force Main
Facility Address	1301 Andersen Drive San Rafael, CA 94901 Marin County
Facility Contact, Title, Phone	Robert Cole, Environmental Services Manager, (415) 459-1455
Authorized Person to Sign and Submit Reports	Robert Cole, Environmental Services Manager, (415) 459-1455
Mailing Address	1301 Anderson Drive, San Rafael, CA 94901
Billing Address	Same as Mailing Address
Type of Facility	Wastewater Treatment Plant
Major or Minor Facility	Major
Threat to Water Quality	2
Complexity	A
Pretreatment Program	Yes
Reclamation Requirements	Not Applicable
Facility Permitted Flow	10.0 million gallons per day (MGD)
Facility Design Flow	10.0 million gallons per day (MGD) - dry weather flow 30 MGD secondary treatment capacity 90 MGD primary treatment capacity 125 MGD wet weather hydraulic capacity
Watershed	San Francisco Bay
Receiving Water	Central San Francisco Bay
Receiving Water Type	Estuarine

A. Central Marin Sanitation Agency (hereinafter the Discharger) owns and operates a wastewater treatment plant, located at 1301 Andersen Drive, San Rafael, Marin County, California. The plant provides secondary level treatment for domestic wastewater from its four member agencies; San Rafael Sanitation District, Sanitary Districts Nos. 1 and 2 of Marin County, and the City of Larkspur. The Discharger also transports and treats sewage from four other sewerage agencies pursuant to separate agreements with member agencies. The four other sewerage agencies are: City of San Rafael, Murray Park Sewer Maintenance District, San Quentin Sewer Maintenance District, and California Department of Corrections (San Quentin Prison). The treatment plant has a design capacity of 10.0 million gallons per day (MGD) average dry weather flow. The plant was designed to provide secondary treatment for flows up

to 30 MGD, primary treatment for flows up to 90 MGD, and has a hydraulic capacity of 125 MGD. The plant presently discharges an average dry weather flow of 7.5 MGD, and an annual average effluent flow of 12.2 MGD (based on 2005 information provided in the Report of Waste Discharge).

B. The facility discharges wastewater to the Central San Francisco Bay, a water of the United States, and is currently regulated by Order No. 01-105 and NPDES Permit No. CA0038628, which was adopted on September 19, 2001, and expired on August 31, 2006.

C. The Discharger filed a Report of Waste Discharge (ROWD) and submitted an application for reissuance of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on March 3, 2006.

II. FACILITY DESCRIPTION

A. Description of Wastewater Treatment or Controls

1. Central Marin Sanitation Agency owns and operates a municipal wastewater treatment facility which provides secondary level treatment for domestic wastewater from its four member agencies; San Rafael Sanitation District, Sanitary Districts No. 1 and 2 of Marin County, and the City of Larkspur. The Discharger also transports and treats sewage from four other sewerage agencies pursuant to separate agreements with member agencies. The four other sewerage agencies are: City of San Rafael, Murray Park Sewer Maintenance District, San Quentin Sewer Maintenance District, and California Department of Corrections (San Quentin Prison).

2. The Discharger owns and operates a collection system of approximately 3,784 feet of force mains. Maintenance includes cathodic protection surveys for the force main. The Discharger does not own or operate any gravity sewer systems with the exception of a few hundred feet of gravity sewers which serve the Discharger's administration and maintenance facilities at the wastewater treatment plant site in San Rafael. All collection system and force main pump stations are owned by the Discharger's member agencies. The Discharger operates and maintains pump stations for one member agency, Sanitary District No. 2 of Marin County. Maintenance is scheduled by the Discharger's computerized maintenance management system. Pump station upgrades are controlled by the owners, not the Discharger. The State Board on May 2, 2006, adopted Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, Order No. 2006-0003-DWQ. The Discharger's collection system is less than 1 mile, and is thus exempt from the requirements of 2006-0003-DWQ. However, the Discharger's collection system is part of the treatment works and is subject to the requirements of this permit.

3. Raw effluent goes through comminuters at the remote pump stations, and then goes through bar screens and grit removal at the Discharger's facility prior to primary treatment using clarifiers. During normal dry weather flows, the primary clarifier effluent is then processed through high-rate trickling filters followed by conventional activated sludge and secondary clarification. The secondary clarifier effluent is chlorinated and dechlorinated prior to discharge. Sludge is anaerobically digested,

dewatered using centrifuge processes, and disposed of at an authorized disposal site. During high wet weather flows, a portion of primary effluent is routed around biological treatment to the disinfection facility, providing for blending of primary and secondary effluent during wet weather periods when the secondary capacity is exceeded.

4. Wet Weather Improvements Project. In February 2006, the facility submitted a Wet Weather Improvements Project Report to the Regional Water Board. The report includes a wet weather hydraulics evaluation of the Facility and describes necessary facility improvements to be completed in the future. The results of the Hydraulics Evaluation and the anticipated Facility improvements are summarized in Section II.E of this Fact Sheet.

B. Discharge Points and Receiving Waters

1. **Discharge Point 001**. Treated wastewater is currently discharged 8,000 feet offshore at a depth between 12 feet and 28 feet below mean-low-low-waterline into the Central San Francisco Bay through a submerged diffuser. The effluent receives an initial dilution of at least 10:1 at all times; and is classified by the Regional Water Board as a deepwater discharge.

Table F-2. Outfall Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Secondary treated POTW wastewater	37 °, 56', 54" N	122 °, 27', 23" W	Central San Francisco Bay

2. **Storm Water Discharges.**

   a. **Regulations**. Regulations applicable to storm water discharges were promulgated by the U.S. EPA on November 19, 1990. The regulations (40 CFR Parts 122 – 124) require specific categories of industrial activity (industrial storm water) to obtain an NPDES permit and to implement Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to control pollutants in industrial storm water discharges.

   b. **Exemption from Coverage under Statewide Storm Water General Permit**. The State Water Resources Control Board's (the State Board's) statewide NPDES permit for storm water discharges associated with industrial activities (NPDES General Permit CAS000001- the General Permit) was adopted on November 19, 1991, amended on September 17, 1992, and reissued on April 17, 1997. The facility is covered under the General Permit for all parts of the facility that do not drain to the headworks.

   c. **Exemption from Coverage under Statewide Sanitary Sewer Overflow Waste Discharge Requirement**. The State Board on May 2, 2006, adopted Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, Order No. 2006-0003-DWQ. The Discharger's collection system is less than 1 mile, and is thus

exempt from the requirements of 2006-0003-DWQ. However, the Discharger's collection system is part of the treatment works and is subject to the requirements of this permit.

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

Effluent limitations contained in the previous permit (Order No. 01-105) for discharges to the Central San Francisco Bay and representative monitoring data from the term of the previous permit for conventional and certain non-conventional pollutants are as follows.

Table F-3. Historic Conventional and Certain Non-Conventional Substances Effluent Limitations and Monitoring Data (001)

Parameter	Units	Effluent Limitations				Data (from January 2003 to December 2005)
		Monthly Average	Weekly Average	Daily Maximum	Instantaneous Maximum	Range of Reported Values
Carbonaceous Biochemical Oxygen Demand (CBOD) (5-day @ 20 Deg. C)(1)	mg/L	25	40	--	--	2 - 82
Total Suspended Solids(2)	mg/L	30	45	--	--	0.8 - 167
Oil and Grease	mg/L	10	--	20	--	<1.4 – 7.3
Settleable Matter	ml/L-hr	0.1	--	0.2	--	0.05 – 0.1
Total Chlorine Residual(3)	mg/L	--	--	--	0.0	0 – 1.8
pH	Units				(4)	
Fecal Coliform	MPN/100 ml	--	--	--	(5)	<2 - 64.1(6)
Acute Toxicity	% survival	--	--	--	(7)	0 - 100
Ammonia (as NH_3)	--	--	--	--	--	2.3 – 50.1

(1) Section B.1.a of Order No. 01-105 requires compliance with BOD or CBOD effluent limitations.

(2) The arithmetic mean of BOD and TSS values, for effluent samples collected in each calendar month shall not exceed 15 percent of the arithmetic mean for influent samples collected at approximately the same times during the same period.

(3) Requirement defined as below the limit of detection in standard test methods defined in the latest edition of *Standard Methods for the Examination of Water and Wastewater*. The Discharger may elect to use a continuous on-line monitoring system(s) for measuring flows, chlorine, and sodium bisulfate dosage (including a safety factor) and concentration to prove that chlorine residual exceedances are false positives. If convincing evidence is provided, Regional Water Board staff will conclude that these false positive chlorine residual exceedances are not violations of the permit limit.

(4) The pH of the effluent shall not exceed 9.0 nor be less than 6.0. The Discharger shall be in compliance with the pH limitation specified herein, provided that both of the following conditions are satisfied; 1) the total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and 2) no individual excursion from the range of pH value shall exceed 60 minutes.

(5) The five (5) day geometric mean fecal coliform density shall not exceed 200 MPN/100 ml; and the ninetieth percentile value of fecal coliform density shall not exceed 400 MPN/100 ml.

(6) As five day geometric means. In addition, a daily maximum of >1,600 MPN/100ml was reported.

(7) The survival of bioassay test organisms in 96-hour bioassays of undiluted effluent shall be: 1) an 11-sample median value of not less than 90 percent survival; and 2) an 11-sample 90th percentile value of not les than 70 percent survival.

Effluent limitations contained in the previous permit (Order No. 01-105) for discharges to the Central San Francisco Bay and representative monitoring data from the term of the previous permit for toxic pollutants are as follows.

Table F-4. Historic Toxic Substances Effluent Limitations and Monitoring Data

Parameter	Units	Water Quality-Based Effluent Limits (WQBELs)		Interim Limits		Monitoring Data (From January 2003 to December 2005)
		Average Monthly	Maximum Daily	Average Monthly	Maximum Daily	Highest Daily Average
Copper	µg/L	13.1	21.8	--	--	16
Mercury	µg/L	--	--	0.087	1.0	0.02
Nickel	µg/L	34.4	58.8	--	--	7.2
Zinc	µg/L	482	750	--	--	63
Cyanide	µg/L	--	--	--	25	7.0

D. Compliance Summary

1. Compliance with Numeric Effluent Limits.

Permit exceedances were observed during the permit term and are summarized in Table E-5 below.

Table F-5. Compliance Summary

Parameter	Type of Limit	Date of Violation	Permit Limit	Reported Value
Chlorine Residual	Instantaneous Maximum	April 15, 2001	0.0	0.2
Settleable Solids	Daily Maximum	July 2, 2001	0.2	0.4
Chlorine Residual	Instantaneous Maximum	August 28, 2001	0.0	0.3
Chlorine Residual	Instantaneous Maximum	August 31, 2001	0.0	1
Chlorine Residual	Instantaneous Maximum	October 7, 2001	0.0	0.1
Chlorine Residual	Instantaneous Maximum	February 25, 2002	0.0	1.8
Chlorine Residual	Instantaneous Maximum	August 3, 2002	0.0	0.6
Total Suspended Solids	Weekly Average	December 11, 2004	45	47

2. Compliance with Permit Provisions.

A list of special activities required in the provisions for Order No. 01-105, and the status of completion, is shown in Table E-6 below.

Table F-6. Status of Special Activities in Provisions for Order No. 01-105

Provision No.	Description of Activity	Status of Completion
8	Mercury Source Control and Reduction Program – 60 days following a violation of a mass emission limit for mercury, the Discharger was required to develop a source control and pollution prevention program to identify sources and evaluate options for control and reduction of mercury loadings. This program was to consider reductions in mercury effluent concentrations achieved through source control and economically feasible optimization of treatment plant processes. If necessary, the Discharger was to investigate alternative control strategies through participation with the Regional Water Board and other North Bay dischargers in identifying cross media watershed-wide sources of mercury impacting the receiving water, and potential control measures. A final report was due 12 months following the first violation of a mass emission limit for mercury. Annual reports were required after the study commencement date.	No mercury exceedances reported during the term of the permit. The Discharger has conducted outreach activities to local dischargers that might contribute to mercury loading.
9	Pollutant Minimization Program (PMP) – The Discharger was required to continue an existing Pollution Minimization Program to address at least mercury, copper, and zinc, in order to reduce pollutant loadings to the treatment plant and therefore to the receiving waters. The Discharger was required to submit annual reports.	The Discharger has complied with this permit provision.
10	Marine Outfall Maintenance – The Discharger was required to complete a study to evaluate the continuous maintenance of the marine outfall. The results of the study were required to conclusively demonstrate that the disposal options will not result in unacceptable adverse impacts on the beneficial uses of the receiving water. The final report was due March 30, 2003.	The final report was submitted on time.
11	Cyanide Site-Specific Objective – The Discharger was required to participate in a regional discharger-funded effort to submit the following proposals and reports to the Executive Officer: 1) a proposal for ambient background water quality characterization for cyanide, that describes the location(s) for water quality sampling, analytical method(s) to be used, monitoring frequency, and reporting requirements. The completed ambient background water quality characterization study was due by May 18, 2003. 2) A proposal for site-specific objective study for cyanide. The report of completion for the site-specific objective study was required by June 30, 2003.	Completed in cooperation with Bay Area Clean Water Agencies (BACWA).
12	The Discharger was required to participate in the development of a TMDL or SSO for mercury and cyanide. Annual reports were required to be submitted to the Regional Water Board documenting progress made on source control and pollutant minimization measures and their participation in the development of a TMDL and/or SSO.	Completed in cooperation with BACWA.

13	Regional Monitoring Study – The Discharger was required to continue to participate in the Regional Monitoring Program for trace substances in San Francisco Bay in lieu of more extensive effluent and receiving water self-monitoring requirements.	The Discharger is complying by contributing to the San Francisco Estuary Institute.
14	Pretreatment Program – The Discharger was required to implement and enforce its approved pretreatment program in accordance with Federal Pretreatment Regulations (40 CFR 403), pretreatment standards promulgated under Sections 307(b), 307(c), and 307(d) of the CWA, and the requirements in Attachment E, "Pretreatment Requirements" of the previous Order.	The Discharger does implement and enforce an approved pretreatment program.
15	Optional Mass Offset – If the Discharger chose to pursue a mass offset program, a mass offset plan for reducing 303(d)-listed pollutants within the same watershed or drainage basin, was required to be submitted to the Regional Water Board for approval.	Optional provision – The Discharger did not choose to pursue a mass offset program.
16	Optional Copper Translator Study and Schedule – If the Discharger desired to develop information that would have been used to establish a water quality-based effluent limit based on dissolved copper criteria, the Discharger was to conduct a copper translator study and submit it to the Regional Water Board for review.	Completed in cooperation with BACWA.
17	Wastewater Facilities, Review and Evaluation, and Status Reports – The Discharger was required to submit to the Regional Water Board, an annual report including a description or summary of review and evaluation procedures, and applicable wastewater facility programs or capital improvement projects.	Annual status reports are submitted.
18	Operations and Maintenance Manual, Review and Status Reports – The Discharger was required to submit annual reports to the Regional Water Board describing the current status of its operations and maintenance manual review and updating. This report is to include estimated time schedules for completion of any revisions determined necessary, a description of any competed revisions, or a statement that no revisions were needed.	Annual status reports are submitted.
19	Contingency Plan, Review and Status Reports – The Discharger is required to submit an annual report describing the current status of its Contingency Plan review and update. This report should include a description or copy of any completed revisions, or a statement that no changes are needed.	Annual status reports are submitted.

E. Planned Changes

1. **Purpose.** Wet Weather Improvements Project. In February 2006, the facility submitted a Wet Weather Improvements Project Report to the Regional Water Board. The report includes a wet weather hydraulics evaluation of the Facility and describes necessary facility improvements to be completed in the future. The results of the report are summarized below:

   a. **Hydraulics Evaluation**. The Facility was originally designed to provide secondary treatment for flows up to 30 MGD, primary treatment for flows up to 90 MGD, and a hydraulic capacity of up to 125 MGD, depending on tide elevation. During the 2005

to 2006 wet weather season, recorded plant flows from heavy rainstorms reached an instantaneous peak influent flow of approximately 115 MGD. During this rainstorm, effluent flow was backed into the plant, the holding pond was filled, and portions of the plant flooded when the pond overflowed. As the contributing collection systems expand, the Facility can expect additional wet weather flows which may exceed the current maximum plant hydraulic capacity. Wet weather hydraulics modeling determined that at a high tide elevation of 105.84 feet, the estimated maximum gravity discharge capacity of the Facility is approximately 92 MGD. At this point, flow backs up in the outfall, submerges the chlorine contact tank effluent weir, and reaches the top elevation of the returned activated sludge (RAS) box in the secondary clarifiers. The report states that the use of a wet weather effluent pump station to provide additional driving head to overcome tide impacts will enable the Facility to discharge up to 125 MGD without flooding the RAS box.

b. **Facility Improvements**. Facility improvements to be initiated to improve hydraulic capacity and improve treatment during increased wet weather flows include:

(1) Primary Clarifiers. Two new primary clarifiers will be constructed to increase the wet weather capacity of primary treatment.

(2) Polymer Facility. A new polymer facility will be provided to increase the removal of TSS and BOD in the primary clarifiers.

(3) Secondary Treatment Capacity. Process modeling indicates that switching the activated sludge process from its normal parallel or series operating mode to a contact stabilization mode during wet weather flows can increase the capacity to at least 30 MGD for a short duration without negatively impacting the performance of this process. To do this, 18 sluice gates and four butterfly valves in the aeration tank area will be automated with motor actuators to allow operations staff to quickly switch between process modes.

(4) Chlorine Contact Tanks. Two new chlorine contact tanks will be provided to increase the hydraulic detention time of the disinfection process and reduce the risk of exceeding effluent limitations during peak wet weather flows.

(5) Effluent Pump Station. A new effluent pump station will be provided downstream of the chlorine contact tanks to overcome wet weather hydraulic limitations of the Facility during high tide conditions.

(6) Outfall Assessment. An engineering assessment of the outfall indicates that both the concrete pipe barrels and joints and the steel pipe straight sections of the outfall have adequate capacity to resist operating and transient pressures produced from a new pump station at 125 MGD and 155 MGD. The report does state that a visual inspection should be performed on the tie straps and the elastomeric connections on the reinforced concrete cylinder pipe sections and repairs made as identified.

(7) Effluent Storage Pond. The 3 million gallon effluent storage pond will be expanded to a capacity of 7.1 million gallons.

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 U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (CWC). It shall serve as an NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to CWC Article 4, Chapter 4 for discharges that are not subject to regulation under CWA section 402.

B. California Environmental Quality Act (CEQA)

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

C. State and Federal Regulations, Policies, and Plans

1. Water Quality Control Plans

The Regional Water Board adopted a *Water Quality Control Plan for the San Francisco Bay Basin* (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan.

2. Thermal Plan

The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains WQOs for coastal and interstate surface waters as well as enclosed bays and estuaries.

3. National Toxics Rule (NTR) and California Toxics Rule (CTR)

On December 22, 1992, USEPA adopted the NTR, which was amended on May 4, 1995 and November 9, 1999, and on May 18, 2000, USEPA adopted the CTR, which was amended on February 13, 2001. These rules include water quality criteria (WQC) for priority pollutants and are applicable to this discharge.

4. State Implementation Policy

On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

5. 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 C.F.R. § 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.

6. Stringency of Requirements for Individual Pollutants.

This Order contains restrictions on individual pollutants that are no more stringent than required by the federal CWA. Individual pollutant restrictions consist of technology-based restrictions and water quality-based effluent limitations. The technology-based effluent limitations consist of restrictions on CBOD, TSS, oil and grease, pH, and chlorine residual. Restrictions on these pollutants are specified in federal regulations, and in the Basin Plan since before May 30, 2000, as discussed in the attached Fact Sheet, Attachment F. The permit's technology-based pollutant restrictions are no more stringent than required by the CWA. WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual WQBELs are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. Most 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 section 131.21(c)(1). The remaining water quality objectives and beneficial uses implemented by this Order were approved

by USEPA on January 5, 2005, and are applicable water quality standards pursuant to section 131.21(c)(2). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the CWA and the applicable water quality standards for purposes of the CWA.

7. Antidegradation Policy

40 CFR 131.12 requires that State water quality standards include an antidegradation policy consistent with the Federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16, which incorporates the requirements of the federal antidegradation policy. Resolution 68-16 requires that existing water quality is maintained unless degradation is justified based on specific findings. The permitted discharge is consistent with the antidegradation provision of 40 CFR §131.12 and State Water Board Resolution No. 68-16, and the final limitations in this Order are in compliance with antidegradation requirements and meet the requirements of the SIP because these limits hold the Discharger to performance levels that will not cause or contribute to water quality impairment or further water quality degradation.

8. Anti-Backsliding Requirements

CWA sections 402(o)(2) and 303(d)(4) and 40 CFR §122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. In this Order, all effluent limitations are at least as stringent as those in the previous Order.

9. Monitoring and Reporting Requirements

40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. CWC sections 13267 and 13383 authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement federal and State requirements. This MRP is provided in Attachment E of this Order. The MRP may be amended by the Executive Officer pursuant to USEPA regulation 40 CFR §§122.62, 122.63, and 124.5.

10. Federal Water Pollution Control Act.

WQOs and WQC, effluent limitations, and calculations contained in this Order are also based on Sections 201 through 305, and 307 of The Federal Water Pollution Control Act, and amendments thereto, as applicable.

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

On June 6, 2003, the USEPA approved a revised list of impaired water bodies prepared by the State [hereinafter referred to as the 303(d) list], prepared pursuant to provisions of CWA

section 303(d) requiring identification of specific water bodies where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. Central San Francisco Bay is listed as an impaired waterbody. The pollutants impairing Central San Francisco Bay include chlordane, DDT, diazinon, dieldrin, dioxin compounds, exotic species, furan compounds, mercury, PCBs, dioxin-like PCBs, and selenium. The SIP requires final effluent limitations for all 303(d)-listed pollutants to be based on total maximum daily loads and associated waste load allocations.

1. Total Maximum Daily Loads

The Regional Water Board plans to adopt total maximum daily loads (TMDLs) for pollutants on the 303(d) list in Central San Francisco Bay within the next 10 years. Future review of the 303(d)-list for Central San Francisco Bay may result in revision of the schedules or provide schedules for other pollutants.

2. Waste Load Allocations

The TMDLs will establish waste load allocations (WLAs) for point sources and load allocations (LAs) for non-point sources, and will result in achieving the water quality standards for the waterbodies. Final WQBELs for 303(d)-listed pollutants in this discharge will be based on WLAs contained in the respective TMDLs.

3. Implementation Strategy

The Regional Water Board's strategy to collect water quality data and to develop TMDLs is summarized below:

a. Data Collection. The Regional Water Board has given the Discharger the option to collectively assist in developing and implementing analytical techniques capable of detecting 303(d)-listed pollutants to at least their respective levels of concern or WQOs/WQC. This collective effort may include development of sample concentration techniques for approval by the USEPA. The Regional Water Board will require dischargers to characterize the pollutant loads from their facilities into the water-quality limited waterbodies. The results will be used in the development of TMDLs, and may be used to update or revise the 303(d) list or change the WQOs/WQC for the impaired waterbodies including Central San Francisco Bay.

b. Funding Mechanism. The Regional Water Board has received, and anticipates continuing to receive, resources from Federal and State agencies for TMDL development. To ensure timely development of TMDLs, the Regional Water Board intends to supplement these resources by allocating development costs among dischargers through the RMP or other appropriate funding mechanisms.

E. Other Plans, Polices and Regulations

This Order is also based on the following plans, polices, and regulations:

1. The Federal *Water Pollution Control Act*, Sections 301 through 305, and 307, and amendments thereto, as applicable (CWA); 2. The State Water Board's March 2, 2000 *Policy for* the USEPA's May 18, 2000 *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California* or CTR;

3. The USEPA's *Quality Criteria for Water* [EPA 440/5-86-001, 1986] and subsequent amendments (the USEPA Gold Book);

4. Applicable Federal Regulations [40 CFR §§ 122 and 131];

5. 40 CFR §131.36(b) and amendments [Federal Register Volume 60, Number 86, 4 May 1995, pages 22229-22237];

6. USEPA's December 10, 1998 National Recommended Water Quality Criteria compilation [Federal Register Vol. 63, No. 237, pp. 68354-68364];

7. USEPA's December 27, 2002 Revision of National Recommended Water Quality Criteria compilation [Federal Register Vol. 67, No. 249, pp. 79091-79095]; and

8. Guidance provided with State Water Board actions remanding permits to the Regional Water Board for further consideration.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source discharges to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations: 1) 40 CFR §122.44(a) requires that permits include applicable technology-based limitations and standards; and 2) 40 CFR §122.44(d) requires that permits include WQBELs to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where numeric water quality objectives have not been established, three options exist to protect water quality: 1) 40 CFR §122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a); 2) proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information may be used; or 3) an indicator parameter may be established.

Several specific factors affecting the development of limitations and requirements in this Order are discussed as follows:

A. Discharge Prohibitions

1. **Discharge Prohibition III.A. (no discharge other than that described in this Order)**: This prohibition is the same as in the previous permit. This prohibition is based on California Water Code section 13260, which requires filing a Report of Waste Discharge before discharges can occur. Discharges not described in the ROWD, and subsequently in the Order, are prohibited.

2. **Discharge Prohibition III.B. (no discharges receiving less than 10:1 dilution):** This prohibition is the same as the previous permit and is based on Discharge Prohibition No. 1 from Table 4-1 of the Basin Plan, which prohibits discharges that do not receive a minimum 10:1 initial dilution. Furthermore, this Order allows a 10:1 dilution credit in the calculation of some water quality based effluent limitations, and these limits would not be protective of water quality, if the discharge did not actually achieve a 10:1 minimum initial dilution.

3. **Discharge Prohibition III.C. (No bypasses except under the conditions at 40 CFR 122.41(m)(4)(i)(A), (B) and (C)):** This prohibition is based on 40 CFR 122.41(m)(4).

   This prohibition grants bypass of peak wet weather flows above 30 MGD that are recombined with secondary treatment flows and discharged at the combined outfall 001, which met the conditions at 40 CFR 122.41(m)(4)(i)(A)-(C).

   Background

   During significant storm events, these high volumes can overwhelm certain parts of the wastewater treatment process and may cause damage or failure of the system. Operators of wastewater treatment plants must manage these high flows to both ensure the continued operation of the treatment process and to prevent backups and overflows of raw wastewater in basements or on city streets. USEPA recognized that peak wet weather flow diversions around secondary treatment units at POTW treatment plants serving separate sanitary sewer conveyance systems may be necessary in some circumstances.

   In December 2005, USEPA invited public comment on its proposed Peak Wet Weather Policy that provides interpretation that 40 CFR 122.41(m) applies to wet weather diversions that are recombined with flow from the secondary treatment, and guidance by which its NPDES permit may be approved by the Regional Water Board. This policy requires that dischargers must still meet all the requirements of NPDES permits, and encourages municipalities to make investments in ongoing maintenance and capital improvements to improve their system's long-term performance.

   Criteria of 40 CFR 122.41(m)(4)(i)(A)-(C)
   USEPA's Peak Wet Weather policy states that "If the criteria of 40 CFR 122.41(m)(4)(i)(A)-(C) are met, the Regional Water Board can approve peak wet weather diversions that are recombined with flow from the secondary treatment. The

criteria of 40 CFR 122.41(m)(4)(i) (Federal Standard Provisions, Attachment D) are (A) bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; (B) there were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime; and (C) the Discharger submitted notice to the Regional Water Board as required under Federal Standard Provision – Permit Compliance I.G.5.

On October 19, 2006, the Discharger submitted a no feasible alternatives analysis that addresses measures it has taken and plans to take to reduce and eliminate bypasses during peak wet weather events so that such bypasses could be approved pursuant to 40CFR122.41(m)(4). For the calendar years 2003-2005, the Discharger explains that blending occurred on 114 days, for a total of 1635 hours. The total volume of effluent discharged during that period that contained blended flow was approximately 2,344 million gallons. The frequency of blending events expected to occur in any one particular year is unpredictable, due to the inability to forecast rainfall and the severity of storm events. However, based on historical data, which included 50 years of rainfall records and 48 years of hourly flow data used to predict the frequency of flows over 20 MGD, findings from the Discharger's 2004 Capacity Management Study predicted there would be approximately 33 events per year. Recently, the Discharger conducted wet weather trials, and demonstrated that it could change operation of its aeration basin from parallel or series mode to Contact Stabilization mode, and this would increase its secondary treatment capacity during high flows from 20 mgd to 30 mgd. This increase in secondary treatment capacity is expected to result in a 55% reduction in volume blended during the permit term.

Additionally, the No Feasible Alternatives Analysis indicates that the Discharger is at the 50% design level for its Wet Weather Improvement Project. This project identified improvements to the facility to reduce the frequency of bypasses. These improvements include construction of a new polymer feed facility for chemically enhanced primary treatment, construction of two new primary clarifiers, mechanical system improvements to the grit removal facilities, installation of automated aeration system valves and gates to facilitate switching to contact stabilization mode during high flows, adding two new serpentine chlorine contact tanks, adding an effluent pump station to increasing the marine outfall's hydraulic capacity to 125 MGD (expandable to 155 MGD) regardless of tide level and, expanding the effluent storage pond from 3 MG to 7 MG for emergency storage. Once the Discharger completes the Wet Weather Improvement Project, it expects an additional 50% reduction in volume blended.

The Discharger has satisfied the criteria of 40 CFR 122.41(m)(4)(i)(A-C). Bypasses are necessary to prevent sever property damage when flow exceeds the capacity of the primary treatment. The Discharger has analyzed alternatives to bypassing and had determined that no feasible alternative exists at this time. However, the measures proposed above should reduce the frequency and severity of bypasses once these measures have been implemented. The Discharger has submitted notice to the Regional Water Board as required under Federal Standard Provision – Permit Compliance I.G.5.

3. **Discharge Prohibition III.D. (average dry weather flow not to exceed dry weather design capacity)**: This prohibition is based on the historic and tested reliable treatment capacity of the treatment plant. Exceedance of this design, average dry weather flow capacity may result in lowering the reliability of achieving compliance with water quality requirements.

4. **Discharge Prohibition III.E. (No sanitary sewer overflows (SSO) to waters of the United States)**: The Discharge Prohibition No. 15 from Table 4-1 of the Basin Plan, and the Clean Water Act prohibits the discharge of wastewater to surface waters except as authorize under an NPDES permit. POTWs must achieve secondary treatment, at a minimum, and any more stringent limitations that are necessary to achieve water quality standards. (33U.S.C. §1311(b)(1)(B) and (C).) Thus, an SSO that results in the discharge of raw sewage, or sewage not meeting secondary treatment, to surface waters is prohibited under the Clean Water Act and the Basin Plan.

B. Technology-Based Effluent Limitations

1. Scope and Authority

The Code of Federal Regulations (CFR) at 40 CFR §122.44(a) requires that permits include applicable technology-based limitations and standards. This Order includes technology-based effluent limitations based on Secondary Treatment Standards at 40 CFR §133. Permit effluent limitations for conventional pollutants are technology-based. Technology-based effluent limitations are put in place to ensure that full secondary treatment is achieved by the wastewater treatment facility, as required under 40 CFR §133.102. Effluent limitations for these conventional pollutants are defined by the Basin Plan, Table 4-2. Further, these conventional effluent limits are the same as those from the previous permit for the following constituents, except settleable solids which is no longer required per the 2004 Basin Plan amendment:

- Carbonaceous Biochemical oxygen demand (CBOD),
- CBOD percent removal,
- Total suspended solids (TSS),
- TSS percent removal,
- pH,
- Oil and grease, and
- Total chlorine residual.

2. Applicable Technology-Based Effluent Limitations

Technology-based effluent limitations are summarized below.

Table F-7. Summary of Technology-based Effluent Limitations

Parameter	Compliance Point	Units	Effluent Limitations				
			Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Carbonaceous Biochemical Oxygen Demand (CBOD)	M-002	mg/L	25	40	--	--	--
Total Suspended Solids (TSS)	M-002	mg/L	30	45	--	--	--
Oil and Grease	M-002	mg/L	10	--	20	--	--
pH	M-002	standard units	--	--	--	6.0	9.0
Total Chlorine Residual	M-001	mg/L	--	--	--	0.0	0.0

a. *CBOD.* This effluent limitation is unchanged from the previous permit, and is based on the Basin Plan (Chapter 4, Table 4-2).

b. *TSS.* This effluent limitation is unchanged from the previous permit, and is based on the Basin Plan (Chapter 4, Table 4-2).

c. *pH.* This effluent limitation is unchanged from the previous permit, and is based on the Basin Plan (Chapter 4, Table 4-2). Pursuant to 40 CFR 401.17, pH effluent limitations under continuous monitoring, the Discharger shall be in compliance with the pH limitation specified herein, provided that both of the following conditions are satisfied: (i) The total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and (ii) No individual excursion from the range of pH values shall exceed 60 minutes.

d. *Oil and grease.* This effluent limitation is based on the Basin Plan (Chapter 4, Table 4-2).

e. *Total Chlorine Residual.* This effluent limitation is based on the Basin Plan (Chapter 4, Table 4-2).

f. *CBOD and TSS Percent Removal* The average monthly percent removal of CBOD and TSS shall not be less than 85 percent. Demonstration of compliance for removal rates will be based upon concentrations, instead of loads as was in the previous permit, consistent with 40CFR 133.102.

g. *Total Coliform Bacteria.* The five-sample median total coliform density shall not exceed 240 MPN/100 mL and the daily maximum value shall not exceed 10,000 MPN/100mL. These limits are based on the Basin Plan (Chapter 4, Table 4-2).

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

a. As specified at 40 CFR 122.44(d)(1)(i), permits are required to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels that cause, have the reasonable potential to cause, or contribute to an in-stream excursion above any state water quality standard. WQBELs in this Order are revised and updated from the limitations in the previous permit, and their presence in this Order is based on an evaluation of the Discharger's data as described below under the Reasonable Potential Analysis. Numeric WQBELs are required for all constituents that have a reasonable potential to cause or contribute to an excursion above any State water quality standard. Reasonable potential is determined and final WQBELs are developed using the methodology outlined in the SIP. If the Discharger demonstrates that the final limitations will be infeasible to meet and provides justification for a compliance schedule, then interim limitations are established, with a compliance schedule to achieve the final limits.

b. Maximum Daily Effluent Limitations (MDELs) are used in this permit to protect against acute water quality effects. It is impracticable to use weekly average limitations to guard against acute effects. Although weekly averages are effective for monitoring the performance of biological wastewater treatment plants, the MDELs are necessary for preventing fish kills or mortality to aquatic organisms, as further explained in subsections c through e, below.

c. NPDES regulations, the SIP, and USEPA's Technical Support Document (TSD) provide the basis to establish MDELs. NPDES regulations at 40 CFR §122.45(d) state:

"For continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall *unless impracticable* be stated as:

(1) Maximum daily and average monthly discharge limitations for all discharges other than publicly owned treatment works; and

(2) Average weekly and average monthly discharge limitations for POTWs." (Emphasis added.)

d. The amended SIP (p. 8, Section 1.4) requires that WQBELs be expressed as MDELs and average monthly effluent limitations (AMELs). For aquatic life-based calculations (only), the amended SIP indicates MDELs are to be used in place of

average weekly limitations for POTWs.

e. The TSD (p. 96) states that a maximum daily limitation is appropriate for two reasons: (1) The basis for the 7-day average for POTWs derives from the secondary treatment requirements. This basis is not related to the need for assuring achievement of water quality standards. (2) The 7-day average, which could be comprised of up to seven or more daily samples, could average out peak toxic concentrations, and therefore the discharge's potential for causing acute toxic effects would be missed. A maximum daily limitation would be toxicologically protective of potential acute toxicity impacts.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The WQC and WQOs applicable to the receiving waters for this discharge are from the Basin Plan; the California Toxics Rule (CTR), established by USEPA at 40 CFR §131.38; and the National Toxics Rule (NTR), established by USEPA at 40 CFR §131.36. Some pollutants have WQC/WQOs established by more than one of these three sources.

a. *Applicable Beneficial Uses.* Beneficial uses applicable to Lower San Francisco Bay are from the Basin Plan and are as follows:

Table F-8. Basin Plan Beneficial Uses of Central San Francisco Bay

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Central San Francisco Bay	Ocean Commercial and Sport Fishing (COMM) Estuarine Habitat (EST) Industrial Service Supply (IND) Fish Migration (MIGR) Navigation (NAV) Industrial Process Water Supply (PROC) Preservation of Rare and Endangered Species (RARE) Water Contact Recreation (REC1) Non-contact Water Recreation (REC2) Shellfish Harvesting (SHELL) Fish Spawning (SPWN) Wildlife Habitat (WILD)

b. The WQOs/WQC applicable to the receiving water of this discharge are from the Basin Plan, CTR, and NTR.

(1) Basin Plan. The Basin Plan specifies numeric WQOs for 10 priority toxic pollutants, as well as narrative WQOs for toxicity and bioaccumulation in order to protect beneficial uses. The pollutants for which the Basin Plan specifies numeric objectives are arsenic, cadmium, chromium (VI), copper in freshwater, lead, mercury, nickel, silver, zinc, and cyanide. The narrative toxicity objective states in part that "[a]ll waters shall be maintained free of toxic substances in

concentrations that are lethal to or that produce other detrimental responses in aquatic organisms." The bioaccumulation objective states in part that "[c]ontrollable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered." Effluent limitations and provisions contained in this Order are designed, based on available information, to implement these objectives.

(2) CTR. The CTR specifies numeric aquatic life criteria for 23 priority toxic pollutants and numeric human health criteria for 57 priority toxic pollutants. These criteria apply to all inland surface waters and enclosed bays and estuaries of the San Francisco Bay Region, although Tables 3-3 and 3-4 of the Basin Plan include numeric objectives for certain of these priority toxic pollutants, which supersede criteria of the CTR (except in the South Bay south of the Dumbarton Bridge).

(3) NTR. The NTR establishes numeric aquatic life criteria for selenium, numeric aquatic life and human health criteria for cyanide, and numeric human health criteria for 34 toxic organic pollutants for waters of San Francisco Bay upstream to, and including Suisun Bay and the Delta. These criteria of the NTR are applicable to Central San Francisco Bay, the receiving water for this Discharger.

c. Where RP exists, but numeric WQOs/WQC have not been established or updated in the Basin Plan, CTR, or NTR, 40 CFR §122.44(d) and Chapter 4 of the Basin Plan specify that WQBELs may be set based on USEPA criteria, supplemented where necessary by other relevant information, to attain and maintain narrative WQC to fully protect designated beneficial uses. This Fact Sheet discusses the specific bases and rationales for the effluent limitations, and is incorporated as part of the Order.

d. *Basin Plan Amendment.* On January 21, 2004, the Regional Water Board adopted Resolution No. R2-2004-0003 amending the Basin Plan to (1) update the dissolved WQOs for metals to be identical to the CTR WQC except for cadmium; (2) to change the Basin Plan definitions of marine, estuarine and freshwater to be consistent with the CTR definitions; (3) to update NPDES implementation provisions to be consistent with the SIP; (4) to remove settleable matter effluent limitations for POTWs, and other editorial changes. Subsequent to approval by the State Water Resources Control Board (State Water Board) and the Office of Administrative Law (OAL) (July 22, 2004, and October 4, 2004, respectively), USEPA approved the amendment on January 5, 2005.

e. *Basin Plan and CTR Receiving Water Salinity Policy.* The Basin Plan and CTR state that the salinity characteristics (i.e., freshwater versus saltwater) of the receiving water shall be considered in determining the applicable WQOs/WQC. Freshwater criteria shall apply to discharges to waters with salinities equal to or less than 1 ppt at least 95 percent of the time. Saltwater criteria shall apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a

normal water year. For discharges to waters with salinities in between these two categories, or tidally influenced fresh waters that support estuarine beneficial uses, the criteria shall be the lower of the salt- or freshwater criteria (the freshwater criteria for some metals are calculated based on ambient hardness) for each substance.

The receiving water for this discharger, Central San Francisco Bay, is an estuarine environment based on salinity data generated through the San Francisco Estuary Institute's Regional Monitoring Program (RMP) at the Red Rock Sampling Station between February 1994 and August 2001; and therefore, the more stringent of fresh and saltwater criteria from the Basin Plan, NTR, and CTR are applicable.

f. *Copper/Nickel Translators.* Because NPDES regulations at 40 CFR §122.45 (c) require effluent limitations for metals to be expressed as total recoverable metal, and applicable water quality criteria for the metals are typically expressed as dissolved metal, factors or translators must be used to convert metals concentrations from dissolved to total recoverable and vice versa. In the CTR, USEPA establishes default translators which are used in NPDES permitting activities; however, site-specific conditions such as water temperature, pH, suspended solids, and organic carbon greatly impact the form of metal (dissolved, filterable, or otherwise) which is present and therefore available in the water to cause toxicity. In general, the dissolved form of the metals is more available and more toxic to aquatic life than filterable forms. Site-specific translators can be developed to account for site-specific conditions, thereby preventing exceedingly stringent or under protective water quality objectives.

For deep water discharges to Central San Francisco Bay, the Regional Water Board staff are using the following translators for copper and nickel, based on recommendations of the Clean Estuary Partnership's *North of Dumbarton Bridge Copper and Nickel Development and Selection of Final Translators* (2005). In determining the need for and calculating WQBELs for all other metals, the Regional Water Board staff has used default translators established by the USEPA in the CTR at 40 CFR §131.38 (b) (2), Table 2.

Table F-9. Metal Translators

Cu and Ni Translators for Deepwater Discharges to Central San Francisco Bay	Copper		Nickel	
	AMEL Translator	**MDEL Translator**	**AMEL Translator**	**MDEL Translator**
	0.74	0.88	0.65	0.85

3. Determining the Need for WQBELs

NPDES regulations at 40 CFR §122.44 (d) (1) (i) require permits to include WQBELs for all pollutants (non-priority or priority) "which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any narrative or numeric criteria within a State water quality standard" (have Reasonable Potential). Thus, assessing whether a pollutant has

Reasonable Potential is the fundamental step in determining whether or not a WQBEL is required. For non-priority pollutants, Regional Water Board staff used available monitoring data, receiving water's designated uses, and/or previous permit pollutant limitations to determine Reasonable Potential as described in Sections 3.a. and 3.b. below. For priority pollutants, Regional Water Board staff used the methods prescribed in Section 1.3 of the SIP to determine if the discharge from the Central Marin Sanitation Agency WTP demonstrates reasonable potential as described below.

a. Reasonable Potential Analysis

Using the methods prescribed in Section 1.3 of the SIP, Regional Water Board staff analyzed the effluent data to determine if the discharge from the Central Marin Sanitation Agency WWTP demonstrates Reasonable Potential. The Reasonable Potential Analysis (RPA) compares the effluent data with numeric and narrative WQOs in the Basin Plan and numeric WQC from the USEPA, the NTR, and the CTR. The Basin Plan objectives and CTR criteria are shown in Appendix A of this Fact Sheet.

b. Reasonable Potential Methodology

Using the methods and procedures prescribed in Section 1.3 of the SIP, Regional Water Board staff analyzed the effluent and background data and the nature of facility operations to determine if the discharge has reasonable potential to cause or contribute to exceedances of applicable SSOs or WQC. Appendix A of this Fact Sheet shows the stepwise process described in Section 1.3 of the SIP.

The RPA projects a maximum effluent concentration (MEC) for each pollutant based on existing data, while accounting for a limited data set and effluent variability. There are three triggers in determining Reasonable Potential.

(1) The first trigger is activated if the MEC is greater than the lowest applicable WQO (MEC $\geq$ WQO), which has been adjusted, if appropriate, for pH, hardness, and translator data. If the MEC is greater than the adjusted WQO, then that pollutant has reasonable potential, and a WQBEL is required.

(2) The second trigger is activated if the observed maximum ambient background concentration (B) is greater than the adjusted WQO (B > WQO), and the pollutant is detected in any of the effluent samples.

(3) The third trigger is activated if a review of other information determines that a WQBEL is required to protect beneficial uses, even though both MEC and B are less than the WQO/WQC. A limitation may be required under certain circumstances to protect beneficial uses.

c. Effluent Data

The Regional Water Board's August 6, 2001 letter titled *Requirement for Monitoring*

of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy (hereinafter referred to as the Regional Water Board's August 6, 2001 Letter) to all permittees, formally required the Discharger (pursuant to Section 13267 of the CWC) to initiate or continue to monitor for the priority pollutants using analytical methods that provide the best detection limits reasonably feasible. Regional Water Board staff analyzed this effluent data and the nature of the Central Marin Sanitation Agency WWTP to determine if the discharge has Reasonable Potential. The RPA was based on the effluent monitoring data collected by the Discharger from January 2003 through December 2005.

d. Ambient Background Data

Ambient background values are used in the RPA and in the calculation of effluent limitations. For the RPA, ambient background concentrations are the observed maximum detected water column concentrations. The SIP states that for calculating WQBELs, ambient background concentrations are either the observed maximum ambient water column concentrations or, for criteria/objectives intended to protect human health from carcinogenic effects, the arithmetic mean of observed ambient water concentrations. The RMP station at Yerba Buena Island, located in the Central Bay, has been monitored for most of the inorganic (CTR constituent numbers 1–15) and some of the organic (CTR constituent numbers 16–126) toxic pollutants, and this data from the RMP was used as background data in performing the RPA for this Discharger.

Not all the constituents listed in the CTR have been analyzed by the RMP. These data gaps are addressed by the Regional Water Board's August 6, 2001 Letter. The Regional Water Board's August 6, 2001 Letter formally requires dischargers (pursuant to Section 13267 of the California Water Code) to conduct ambient background monitoring and effluent monitoring for those constituents not currently monitored by the RMP and to provide this technical information to the Regional Water Board.

On May 15, 2003, a group of several San Francisco Bay Region dischargers (known as the Bay Area Clean Water Agencies, or BACWA) submitted a collaborative receiving water study, entitled the *San Francisco Bay Ambient Water Monitoring Interim Report*. This study includes monitoring results from sampling events in 2002 and 2003 for the remaining priority pollutants not monitored by the RMP. The RPA was conducted and the WQBELs were calculated using RMP data from 1993 through 2003 for inorganics and organics at the Yerba Buena Island RMP station, and additional data from the BACWA *Ambient Water Monitoring: Final CTR Sampling Update Report* for the Yerba Buena Island RMP station. The Discharger may utilize the receiving water study provided by BACWA to fulfill all requirements of the August 6, 2001 letter for receiving water monitoring in this Order.

e. RPA Determination

The MECs, most stringent applicable WQOs/WQC, and background concentrations

used in the RPA are presented in the following table, along with the RPA results (yes or no) for each pollutant analyzed. Reasonable potential was not determined for all pollutants, as there are not applicable water quality objectives/criteria for all pollutants, and monitoring data was not available for others. RPA results are shown below and Appendix A of this Fact Sheet. The pollutants that exhibit Reasonable Potential are copper, cyanide, mercury, and dioxin–TEQ.

Table F-10. RPA Results for Discharge Point No. 001

CTR #	Priority Pollutants (µG/L)	MEC or Minimum DL[1]	Governing WQO/WQC	Maximum Background Or Minimum DI[1, 2]	RPA Results[3]
1	Antimony	0.6	4300	1.8	No
2	Arsenic	3.9	36	2.46	No
3	Beryllium	< 0.006	No Criteria	0.215	Undetermined
4	Cadmium	0.2	3.37	0.1268	No
5a	Chromium (III or Total)	3.8	644.2	Not Available	Undetermined
5b	Chromium (VI)	3.8	11.4	4.4	No
6	Copper	16	4.189	2.45	Yes
7	Lead	0.74	8.517	0.804	No
8	Mercury	0.02	0.025	0.0086	Yes (Trigger 3)
9	Nickel	7.2	12.615	3.73	No
10	Selenium	4.0	5.0	0.39	No
11	Silver	1.5	2.235	0.052	No
12	Thallium	0.04	6.3	0.21	No
13	Zinc	63	85.624	4.4	No
14	Cyanide	7.0	1.0	< 0.4	Yes
16	2,3,7,8-TCDD (Dioxin)	$< 8.47 \times 10^{-7}$	1.4E-08	Not Available	No
16-TEQ	Dioxin - TEQ	2.60×10^{-7}	1.4E-08	7.1E-08	Yes
17	Acrolein	< 0.5	780	< 0.5	No
18	Acrylonitrile	< 0.33	0.66	0.03	No
19	Benzene	< 0.03	71	< 0.05	No
20	Bromoform	< 0.03	360	< 0.5	No
21	Carbon Tetrachloride	< 0.04	4.4	0.06	No
22	Chlorobenzene	< 0.03	21000	< 0.5	No
23	Chlorodibromomethane	1.9	34	< 0.05	No
24	Chloroethane	< 0.03	No Criteria	< 0.5	Undetermined
25	2-Chloroethylvinyl Ether	< 0.1	No Criteria	< 0.5	Undetermined
26	Chloroform	6.5	No Criteria	< 0.5	Undetermined
27	Dichlorobromomethane	1.5	46	< 0.05	No
28	1,1-Dichloroethane	< 0.04	No Criteria	< 0.05	Undetermined
29	1,2-Dichloroethane	< 0.04	99	0.04	No
30	1,1-Dichloroethylene	< 0.06	3.2	< 0.5	No
31	1,2-Dichloropropane	< 0.03	39	< 0.05	No
32	1,3-Dichloropropylene	< 0.03	1700	Not Available	Undetermined
33	Ethylbenzene	< 0.07	29000	< 0.5	No
34	Methyl Bromide	< 0.05	4000	< 0.5	No
35	Methyl Chloride	< 0.04	No Criteria	< 0.5	Undetermined
36	Methylene Chloride	1.7	1600	0.5	No

37	1,1,2,2-Tetrachloroethane	< 0.04	11	< 0.05	No
38	Tetrachloroethylene	0.3	8.85	< 0.05	No
39	Toluene	0.1	200000	< 0.3	No
40	1,2-Trans-Dichloroethylene	< 0.05	140000	< 0.5	No
41	1,1,1-Trichloroethane	< 0.03	No Criteria	< 0.5	Undetermined
42	1,1,2-Trichloroethane	< 0.05	42	< 0.05	No
43	Trichloroethylene	0.08	81	< 0.5	No
44	Vinyl Chloride	< 0. 05	525	< 0.5	No
45	2-Chlorophenol	< 0.6	400	< 1.2	No
46	2,4-Dichlorophenol	< 0.7	790	< 1.3	No
47	2,4-Dimethylphenol	< 0.9	2300	< 1.3	No
48	2-Methyl-4,6-Dinitrophenol	< 0.9	765	< 1.2	No
49	2,4-Dinitrophenol	< 0.6	14000	< 0.7	No
50	2-Nitrophenol	< 0.7	No Criteria	< 1.3	Undetermined
51	4-Nitrophenol	< 0.6	No Criteria	< 1.6	Undetermined
52	3-Methyl-4-Chlorophenol	< 0.5	No Criteria	< 1.1	Undetermined
53	Pentachlorophenol	< 0.9	7.9	< 1.0	No
54	Phenol	9.0	4600000	< 1.3	No
55	2,4,6-Trichlorophenol	< 0.6	6.5	< 1.3	No
56	Acenaphthene	< 0.028	2700	0.0015	No
57	Acenaphthylene	< 0.019	No Criteria	0.00053	Undetermined
58	Anthracene	< 0.028	110000	0.0005	No
59	Benzidine	< 0.93	0.00054	< 0.0015	No
60	Benzo(a)Anthracene	< 0.019	0.049	0.0053	No
61	Benzo(a)Pyrene	< 0.019	0.049	0.00029	No
62	Benzo(b)Fluoranthene	< 0.028	0.049	0.0046	No
63	Benzo(ghi)Perylene	< 0.028	No Criteria	0.0027	Undetermined
64	Benzo(k)Fluoranthene	< 0.037	0.049	0.0015	No
65	Bis(2-Chloroethoxy)Methane	< 0.75	No Criteria	< 0.3	Undetermined
66	Bis(2-Chloroethyl)Ether	< 0.65	1.4	< 0.3	No
67	Bis(2-Chloroisopropyl)Ether	< 0.6	170000	Not Available	Undetermined
68	Bis(2-Ethylhexyl)Phthalate	2.0	5.9	< 0.5	No
69	4-Bromophenyl Phenyl Ether	< 0.4	No Criteria	< 0.23	Undetermined
70	Butylbenzyl Phthalate	< 0.8	5200	< 0.52	No
71	2-Chloronaphthalene	< 0.5	4300	< 0.3	No
72	4-Chlorophenyl Phenyl Ether	< 0.5	No Criteria	< 0.3	Undetermined
73	Chrysene	< 0.037	0.049	0.0024	No
74	Dibenzo(a,h)Anthracene	< 0.028	0.049	0.00064	No
75	1,2 Dichlorobenzene	< 0.03	17000	< 0.8	No
76	1,3 Dichlorobenzene	0.2	2600	< 0.8	No
77	1,4 Dichlorobenzene	0.4	2600	< 0.8	No
78	3,3-Dichlorobenzidine	< 0.3	0.077	< 0.001	No
79	Diethyl Phthalate	< 0.7	120000	< 0.24	No
80	Dimethyl Phthalate	< 0.56	2900000	< 0.24	No
81	Di-n-Butyl Phthalate	< 0.56	12000	< 0.5	No

82	2,4-Dinitrotoluene	< 0.6	9.1	< 0.27	No
83	2,6-Dinitrotoluene	< 0.47	No Criteria	< 0.29	Undetermined
84	Di-n-Octyl Phthalate	< 0.65	No Criteria	< 0.38	Undetermined
85	1,2-Diphenylhydrazine	< 0.6	0.54	0.0037	No
86	Fluoranthene	< 0.028	370	0.011	No
87	Fluorene	< 0.02	14000	0.00208	No
88	Hexachlorobenzene	< 0.4	0.00077	0.0000202	No
89	Hexachlorobutadiene	< 0.7	50	< 0.3	No
90	Hexachlorocyclopentadiene	< 0.4	17000	< 0.31	No
91	Hexachloroethane	< 0.6	8.9	< 0.2	No
92	Indeno(1,2,3-cd) Pyrene	< 0.028	0.049	0.004	No
93	Isophorone	< 0.47	600	< 0.3	No
94	Naphthalene	< 0.019	No Criteria	0.0023	Undetermined
95	Nitrobenzene	< 0.65	1900	< 0.25	No
96	N-Nitrosodimethylamine	< 0.56	8.1	< 0.3	No
97	N-Nitrosodi-n-Propylamine	< 0.75	1.4	< 0.001	No
98	N-Nitrosodiphenylamine	< 0.56	16	< 0.001	No
99	Phenanthrene	< 0.028	No Criteria	0.0061	Undetermined
100	Pyrene	< 0.028	11000	0.0051	No
101	1,2,4-Trichlorobenzene	< 0.6	No Criteria	< 0.3	Undetermined
102	Aldrin	< 0.0028	0.00014	Not Available	Undetermined
103	alpha-BHC	< 0.0028	0.013	0.000496	No
104	beta-BHC	< 0.0028	0.046	0.000413	No
105	gamma-BHC	< 0.0028	0.063	0.0007034	No
106	delta-BHC	< 0.002	No Criteria	0.000042	Undetermined
107	Chlordane	< 0.005	0.00059	0.00018	No
108	4,4'-DDT	< 0.0019	0.00059	0.000066	No
109	4,4'-DDE	< 0.002	0.00059	0.000693	No
110	4,4'-DDD	< 0.0028	0.00084	0.000313	No
111	Dieldrin	< 0.0019	0.00014	0.000264	No
112	alpha-Endosulfan	< 0.0019	0.0087	0.000031	No
113	beta-Endosulfan	< 0.0019	0.0087	0.000069	No
114	Endosulfan Sulfate	< 0.002	240	0.0000819	No
115	Endrin	< 0.0019	0.0023	0.000036	No
116	Endrin Aldehyde	< 0.002	0.81	Not Available	Undetermined
117	Heptachlor	< 0.0028	0.00021	0.000019	No
118	Heptachlor Epoxide	< 0.0019	0.00011	0.00002458	No
119-125	PCBs sum	< 0.028	0.00017	Not Available	Undetermined
126	Toxaphene	< 0.14	0.0002	Not Available	Undetermined
	Tributylin	< 0.0054	0.01	< 0.001	No
	Total PAHs	< 0.019	15.0	0.26	No

(1) The Maximum Effluent Concentration (MEC) or maximum background concentration is the actual detected concentration unless there is a "<" sign before it, in which case the value shown is the minimum detection level.

(2) Maximum Background = Not Available, if there is not monitoring data for this constituent.

(3) RPA Results = Yes, if MEC > WQO/WQC,

= No, if MEC or all effluent concentration non-detect < WQO/WQC,

= Undetermined, if no objective promulgated, and

= Cannot be determined due to lack of data.

(1) Constituents with limited data. The Discharger has performed sampling and analysis for the constituents listed in the CTR. This data set was used to perform the RPA. In some cases, Reasonable Potential cannot be determined because effluent data are limited, or ambient background concentrations are not available. The Discharger will continue to monitor for these constituents in the effluent using analytical methods that provide the best feasible detection limits. When additional data become available, further RPA will be conducted to determine whether to add numeric effluent limitations to this Order or to continue monitoring.

(2) Pollutants with no Reasonable Potential. WQBELs are not included in this Order for constituents that do not demonstrate Reasonable Potential; however, monitoring for those pollutants is still required. If concentrations of these constituents are found to have increased significantly, the Discharger will be required to investigate the source(s) of the increase(s). Remedial measures are required if the increases pose a threat to water quality in the receiving water.

The previous permit (Order No. 01-105) included WQBELs for nickel and zinc; however, because the RPA showed that discharges from the Central Marin Sanitation Agency WWTP no longer demonstrate a reasonable potential to cause or contribute to exceedances of applicable water quality criteria for these pollutants, limitations from the previous permit are not retained. This is consistent with State Water Resources Control Board Order WQO 2002-0011 (i.e. there is not sufficient evidence to suggest that these pollutants have the potential to exhibit reasonable potential).

4. WQBEL Calculations

a. WQBELs were developed for the toxic and priority pollutants that were determined to have reasonable potential to cause or contribute to exceedances of the WQOs or WQC. The WQBELs were calculated based on appropriate WQOs/WQC and the appropriate procedures specified in Section 1.4 of the SIP. The WQOs or WQC used for each pollutant with Reasonable Potential is discussed below.

b. Dilution Credit - The SIP provides the basis for the dilution credit granted. The Central Marin Outfall is designed to achieve an initial dilution of 10:1. However, review of RMP data (local and Central Bay stations) indicates there is variability in the receiving water, and the hydrology of the receiving water is very complex. Therefore, there is uncertainty associated with the representative nature of the appropriate ambient background data for effluent limit calculations. Pursuant to Section 1.4.2.1 of the SIP, "dilution credit may be limited or denied on a pollutant-by-pollutant basis…." The Regional Water Board finds that a conservative 10:1 dilution credit for non-bioaccumulative priority pollutants, and a zero dilution credit for bioaccumulative priority pollutants are necessary for protection of beneficial uses. The detailed basis for each are explained below.

1) For certain bioaccumulative pollutants, based on BPJ, dilution credit is not included in calculating the final WQBELs. This determination is based on

available data on concentrations of these pollutants in aquatic organisms, sediment, and the water column. The Regional Water Board placed selenium, mercury, and polychlorinated biphenyls (PCBs) on the CWA Section 303(d) list. U.S. EPA added dioxin and furan compounds, chlordane, dieldrin, and 4,4'-DDT to the CWA Section 303(d) list. Dilution credit is not included for mercury. The following factors suggest that there is no more assimilative capacity in the Bay for these pollutants.

San Francisco Bay fish tissue data show that these pollutants exceed screening levels. The fish tissue data are contained in *Contaminant Concentrations in Fish from San Francisco Bay 1997* (May 1997). Denial of dilution credits for these pollutants is further justified by fish advisories for San Francisco Bay. The Office of Environmental Health and Hazard Assessment (OEHHA) performed a preliminary review of the data from the 1994 San Francisco Bay pilot study, *Contaminated Levels in Fish Tissue from San Francisco Bay*. The results of the study showed elevated levels of chemical contaminants in the fish tissues. Based on these results, OEHHA issued an interim consumption advisory covering certain fish species from the Bay in December 1994. This interim consumption advice was issued and is still in effect owing to health concerns based on exposure to sport fish from the Bay contaminated with mercury, dioxins, and pesticides (e.g., DDT).

2) Furthermore, Section 2.1.1 of the SIP states that for bioaccumulative compounds on the 303(d) list, the Regional Water Board should consider whether mass-loading limits should be limited to current levels. The Regional Water Board finds that mass-loading limits are warranted for mercury for the receiving waters of this Discharger. This is to ensure that this Discharger does not contribute further to impairment of the narrative objective for bioaccumulation.

3). For non-bioaccumulative constituents, a conservative allowance of 10:1 dilution for discharges to the Bay has been assigned for protection of beneficial uses. This 10:1 dilution ratio is based on the Basin Plan's prohibition number 1, which prohibits discharges like those from 001 with less than 10:1 dilution. As existing outfall structure at 001 is designed to achieve a minimum 10:1 initial dilution. Limiting the dilution credit is based on SIP provisions in Section 1.4.2. The following outlines the basis for derivation of the dilution credit.

   i. A far-field background station is appropriate because the receiving water body (the Bay) is a very complex estuarine system with highly variable and seasonal upstream freshwater inflows and diurnal tidal saltwater inputs. The SIP allows background to be determined on a discharge-by-discharge or water body-by-water body basis (SIP 1.4.3). Consistent with the SIP, Regional Water Board staff has chosen to use a water body-by-water body basis because of the uncertainties inherent in accurately characterizing ambient background in a complex estuarine system on a discharge-by-discharge basis. The Yerba Buena Island Station fits the guidance for

ambient background in the SIP compared to other stations in the RMP. The SIP states that background data are applicable if they are "representative of the ambient receiving water column that will mix with the discharge." Regional Water Board staff believes that data from this station are representative of water that will mix with the discharge from 001. Although this station is located near the Golden Gate, it would represent the typical water flushing in and out of the Bay each tidal cycle. For most of the Bay, the waters represented by this station make up a large part of the receiving water that will mix with the discharge.

ii. Because of the complex hydrology of the San Francisco Bay, a mixing zone has not been established. There are uncertainties in accurately determining the mixing zones for each discharge. The models that have been used to predict dilution have not considered the three-dimensional nature of the currents in the estuary resulting from the interaction of tidal flushes and seasonal fresh water outflows. Salt water is heavier than fresh water, colder saltwater from the ocean flushes in twice a day generally under the warmer fresh river waters that flow out annually. When these waters mix and interact, complex circulation patterns occur due to the different densities of these waters. These complex patterns occur throughout the estuary but are most prevalent in the San Pablo, Carquinez Strait, and Suisun Bay areas. The locations change depending on the strength of each tide and the variable rate of delta outflow. Additionally, sediment loads to the bay from the Central Valley also change on a longer-term basis. These changes can result in changes to the depths of different parts of the Bay making some areas more shallow and/or other areas more deep. These changes affect flow patterns that in turn can affect the initial dilution achieved by a diffuser.

iii. The SIP allows limiting a mixing zone and dilution credit for persistent pollutants (e.g., copper, silver, nickel, and lead). Discharges to the bay are defined in the SIP as incompletely mixed discharges. Thus, dilution credit should be determined using site-specific information. The SIP 1.4.2.2 specifies that the Regional Water Board "significantly limit a mixing zone and dilution credit as necessary… For example, in determining the extent of a mixing zone or dilution credit, the RWQCB shall consider the presence of pollutants in the discharge that are …persistent." The SIP defines persistent pollutants to be "substances for which degradation or decomposition in the environment is nonexistent or very slow." The pollutants at issue here are persistent pollutants (e.g. copper). The dilution studies that estimate actual dilution do not address the effects of these persistent pollutants in the Bay environment, such as their long-term effects on sediment concentrations.

c. Interim Limitations and Compliance Schedules

(1) The SIP and the Basin Plan authorize compliance schedules in a permit if an existing Discharger cannot immediately comply with a new and more stringent effluent limitation. Compliance schedules for limitations derived from CTR WQC are based on Section 2.2 of the SIP, and compliance schedules for

limitations derived from Basin Plan WQOs and the NTR are based on the Basin Plan. Both the SIP and the Basin Plan require the Discharger to demonstrate theinfeasibility of achieving immediate compliance with the new limitation to qualify for a compliance schedule.

The SIP and Basin Plan require the following documentation to be submitted to the Regional Water Board to support a finding of infeasibility:

-- Descriptions of diligent efforts the Discharger have made to quantify pollutant levels in the discharge, sources of the pollutant in the waste stream, and the results of those efforts.

-- Descriptions of source control and/or pollutant minimization efforts currently under way or completed.

-- A proposed schedule for additional or future source control measures, pollutant minimization, or waste treatment.

-- A demonstration that the proposed schedule is as short as practicable.

The Basin Plan provides for a 10-year compliance schedule to implement measures to comply with new standards as of the effective date of those standards. This provision applies to the objectives adopted in the 2004 Basin Plan Amendment. Additionally, the provision authorizes compliance schedules for new interpretations of other existing standards if the new interpretation results in more stringent limitations.

(2) On August 3, 2006, the Discharger submitted a feasibility study (the 2006 Feasibility Study), asserting it is infeasible to immediately comply with final WQBELs, for copper, mercury, and dioxin-TEQ. Based on this analysis and the Regional Water Board's own evaluation of feasibility to comply, the Regional Water Board concurs that it is infeasible to achieve immediate compliance with final limitations for mercury, cyanide, and dioxin-TEQ. The basis for the Regional Water Board's conclusion for each parameter is provided in Section IV.C.4.d of this Fact Sheet.

(3) Interim limitations for cyanide and mercury shall remain in effect until April 28, 2010 or until the Regional Water Board amends the limitation(s) based on site-specific objectives (SSOs).

(4) This Order establishes a schedule for compliance with final effluent limitations for cyanide that extends beyond one year. Pursuant to the SIP and 40 CFR §122.47, the Regional Water Board must establish interim requirements to control this pollutant. This Order establishes interim limitations for cyanide based on existing treatment plant performance. The compliance schedule includes interim requirements and deadlines for meeting those requirements.

d. WQBEL Calculations

The WQBEL calculations are summarized below:

Table F-11. Effluent Limitation Calculations for Discharge Point No. 001

PRIORITY POLLUTANTS	Copper		Cyanide		Mercury	2,3,7,8 TCDD - TEQ
Basis and Criteria type	BP & CTR SW Aquatic Life	SSOs (Dec 04)	NTR Aq Life	Proposed SSOs (Nov 05)	BP FW Aq Life	BP HH Criterion
Lowest WQO (µg/L)	3.1	2.5	1.0	2.9	0.025	1.4×10^{-8}
Applicable CTR or Site Specific Translators (chronic/acute)	0.74 / 0.88	0.74 / 0.88	---		---	---
Water Effects Ratio	2.4	2.4	1.0		1.0	1.0
Dilution Factor (D) (if applicable)	9	9	9	9	0	0
No. of samples per month	4	4	4	4	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y	Y	Y	Y	N
HH criteria analysis required? (Y/N)	N	N	N	N	Y	Y
Applicable Acute WQO	13.1	10.6	1.0	9.4	2.1	---
Applicable Chronic WQO	10.1	8.1	1.0	2.9	0.025	---
HH criteria	---	---	---	---	0.051	1.4×10^{-8}
Background (max conc for Aquatic Life calc)	2.45	2.45	0.4	0.4	0.0086	---
Background (avg conc for HH calc)	---	---	---	---	0.0022	7.1×10^{-8}
Is the pollutant bioaccumulative (Y/N)? (e.g., Hg)	N	N	N	N	Y	Y
ECA acute	109	84	6.4	90.4	2.4	---
ECA chronic	79	59	6.4	25.4	0.025	---
ECA HH	---	---	---	---	0.051	1.4×10^{-8}
No. of data points <10 or at least 80% reported non detect?	N	N	N	N	N	Y
Avg of data points	3.67	3.67	3.038	3.038	0.0067	---
SD	3.33	3.33	1.739	1.739	0.0038	---
CV calculated	0.91	0.91	0.57	0.57	0.56	---
CV (Selected) - Final	0.91	0.91	0.57	0.57	0.56	0.60
ECA acute mult99	0.22	0.22	0.33	0.33	0.34	---
ECA chronic mult99	0.40	0.40	0.54	0.54	0.55	---
LTA acute	24.2	18.6	2.14	30.2	0.816	---
LTA chronic	31.5	23.6	3.47	13.8	0.0138	---
Minimum of LTAs	24.2	18.6	2.14	13.8	0.0138	---
AMEL mult95	1.86	1.86	1.53	1.53	1.52	1.55
MDEL mult99	4.49	4.49	2.99	2.99	2.96	3.11
AMEL (aq life)	45	35	3.3	21	0.021	---
MDEL(aq life)	109	84	6.4	41	0.041	---
MDEL/AMEL Multiplier	2.42	2.42	1.96	1.96	1.95	2.01
AMEL (human hlth)	---	---	---	---	0.051	1.4×10^{-8}
MDEL (human hlth)	---	---	---	---	0.094	2.8×10^{-8}
Minimum of AMEL for Aq. life vs HH	45	35	3.3	21	0.021	1.4×10^{-8}
Minimum of MDEL for Aq. Life vs HH	109	84	6.4	41	0.041	2.8×10^{-8}
Current limit in permit (30-d avg)	13	13	---	---	0.087 *	---
Current limits in permit (daily)	22	22	25 *	25 *	1.0 *	---

PRIORITY POLLUTANTS	Copper		Cyanide		Mercury	2,3,7,8 TCDD - TEQ
Final limit - AMEL	13	13	3.3	21	0.02	1.4×10^{-8}
Final limit - MDEL	22	22	6.4	41	0.04	2.8×10^{-8}
Max Eff Conc (MEC), 2003-2005	17	17	7.0	7.0	0.02	2.6×10^{-7}

* denotes an interim limitation

e. Summary of Numeric Effluent Limitations for Discharge Point No. 001

The numeric water quality-based effluent limitations are summarized below:

Table F-12. Summary of Numeric WQBELs

Parameters	Units	Final Limitations		Interim Limitations	
		MDEL	AMEL	MDEL	AMEL
Copper	µg/L	22	13	---	---
Mercury [1]	µg/L	0.040	0.021	---	0.087
Cyanide	µg/L	6.4	3.3	8.3	---
2,3,7,8-TCDD-TEQ or Dioxin-TEQ	µg/L	2.8E-08	1.4E-08	---	---

[1] A mass emission limitation of 0.10 kg/month is also established for mercury.

f. Calculation of Pollutant Specific WQBELs

1. Copper

(a) Copper WQC. The salt water, acute and chronic criteria from the Basin Plan and the CTR for copper for protection of aquatic life are 4.2 and 5.5 µg/L, respectively. These criteria were determined using site-specific translators of 0.74 (chronic) and 0.88 (acute), as recommended by the Clean Estuary Partnership's *North of Dumbarton Bridge Copper and Nickel Development and Selection of Final Translators* (2005). Site-specific translators were applied to chronic (3.1 µg/L dissolved metal) and acute (4.8 µg/L dissolved metal) criteria of the Basin Plan and the CTR for protection of salt water aquatic life to calculate the criteria of 4.2 µg/L for acute protection and 5.5 µg/L for chronic protection, which were used to perform the RPA and to calculate effluent limitations.

(b) RPA Results. This Order establishes effluent limitations for copper, as the maximum observed effluent concentration of 16 µg/L exceeds the applicable water quality criteria for this pollutant, demonstrating reasonable potential by Trigger 1, as defined previously.

(c) Copper WQBELs. WQBELs are calculated based on water quality criteria of the CTR. The criteria are expressed as total recoverable metal, using site-specific translators recommended by the Clean Estuary Partnership's North of Dumbarton Bridge Copper and Nickel Development and Selection of Final Translators (2004), and a water effects ratio (WER) of 2.4, as recommended

by the Partnership. The following table compares effluent limitations for copper from the expiring permit (Order No. 01-105) with limitations calculated according to SIP procedures and with a coefficient of variation (0.91) based on effluent data generated during the term of Order No. 01-105.

Final Effluent Limitations for Copper

	AMEL	MDEL
Order No. 01-105	13.1 µg/L	21.8 µg/L
Newly Calculated Limitations	45 µg/L	109 µg/L

Because limitations of the previous permit were final limitations, and those limitations are equal to or more stringent than newly calculated limits for copper (based on effluent data generated during the term of Order No. 01-105), effluent limitations for copper from the expiring permit are retained in this Order. Final effluent limitations for copper established by the Order, rounded to two significant figures, are 13 µg/L (AMEL) and 22 µg/L (MDEL).

(d) Immediate Compliance Feasible. Because effluent limitations for copper in the expiring permit are final limitations, interim limitations and a compliance schedule cannot be justified in the reissued permit. In addition, statistical analysis of effluent data for copper (fitting a reciprocal distribution), collected over the period of January 2003 through December 2005, shows that the 95th percentile (7.0 µg/L) is less than the AMEL (13 µg/L) and the 99th percentile (19 µg/L) is less than the MDEL (22 µg/L). The Regional Water Board concludes, therefore, that immediate compliance with final effluent limitations for copper is feasible.

(e) Antibacksliding/Antidegradation. Antibacksliding and antidegradation requirements are satisfied as effluent limitations of the Order are at least as stringent as those in Order No. 01-105.

2. Cyanide

(a) Cyanide WQC. The most stringent applicable water quality criteria for cyanide are established by the NTR for protection of salt water aquatic life. The NTR establishes both the saltwater Criterion Maximum Concentration (acute criterion) and the Criterion Chronic Concentration (chronic criterion) at 1.0 µg/L.

(b) *RPA Results.* This Order establishes effluent limitations for cyanide because the 7.0 µg/L MEC exceeds the governing WQC of 1 µg/L, demonstrating reasonable potential by Trigger 1, as defined in a previous finding.

(c) *Cyanide WQBELs.* Final WQBELs for cyanide, calculated according to SIP procedures, are 3.3 µg/L (AMEL) and 6.4 µg/L (MDEL).

(d) Immediate Compliance Infeasible. The Discharger's Feasibility Study asserts that it cannot immediately comply with final WQBELs for cyanide. Statistical analysis of effluent data for cyanide, collected over the period of January 2003 through December 2005, show that the 95th percentile is greater than the AMEL (5.9 µg/L > 3.3 µg/L), and therefore, based on this analysis, the Regional Water Board concurs with the Discharger's assertion of infeasibility to comply with final WQBELs for cyanide.

(e) *Alternative Limit for Cyanide.* As described in the Draft Staff Report on Proposed Site-Specific Water Quality Objectives and Effluent Limit Policy for Cyanide for San Francisco Bay, dated November 10, 2005, the Regional Water Board is proposing to develop site-specific criteria for cyanide. In this report, the proposed site-specific criteria for marine waters are 2.9 µg/L as a four-day average, and 9.4 µg/L as a one-hour average. Based on these assumptions, and the Discharger's current cyanide data (coefficient of variation of 0.57), final water WQBELs for cyanide will be 41 µg/L as an MDEL, and 21 µg/L as an AMEL. These alternative limits will become effective only if the site-specific objectives adopted for cyanide are based on the same assumptions as in the staff report, dated November 10, 2005.

(f) *Interim Effluent Limitation.* Because it is infeasible for the Discharger to immediately comply with the final WQBELs for cyanide, an interim effluent limitation is required. Regional Water Board staff considered the Discharger's effluent data from January 2003 through December 2005 and established the 99.87th percentile of the data set (8.3 µg/L) as a maximum daily, interim effluent limitation. This limit is more stringent that the interim limit of 25 µg/L included in the previous permit.

(g) *Term of Interim Effluent Limitation.* The cyanide interim effluent limitation shall remain in effect until April 28, 2010, or until the Regional Water Board amends the limitation based on additional data or SSOs.

(h) *Antibacksliding/Antidegradation.* Antibacksliding and antidegradation requirements are satisfied as the previous permit (Order No. 01-105) did not include final effluent limitations for cyanide.

3. Mercury

(a) Mercury WQC. The most stringent applicable water quality criteria for mercury are established by the Basin Plan for protection of fresh water aquatic life – 2.1 µg/L and 0.025 µg/L, acute and chronic criteria respectively.

(b) RPA Results. This Order establishes effluent limitations for mercury, because the receiving water for this discharge is 303(d) listed for mercury, and the Regional Water Board's policy in these circumstances is to find

Reasonable Potential by Trigger 3 and establish effluent limitations for discharges to Central San Francisco Bay.

(c) Mercury WQBELs. Mercury final WQBELs, calculated according to SIP procedures, are 0.021 µg/L (AMEL) and 0.040 µg/L (MDEL).

(d) Immediate Compliance Infeasible. The Discharger's Infeasibility Analysis indicates that recent monitoring data show that it can not immediately comply with final limits (maximum concentration on 0.040 µg/L > 0.021 µg/L AMEL). Recent monitoring data (January 2003-May 2006) is not distributed normally, and therefore, a robust statistical analysis could not be performed. In such cases, the Water Board evaluates feasibility to comply by comparing the maximum effluent concentration with the AMEL. As such, the Water Board concludes that immediate compliance is infeasible for mercury.

(e) Mass Emission Limitation. As discussed in C.7 below, the Order also retains the 12 month moving average, mass-based effluent limitation for mercury of 0.1 kg/month from Order No. 01-105.

(f) Antibacksliding/Antidegradation. Antibacksliding and antidegradation requirements are effluent limitations for mercury established by the Order are at least as stringent as limitations from the previous permit (Order No. 01-105).

4. 2,3,7,8 TCDD - TEQ

(a) WQC. The most stringent applicable water quality criterion for dioxin-TEQ is 1.4×10^{-8} µg/L, which is translated from the narrative bioaccumulation objective established by the Regional Water Board through the Basin Plan. The Basin Plan's narrative bioaccumulation objective is applicable to dioxins and furans, since these constituents accumulate in sediments and bioaccumulate in the fatty tissue of fish and other organisms. The narrative objective is translated into a numeric objective expressed in 2,3,7,8-TCDD equivalents (or dioxin-TEQ) based on the CTR criterion for 2,3,7,8-TCDD and the application of the Toxic Equivalence Factors (TEFs) for dioxin and furans adopted by the World Health Organization in 1998.

(b) RPA Results. Because the receiving water is currently listed on the CWA 303(d) list as impaired due to dioxins and furans, and the maximum observed effluent concentration of dioxin–TEQ is 1.17×10^{-8} µg/L, which exceeds the translated water quality objective of 1.4×10^{-8} µg/L, dioxin-TEQ in the discharge has a reasonable potential to contribute to exceedances of the narrative bioaccumulation objective.

(c) WQBELs. Concentration-based WQBELs for dioxin–TEQ, using SIP procedures and guidance, are 2.8×10^{-8} and 1.4×10^{-8} µg/L as the maximum daily effluent limit (MDEL) and the average monthly effluent limit (AMEL),

respectively. Because dioxin-TEQ is a bioaccumulative pollutant, these limitations are calculated without credit for dilution.

(d) *Immediate Compliance Infeasible.* Because effluent concentrations of dioxin-TEQ have been measured at levels greater than newly calculated limitations (calculated based on Section 1.4 of the SIP), the Regional Water Board concurs with the Discharger's assertion of infeasibility. As Order No. 01-105 did not include an effluent limitation for dioxin – TEQ, and there is insufficient data to statistically determine a performance based interim limitation, the Order establishes a 10-year schedule for compliance with final limitations from the effective day of this Order.

(e) *Antibacksliding/Antidegradation.* Antibacksliding and antidegradation requirements are satisfied, as the previous Order did not include limitations for dioxin - TEQ.

5. Whole Effluent Acute Toxicity

a. *Permit Requirements.* This Order includes effluent limits for whole-effluent acute toxicity that are unchanged from the previous Order. All bioassays shall be performed according to the USEPA approved method in 40 CFR 136, currently "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 5th Edition." The Discharger is required to use the 5th Edition method for compliance determination upon the effective date of this Order.

b. *Compliance History.* The Discharger's acute toxicity monitoring data show that during 2001-2005, with fish survival rates ranged between 0-100%.

c. *Ammonia Toxicity.* If acute toxicity is observed in the future and the Discharger believes that it is due to ammonia toxicity, this has to be shown through a Toxicity Identification Evaluation (TIE) acceptable to the Executive Officer. If the Discharger demonstrates to the satisfaction of the Executive Officer that exceedance of the acute toxicity limits is caused by ammonia and that the ammonia in the discharge is not adversely impacting receiving water quality or beneficial uses, then such toxicity does not constitute a violation of this effluent limit. This is based on the Basin Plan, at page 3-4 under "Un-Ionized Ammonia". If ammonia toxicity is verified in the TIE, the Discharger may utilize an adjustment protocol approved by the Executive Officer for the routine bioassay testing.

6. Whole Effluent Chronic Toxicity

a. *Permit Requirements.* This permit includes requirements for chronic toxicity monitoring based on the Basin Plan narrative toxicity objective, and in accordance with USEPA and State Water Board Task Force guidance, and BPJ. This permit includes the Basin Plan narrative toxicity objective as the

applicable effluent limit, implemented via monitoring with numeric values as "triggers" to initiate accelerated monitoring and to initiate a chronic toxicity reduction evaluation (TRE) as necessary. The permit requirements for chronic toxicity are also consistent with the CTR and SIP requirements.

b. *Chronic Toxicity Triggers.* This Order includes chronic toxicity triggers, which are three sample median of 10 chronic toxicity (TUc[1]) and a single sample maximum of 20 TUc.

c. *Monitoring History.* The Discharger's chronic toxicity monitoring data from 2002 through 2005, TUc values ranged from <2.5 to 5.8.

d. *Screening Phase Study.* The Discharger has prepared a chronic toxicity screening phase study plan and the results of this study have been incorporated herein.

7. Mercury Interim Mass Emission Limitation

This Order includes an interim mercury mass-based effluent limitation of 0.10 kg/month. This mass-based effluent limitation is intended to maintain the discharge at current loadings. The mass limit will maintain current loadings until a TMDL is established for San Francisco Bay. The final mercury effluent limitations will be based on the Discharger's WLA in the TMDL.

The inclusion of interim performance-based mass limits for bioaccumulative pollutants is consistent with the guidance described in section 2.1.1 of the SIP. Because of their bioaccumulative nature, an uncontrolled increase in the total mass load of these pollutants in the receiving water will have significant adverse impacts on the aquatic ecosystem.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Receiving Water Limitations V.A. (Surface Water Limitations)

These limitations are in the existing permit and are based on water quality objectives for physical, chemical, and biological characteristics of receiving waters from Chapter 3 of the Basin Plan.

B. Receiving Water Limitation V.B. (Ground Water Limitations)

N/A

[1] A TUc equals 100 divided by the no observable effect level (NOEL). The NOEL is determined from IC, EC, or NOEC values. Monitoring and TRE requirements may be modified by the Executive Officer in response to the degree of toxicity detected in the effluent or in ambient waters related to the discharge. Failure to conduct the required toxicity tests or a TRE within a designated period shall result in the establishment of effluent limits for chronic toxicity.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS (PROVISION B)

40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Regional 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 requirements have been retained from Order No. 01-105. The Order requires continuous influent flow monitoring, and TSS and $CBOD_5$ monitoring one time per week to determine compliance with removal requirements of the Order.

B. Effluent Monitoring

The following bulleted text summarizes effluent monitoring requirements in the Monitoring and Reporting Program, which accompanies this Order, including changes from the previous Program.

- Two effluent monitoring stations have been retained.
- Monitoring requirements at M-002 (E-001-S) are unchanged from the previous permit.
- Monitoring requirements at M-001 (E-001) are unchanged for flow, pH, dissolved oxygen, ammonia, TSS, BOD_5 or $CBOD_5$, and chronic toxicity. Monitoring is no longer required for settleable solids because this parameter is no longer limited by the Order.
- Bacteria monitoring at M-001 (E-001) has been changed from fecal to total coliform.
- Routine monitoring for toxic pollutants is limited to those pollutants which have numeric limitations established by the Order. Less frequent monitoring for all CTR pollutants is required in accordance with the August 6, 2001 letter from the Regional Water Board to all dischargers.

C. Whole Effluent Toxicity Testing Requirements

The Basin Plan requires dischargers to conduct flow-through effluent toxicity tests (Chapter 4, Acute Toxicity) to measure the toxicity of wastewaters and to assess negative impacts upon water quality and beneficial uses caused by the aggregate toxic effect of the discharge of pollutants. This Order includes effluent limitations for whole effluent acute toxicity and monitoring requirements for whole effluent chronic toxicity. All tests shall be performed according to the U.S. EPA-approved method in 40 CFR Part 136, currently "Methods for

Measuring the Acute Toxicity of Effluents and Receiving Water, 5th Edition."

This Order requires that the Discharger continue its effluent toxicity monitoring efforts as part of the compliance requirements. This requirement is based on the Basin Plan and BPJ.

D. Receiving Water Monitoring

Regional Monitoring Program (RMP). On April 15, 1992, the Regional Water Board adopted Resolution No. 92-043 directing the Executive Officer to implement the Regional Monitoring Program (RMP) for the San Francisco Bay. Subsequent to a public hearing and various meetings, Regional Water Board staff requested major permit holders in this region, under authority of section 13267 of California Water Code, to report on the water quality of the estuary. These permit holders responded to this request by participating in a collaborative effort, through the San Francisco Estuary Institute. This effort has come to be known as the San Francisco Bay Regional Monitoring Program for Trace Substances. This Order specifies that the Discharger shall continue to participate in the RMP, which involves collection of data on pollutants and toxicity in water, sediment and biota of the estuary.

E. Other Monitoring Requirements

This Order requires standard observations to be made for all bypasses and overflows from manholes, pump stations, collection systems, and sludge drying bed areas.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions (Provision VI.A)

Standard Provisions, which in accordance with 40 CFR §§122.41and 122.42, apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachments D and H of this Order.

B. Monitoring and Reporting Requirements (Provision VI.B)

The Discharger is required to conduct monitoring of the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are contained in the MRP (Attachment E), Standard Provisions and SMP, Part A (Attachment G) of the Permit. This provision requires compliance with these documents, and is based on 40 CFR 122.63. The Standard Provisions and SMP, Part A are standard requirements in almost all NPDES permits issued by the Regional Water Board, including this Order. They contain definitions of terms, specify general sampling and analytical protocols, and set out requirements for reporting of spills, violations, and routine monitoring data in accordance with NPDES regulations, the California Water Code, and Regional Water Board's policies. The MRP contains a sampling program specific for the facility. It defines the sampling stations and frequency, the pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all parameters for which effluent limitations are specified. Monitoring for additional constituents, for which no effluent limitations are established, is also required to provide data to conduct reasonable potential analyses in the future.

C. Special Provisions (Provision C)

1. Reopener Provisions

These provisions are based on 40 CFR Part 123 and allow future modification of this Order and its effluent limitations as necessary in response to updated WQOs that may be established in the future.

2. Special Studies and Additional Monitoring Requirements

a. Effluent Characterization Study

This Order does not include effluent limitations for the selected constituents addressed in the August 6, 2001 Letter that do not demonstrate Reasonable Potential, but this provision requires the Discharger to continue monitoring for these pollutants as described in the August 6, 2001 Letter and as specified in the MRP of this Order. If concentrations of these constituents increase significantly, the Discharger will be required to investigate the source of the increases and establish remedial measures, if the increases result in reasonable potential to cause or contribute to an excursion above the applicable WQO/WQC. This provision is based on the Basin Plan and the SIP. b. Ambient Background Receiving Water Study

This provision is based on the Basin Plan, the SIP, and the August 6, 2001 Letter for priority pollutant monitoring. As indicated in the permit, this requirement may be met by participating in the collaborative BACWA study.

c. Optional Mass Offset

This option is provided to encourage the Discharger to further implement aggressive reduction of mass loads to the Central San Francisco Bay.

d. Marine Outfall Maintenance

The provision is based on the previous Order, and is necessary to address the potential accumulation of solids in the outfall and to prevent unacceptable adverse impacts on the beneficial uses of the receiving water.

e. Mercury, Cyanide, and Dioxin-TEQ Compliance Schedules

The compliance schedules and the requirement to submit reports on further measures to reduce concentrations of mercury, cyanide, and dioxin-TEQ to ensure compliance with final limits are based on the Basin Plan (page 4-14), and 40 CFR 122.47(a)(3). Maximum allowable compliance schedules are granted to the Discharger for these pollutants because of the considerable uncertainty in determining an effective measure (e.g., pollution prevention, treatment upgrades) that should be implemented to ensure compliance with final limits. In our view, it is appropriate to allow the

Discharger sufficient time to first explore source control measures before requiring it to propose further actions, such as treatment plant upgrades, that are likely to be much more costly. This approach is supported by the Basin Plan (page 4-25), which states: "In general, it is often more economical to reduce overall pollutant loading into treatment systems than to install complex and expensive technology at the plant."

Finally, because of the ubiquitous nature of the sources of dioxin-TEQ, this provision allows the Discharger to address compliance with calculated WQBELs through other strategies such as mass offsets.

f. Regional Monitoring Program

This provision is based on the previous Order to allow the Discharger to participate in a RMP for trace substances in the San Francisco Bay in lieu of more extensive effluent and receiving water self-monitoring requirements that may be imposed.

3. Best Management Practices and Pollution Prevention

This provision is based on Chapter 4 of the Basin Plan and Section 2.4.5 of the SIP.

Additionally, on October 15, 2003, the Regional Water Board adopted Resolution R2-2003-0096 in support of a collaborative working approach between the Regional Water Board and the Bay Area Clean Water Agencies to promote Pollution Minimization Program development and excellence. Specifically, the Resolution embodies a set of eleven guiding principles that will be used to develop tools such as "P2 menus" for specific pollutants, as well as provide guidance in improving P2 program efficiency and accountability. Key principles in the Resolution include promoting watershed, cross-program and cross-media approaches to pollution prevention, and jointly developing tools to assess program performance that may include peer reviews, self-audits or other formats.

4. Construction, Operation, and Maintenance Specifications

a. Wastewater Facilities, Review and Evaluation, Status Reports

This provision is based on the previous permit and the Basin Plan.

b. Operations and Maintenance Manual, Review and Status Reports

This provision is based on the Basin Plan, the requirements of 40 CFR Part 122, and the previous permit.

c. Contingency Plan, Review and Status Reports

This provision is based on the Basin Plan, the requirements of 40 CFR Part 122, and

the previous permit.

d. Facility Operations during Wet Weather Conditions

This provisions is based on the previous Order. Further, the Basin Plan prohibits the discharge of partially treated and untreated wastes (Chapter 4, Discharge Prohibition No.15).

5. Special Provisions for POTWs

a. Pretreatment Program. This provision is based on 40 CFR part 403 (General Pretreatment Regulations for Existing and New Sources of Pollution).

b. Sludge Management Practices Requirements. This provision is based on the Basin Plan (Chapter 4) and 40 CFR Parts 257 and 503.

c. No Feasible Alternatives and Implementation Schedule

This provision is based on 40 CFR 122.41(m). It requires that the Discharger reevaluate prior to the next permit reissuance that it has explored every feasible alternative to eliminate blending.

6. Corrective Measures to Minimize Blending Events

This provision is based on 40 CFR 122.41(m). It requires that the Discharger implement feasible alternatives to reduce the need to blend during this permit cycle.

VIII. PUBLIC PARTICIPATION

The San Francisco Bay Regional Water Board is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the Central Marin Sanitation Agency. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties.

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the following: (a) paper and electronic copies of this Order were relayed to the Discharger, and (b) the Marin Independent Journal published a notice that this item would appear before the Regional Water Board on January 23, 2007.

B. Written Comments.

The staff determinations are tentative. Interested persons are invited to submit written

comments concerning these tentative WDRs. Comments should be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order, Attention: Vincent Christian.

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the Regional Water Board offices **by 5:00 p.m. on December 22, 2006**.

C. Public Hearing

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

Date:	January 23, 2007
Time:	9:00 am
Location:	Elihu Harris State Office Building 1515 Clay Street, 1st Floor Auditorium Oakland, CA 94612
Contact:	Vincent Christian, (510) 622-2336, vchristian@waterboards.ca.gov

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing. Please be aware that dates and venues may change. Our web address is www.waterboards.ca.gov/sanfranciscobay/ where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

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

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

E. Information and Copying.

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m. except from noon to 1:00 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (510) 622-2300.

F. Register of Interested Persons.

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

G. Additional Information

Requests for additional information or questions regarding this Order should be directed to Vincent Christian, 510-622-2336, vchristian@waterboards.ca.gov.

ATTACHMENT G – REGIONAL WATER BOARD ATTACHMENTS

The following documents are part of this Order but are not physically attached due to volume. They are available on the Internet at: http://www.waterboards.ca.gov/sanfranciscobay/Download.htm.

- Self-Monitoring Program, Part A (August 1993)
- Standard Provisions and Reporting Requirements, August 1993
- Regional Water Board Resolution No. 74-10
- August 6, 2001 Regional Water Board staff letter, "Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy"

ATTACHMENT H - PRETREATMENT REQUIREMENTS

Pretreatment Program Provisions

1. The Discharger shall implement all pretreatment requirements contained in 40 CFR §403, as amended. The Discharger shall be subject to enforcement actions, penalties, and fines as provided in the Clean Water Act (33 USC 1351 et seq.), as amended. The Discharger shall implement and enforce its Approved Pretreatment Program or modified Pretreatment Program as directed by EPA. The EPA and/or the State may initiate enforcement action against an industrial user for noncompliance with applicable standards and requirements as provided in the Clean Water Act.

2. The Discharger shall enforce the requirements promulgated under Sections 307(b), 307(c), 307(d) and 402(b) of the Clean Water Act. The Discharger shall cause industrial 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 industrial user, upon commencement of the discharge.

3. The Discharger shall perform the pretreatment functions as required in 40 CFR §403 and amendments or modifications thereto including, but not limited to:

   i) Implement the necessary legal authorities to fully implement the pretreatment regulations as provided in 40 CFR §403.8(f)(1);

   ii) Implement the programmatic functions as provided in 40 CFR §403.8(f)(2);

   iii) Publish an annual list of industrial users in significant noncompliance as provided per 40 CFR §403.8(f)(2)(vii);

   iv) Provide for the requisite funding and personnel to implement the pretreatment program as provided in 40 CFR §403.8(f)(3); and

   v) Enforce the national pretreatment standards for prohibited discharges and categorical standards as provided in 40 CFR §§403.5 and 403.6, respectively.

4. The Discharger shall submit annually a report to the EPA Region 9, the State Water Board and the Regional Water Board describing its pretreatment program activities over the previous twelve months. In the event that the Discharger is not in compliance with any conditions or requirements of the Pretreatment Program, the Discharger shall also include the reasons for noncompliance and a plan and schedule for achieving compliance. The report shall contain, but is not limited to, the information specified in Appendix A entitled, "Requirements for Pretreatment Annual Reports," which is made a part of this Order. The annual report is due on the last day of February each year.

5. The Discharger shall submit semiannual pretreatment reports to the EPA Region 9, the State Water Board and the Regional Water Board describing the status of its significant industrial

users (SIUs). The report shall contain, but is not limited to, the information specified in Appendix B entitled, "Requirements for Semiannual Pretreatment Reports," which is made part of this Order. The semiannual reports are due July 31st (for the period January through June) and January 31st (for the period July through December) of each year. The Executive Officer may exempt a Discharger from the semiannual reporting requirements on a case by case basis subject to State Water Board and EPA's comment and approval.

6. The Discharger may combine the annual pretreatment report with the semiannual pretreatment report (for the July through December reporting period). The combined report shall contain all of the information requested in Appendices A and B and will be due on January 31st of each year.

7. The Discharger shall conduct the monitoring of its treatment plant's influent, effluent, and sludge as described in Appendix C entitled, "Requirements for Influent, Effluent and Sludge Monitoring," which is made part of this Order. The results of the sampling and analysis, along with a discussion of any trends, shall be submitted in the semiannual reports. A tabulation of the data shall be included in the annual pretreatment report. The Executive Officer may require more or less frequent monitoring on a case by case basis.

APPENDIX A

REQUIREMENTS FOR PRETREATMENT ANNUAL REPORTS

The Pretreatment Annual Report is due each year on the last day of February. [If the annual report is combined with the semiannual report (for the July through December period) the submittal deadline is January 31st of each year.] The purpose of the Annual Report is 1) to describe the status of the Publicly Owned Treatment Works (POTW) pretreatment program and 2) to report on the effectiveness of the program, as determined by comparing the results of the preceding year's program implementation. The report shall contain at a minimum, but is not limited to, the following information:

1) **Cover Sheet**

The cover sheet must contain the name(s) and National Pollutant Discharge Elimination Discharge System (NPDES) permit number(s) of those POTWs that are part of the Pretreatment Program. Additionally, the cover sheet must include the name, address and telephone number of a pretreatment contact person; the period covered in the report; a statement of truthfulness; and the dated signature of a principal executive officer, ranking elected official, or other duly authorized employee who is responsible for overall operation of the POTW (40 CFR §403.12(j)).

2) **Introduction**

The Introduction shall include any pertinent background information related to the Discharger, the POTW and/or the industrial user base of the area. Also, this section shall include an update on the status of any Pretreatment Compliance Inspection (PCI) tasks, Pretreatment Performance Evaluation tasks, Pretreatment Compliance Audit (PCA) tasks, Cleanup and Abatement Order (CAO) tasks, or other pretreatment-related enforcement actions required by the Regional Water Board or the EPA. A more specific discussion shall be included in the section entitled, "Program Changes."

3) **Definitions**

This section shall contain a list of key terms and their definitions that the Discharger uses to describe or characterize elements of its pretreatment program.

4) **Discussion of Upset, Interference and Pass Through**

This section shall include a discussion of Upset, Interference or Pass Through incidents, if any, at the POTW(s) that the Discharger knows of or suspects were caused by industrial discharges. Each incident shall be described, at a minimum, consisting of the following

information:

a) a description of what occurred;

b) a description of what was done to identify the source;

c) the name and address of the industrial user (IU) responsible

d) the reason(s) why the incident occurred;

e) a description of the corrective actions taken; and

f) an examination of the local and federal discharge limits and requirements for the purposes of determining whether any additional limits or changes to existing requirements may be necessary to prevent other Upset, Interference or Pass Through incidents.

5) **Influent, Effluent and Sludge Monitoring Results**

This section shall provide a summary of the analytical results from the "Influent, Effluent and Sludge Monitoring" as specified in Appendix C. The results should be reported in a summary matrix that lists monthly influent and effluent metal results for the reporting year.

A graphical representation of the influent and effluent metal monitoring data for the past five years shall also be provided with a discussion of any trends.

6) **Inspection and Sampling Program**

This section shall contain at a minimum, but is not limited to, the following information:

a) Inspections: the number of inspections performed for each type of IU; the criteria for determining the frequency of inspections; the inspection format procedures;

b) Sampling Events: the number of sampling events performed for each type of IU; the criteria for determining the frequency of sampling; the chain of custody procedures.

7) **Enforcement Procedures**

This section shall provide information as to when the approved Enforcement Response Plan (ERP) had been formally adopted or last revised. In addition, the date the finalized ERP was submitted to the Regional Water Board shall also be given.

8) **Federal Categories**

This section shall contain a list of all of the federal categories that apply to the Discharger.

The specific category shall be listed including the subpart and 40 CFR section that applies. The maximum and average limits for the each category shall be provided. This list shall indicate the number of Categorical Industrial Users (CIUs) per category and the CIUs that are being regulated pursuant to the category. The information and data used to determine the limits for those CIUs for which a combined waste stream formula is applied shall also be provided.

9) **Local Standards**

This section shall include a table presenting the local limits.

10) **Updated List of Regulated SIUs**

This section shall contain a complete and updated list of the Discharger's Significant Industrial Users (SIUs), including their names, addresses, and a brief description of the individual SIU's type of business. The list shall include all deletions and additions keyed to the list as submitted in the previous annual report. All deletions shall be briefly explained.

11) **Compliance Activities**

a) **Inspection and Sampling Summary:** This section shall contain a summary of all the inspections and sampling activities conducted by the Discharger over the past year to gather information and data regarding the SIUs. The summary shall include:

(1) the number of inspections and sampling events conducted for each SIU;

(2) the quarters in which these activities were conducted; and

(3) the compliance status of each SIU, delineated by quarter, and characterized using all applicable descriptions as given below:

(a) in consistent compliance;

(b) in inconsistent compliance;

(c) in significant noncompliance;

(d) on a compliance schedule to achieve compliance, (include the date final compliance is required);

(e) not in compliance and not on a compliance schedule;

(f) compliance status unknown, and why not.

b) **Enforcement Summary:** This section shall contain a summary of the compliance and enforcement activities during the past year. The summary shall include the names of all the SIUs affected by the following actions:

(1) Warning letters or notices of violations regarding SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements. For each notice, indicate whether it was for an infraction of a federal or local standard/limit or requirement.

(2) Administrative Orders regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements. For each notice, indicate whether it was for an infraction of a federal or local standard/limit or requirement.

(3) Civil actions regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements. For each notice, indicate whether it was for an infraction of a federal or local standard/limit or requirement.

(4) Criminal actions regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements. For each notice, indicate whether it was for an infraction of a federal or local standard/limit or requirement.

(5) Assessment of monetary penalties. Identify the amount of penalty in each case and reason for assessing the penalty.

(6) Order to restrict/suspend discharge to the POTW.

(7) Order to disconnect the discharge from entering the POTW.

12) **Baseline Monitoring Report Update**

This section shall provide a list of CIUs that have been added to the pretreatment program since the last annual report. This list of new CIUs shall summarize the status of the respective Baseline Monitoring Reports (BMR). The BMR must contain all of the information specified in 40 CFR §403.12(b). For each of the new CIUs, the summary shall indicate when the BMR was due; when the CIU was notified by the POTW of this requirement; when the CIU submitted the report; and/or when the report is due.

13) **Pretreatment Program Changes**

This section shall contain a description of any significant changes in the Pretreatment Program during the past year including, but not limited to, legal authority, local limits, monitoring/ inspection program and frequency, enforcement protocol, program's administrative structure, staffing level, resource requirements and funding mechanism. If the manager of the pretreatment program changes, a revised organizational chart shall be included. If any element(s) of the program is in the process of being modified, this intention shall also be indicated.

14) **Pretreatment Program Budget**

This section shall present the budget spent on the Pretreatment Program. The budget, either by the calendar or fiscal year, shall show the amounts spent on personnel, equipment, chemical analyses and any other appropriate categories. A brief discussion of the source(s) of funding shall be provided.

15) **Public Participation Summary**

This section shall include a copy of the public notice as required in 40 CFR §403.8(f)(2)(vii). If a notice was not published, the reason shall be stated.

16) **Sludge Storage and Disposal Practice**

This section shall have a description of how the treated sludge is stored and ultimately disposed. The sludge storage area, if one is used, shall be described in detail. Its location, a description of the containment features and the sludge handling procedures shall be included.

17) **PCS Data Entry Form**

The annual report shall include the PCS Data Entry Form. This form shall summarize the enforcement actions taken against SIUs in the past year. This form shall include the following information: the POTW name, NPDES Permit number, period covered by the report, the number of SIUs in significant noncompliance (SNC) that are on a pretreatment compliance schedule, the number of notices of violation and administrative orders issued against SIUs, the number of civil and criminal judicial actions against SIUs, the number of SIUs that have been published as a result of being in SNC, and the number of SIUs from which penalties have been collected.

18) **Other Subjects**

Other information related to the Pretreatment Program that does not fit into one of the above

categories should be included in this section.

Signed copies of the reports shall be submitted to the Regional Administrator at U.S. EPA, the State Water Board and the Regional Water Board at the following addresses:

Regional Administrator
United States Environmental Protection Agency
Region 9, Mail Code: WTR-7
Clean Water Act Compliance Office
Water Division
75 Hawthorne Street
San Francisco, CA 94105

Pretreatment Program Manager
Regulatory Unit
State Water Resources Control Board
Division of Water Quality
1001 I Street
Sacramento, CA 95814

Pretreatment Coordinator
NPDES Permits Division
SF Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

APPENDIX B:

REQUIREMENTS FOR SEMIANNUAL PRETREATMENT REPORTS

The semiannual pretreatment reports are due on July 31st (for pretreatment program activities conducted from January through June) and January 31st (for pretreatment activities conducted from July through December) of each year, unless an exception has been granted by the Regional Water Board's Executive Officer. The semiannual reports shall contain, at a minimum, but is not limited to, the following information:

1) **Influent, Effluent and Sludge Monitoring**

The influent, effluent and sludge monitoring results shall be included in the report. The analytical laboratory report shall also be included, with the QA/QC data validation provided upon request. A description of the sampling procedures and a discussion of the results shall be given. (Please see Appendix C for specific detailed requirements.) The contributing source(s) of the parameters that exceed NPDES limits shall be investigated and discussed. In addition, a brief discussion of the contributing source(s) of all organic compounds identified shall be provided.

The Discharger has the option to submit all monitoring results via an electronic reporting format approved by the Executive Officer. The procedures for submitting the data will be similar to the electronic submittal of the NPDES self-monitoring reports as outlined in the December 17, 1999 Regional Water Board letter, Official Implementation of Electronic Reporting System (ERS). The Discharger shall contact the Regional Water Board's ERS Project Manager for specific details in submitting the monitoring data.

If the monitoring results are submitted electronically, the analytical laboratory reports (along with the QA/QC data validation) should be kept at the discharger's facility.

2) **Industrial User Compliance Status**

This section shall contain a list of all Significant Industrial Users (SIUs) that were not in consistent compliance with all pretreatment standards/limits or requirements for the reporting period. The compliance status for the previous reporting period shall also be included. Once the SIU has determined to be out of compliance, the SIU shall be included in the report until consistent compliance has been achieved. A brief description detailing the actions that the SIU undertook to come back into compliance shall be provided.

For each SIU on the list, the following information shall be provided:

a. Indicate if the SIU is subject to Federal categorical standards; if so, specify the category including the subpart that applies.

b. For SIUs subject to Federal Categorical Standards, indicate if the violation is of a categorical or local standard.

c. Indicate the compliance status of the SIU for the two quarters of the reporting period.

d. For violations/noncompliance occurring in the reporting period, provide (1) the date(s) of violation(s); (2) the parameters and corresponding concentrations exceeding the limits and the discharge limits for these parameters and (3) a brief summary of the noncompliant event(s) and the steps that are being taken to achieve compliance.

3) **POTW's Compliance with Pretreatment Program Requirements**

This section shall contain a discussion of the Discharger's compliance status with the Pretreatment Program Requirements as indicated in the latest Pretreatment Compliance Audit (PCA) Report, Pretreatment Compliance Inspection (PCI) Report or Pretreatment Performance Evaluation (PPE) Report. It shall contain a summary of the following information:

a. Date of latest PCA, PCI or PPE and report.

b. Date of the Discharger's response.

c. List of unresolved issues.

d. Plan and schedule for resolving the remaining issues.

The reports shall be signed by a principal executive officer, ranking elected official, or other duly authorized employee who is responsible for the overall operation of the Publicly Owned Treatment Works (POTW) (40 CFR §403.12(j)). Signed copies of the reports shall be submitted to the Regional Administrator at U.S. EPA, the State Water Resources Control Board and the Regional Water Board at the following addresses:

Regional Administrator
United States Environmental Protection Agency
Region 9, Mail Code: WTR-7
Clean Water Act Compliance Office
Water Division
75 Hawthorne Street
San Francisco, CA 94105

Pretreatment Program Manager
Regulatory Unit
State Water Resources Control Board
Division of Water Quality
1001 I Street
Sacramento, CA 95814

Pretreatment Coordinator
NPDES Permits Division
SF Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

APPENDIX C

REQUIREMENTS FOR INFLUENT, EFFLUENT AND SLUDGE MONITORING

The Discharger shall conduct sampling of its treatment plant's influent, effluent and sludge at the frequency as shown in Table E-6 on Page E-8 of the Monitoring and Reporting Program (MRP).

The monitoring and reporting requirements of the POTW's Pretreatment Program are in addition to those specified in the MRP. Any subsequent modifications of the requirements specified in the MRP shall be adhered to and shall not affect the requirements described in this Appendix unless written notice from the Regional Water Board is received. When sampling periods coincide, one set of test results, reported separately, may be used for those parameters that are required to be monitored by both Table 1 and the Pretreatment Program. The Pretreatment Program monitoring reports shall be sent to the Pretreatment Program Coordinator.

1. Influent and Effluent Monitoring

The Discharger shall monitor for the parameters using the required test methods listed in Table E-1 on page E-1 of the SMP. Any test method substitutions must have received prior written Regional Water Board approval. Influent and effluent sampling locations shall be the same as those sites specified in the Self-Monitoring Program.

The influent and effluent sampled should be taken during the same 24-hour period. All samples must be representative of daily operations. A grab sample shall be used for volatile organic compounds, cyanide and phenol. In addition, any samples for oil and grease, polychlorinated biphenyls, dioxins/furans, and polynuclear aromatic hydrocarbons shall be grab samples. For all other pollutants, 24-hour composite samples must be obtained through flow-proportioned composite sampling. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR §136 and amendments thereto. For effluent monitoring, the reporting limits for the individual parameters shall be at or below the minimum levels (MLs) as stated in the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (2000) [also known as the State Implementation Policy (SIP)]; any revisions to the MLs shall be adhered to. If a parameter does not have a stated minimum level, then the Discharger shall conduct the analysis using the lowest commercially available and reasonably achievable detection levels.

The following standardized report format should be used for submittal of the influent and effluent monitoring report. A similar structured format may be used but will be subject to Regional Water Board approval. The monitoring reports shall be submitted with the Semiannual Reports.

A. Sampling Procedures – This section shall include a brief discussion of the sample locations, collection times, how the sample was collected (i.e., direct collection using vials or bottles, or other types of collection using devices such as automatic samplers, buckets, or beakers), types of containers used, storage procedures and holding times. Include description of prechlorination and chlorination/dechlorination practices during the sampling periods.

B. Method of Sampling Dechlorination – A brief description of the sample dechlorination method prior to analysis shall be provided.

C. Sample Compositing – The manner in which samples are composited shall be described. If the compositing procedure is different from the test method specifications, a reason for the variation shall be provided.

D. Data Validation – All quality assurance/quality control (QA/QC) methods to be used shall be discussed and summarized. These methods include, but are not limited to, spike samples, split samples, blanks and standards. Ways in which the QA/QC data will be used to qualify the analytical test results shall be identified. A certification statement shall be submitted with this discussion stating that the laboratory QA/QC validation data has been reviewed and has met the laboratory acceptance criteria. The QA/QC validation data shall be submitted to the Regional Water Board upon request.

E. A tabulation of the test results shall be provided.

F. Discussion of Results – The report shall include a complete discussion of the test results. If any pollutants are detected in sufficient concentration to upset, interfere or pass through plant operations, the type of pollutant(s) and potential source(s) shall be noted, along with a plan of action to control, eliminate, and/or monitor the pollutant(s). Any apparent generation and/or destruction of pollutants attributable to chlorination/dechlorination sampling and analysis practices shall be noted.

2. **Sludge Monitoring**

Sludge should be sampled in the same 24-hour period during which the influent and effluent are sampled except as noted in (C) below. The same parameters required for influent and effluent analysis shall be included in the sludge analysis. The sludge analyzed shall be a composite sample of the sludge for final disposal consisting of:

A. Sludge lagoons – 20 grab samples collected at representative equidistant intervals (grid pattern) and composited as a single grab, or

B. Dried stockpile – 20 grab samples collected at various representative locations and depths and composited as a single grab, or

C. Dewatered sludge- daily composite of 4 representative grab samples each day for 5 days taken at equal intervals during the daily operating shift taken from a) the dewatering units or b) from each truckload, and shall be combined into a single 5-day composite.

The U.S. EPA manual, POTW Sludge Sampling and Analysis Guidance Document, August 1989, containing detailed sampling protocols specific to sludge is recommended as a guidance for sampling procedures. The U.S. EPA manual Analytical Methods of the National Sewage Sludge Survey, September 1990, containing detailed analytical protocols specific to sludge, is recommended as a guidance for analytical methods.

In determining if the sludge is a hazardous waste, the Dischargers shall adhere to Article 2, "Criteria for Identifying the Characteristics of Hazardous Waste," and Article 3, "Characteristics of Hazardous Waste," of Title 22, California Code of Regulations, Sections 66261.10 to 66261.24 and all amendments thereto.

Sludge monitoring reports shall be submitted with the appropriate Semiannual Report. The following standardized report format should be used for submittal of the report. A similarly structured form may be used but will be subject to Regional Water Board approval.

A. Sampling procedures – Include sample locations, collection procedures, types of containers used, storage/refrigeration methods, compositing techniques and holding times. Enclose a map of sample locations if sludge lagoons or stockpiled sludge is sampled.

B. Data Validation – All quality assurance/quality control (QA/QC) methods to be used shall be discussed and summarized. These methods include, but are not limited to, spike samples, split samples, blanks and standards. Ways in which the QA/QC data will be used to qualify the analytical test results shall be identified. A certification statement shall be submitted with this discussion stating that the laboratory QA/QC validation data has been reviewed and has met the laboratory acceptance criteria. The QA/QC validation data shall be submitted to the Regional Water Board upon request.

C. Test Results – Tabulate the test results and include the percent solids.

D. Discussion of Results – The report shall include a complete discussion of test results. If the detected pollutant(s) is reasonably deemed to have an adverse effect on sludge disposal, a plan of action to control, eliminate, and/or monitor the pollutant(s) and the known or potential source(s) shall be included. Any apparent generation and/or destruction of pollutants attributable to chlorination/ dechlorination sampling and analysis practices shall be noted.

The Discharger shall also provide any influent, effluent or sludge monitoring data for non-priority pollutants that the permittee believes may be causing or contributing to Interference, Pass Through or adversely impacting sludge quality.