STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

STAFF SUMMARY REPORT (Derek Whitworth)
MEETING DATE: January 30, 2008

ITEM **13**

SUBJECT: **City and County of San Francisco, San Francisco Southeast Water Pollution Control Plant, North Point Wet Weather Facility, and Bayside Wet Weather Facilities and Wastewater Collection System—Reissuance of NPDES Permit**

CHRONOLOGY: June 2002—Permit reissued

DISCUSSION: This Revised Tentative Order (Appendix A) would reissue the NPDES permit for the City and County of San Francisco's Southeast Water Pollution Control Plant, North Point Wet Weather Facility, and Bayside Wet Weather Facilities and Wastewater Collection System. These facilities collect and treat sanitary, commercial, and industrial wastewaters. Because the City operates a combined sewer system, its facilities also collect and treat urban runoff during dry weather and stormwater runoff during wet weather.

The Southeast treatment plant has a dry weather design capacity of 84.5 million gallons per day (MGD). During storm conditions, all the facilities provide primary and secondary treatment for up to 250 MGD. In exceptional storm conditions, an additional 150 MGD can receive primary treatment before discharge. Up to 110 MGD can be discharged through a deep water outfall at the end of Pier 80. Above this volume, treated wastewater may be discharged through a number of nearshore outfalls.

We revised the Tentative Order in response to comments received from the City and Bay Area Clean Water Agencies (Appendix B). As explained in our responses (Appendix C), the City objected to the dry weather dioxin limits because its combined sewer system removes much more dioxin during wet weather than during dry weather—far more than typical stormwater dischargers remove. However, the City cannot show that its wet weather discharges, which are exempt from effluent limits, ensure compliance with water quality standards. In response, we revised the Tentative Order to facilitate potential future adoption of a mass offset program whereby the City would offset some of its dry weather dioxin discharges through actions above and beyond those already required.

RECOMMEN-DATION: Adoption of the Revised Tentative Order

FILE NUMBERS: 2169.6010; CIWQS Place ID: 256499, Regulatory Measure: 337351

APPENDICES:
A. Revised Tentative Order
B. Comments Letters
C. Responses to Comments

A. Revised Tentative Order

California Regional Water Quality Control Board
San Francisco Bay Region

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Arnold Schwarzenegger
Governor

REVISED TENTATIVE ORDER NO. R2-2008-00XX
NPDES NO. CA0037664

The following Discharger is subject to waste discharge requirements as set forth in this Order.

Table 1. Discharger Information

Discharger	City and County of San Francisco
Name of Facility	Southeast Water Pollution Control Plant, North Point Wet Weather Facility, and Bayside Wet Weather Facilities and Wastewater Collection System.
Facility Address	San Francisco Public Utilities Commission (SFPUC) /Wastewater Enterprise
	750 Phelps St.
	San Francisco, CA 94124
	San Francisco County

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

Table 2. Treatment Plant and Combined Sewer Overflow Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
Treatment Plant Discharge Points				
EFF 001 Pier 80 Outfall	Blended primary and secondary treated effluent, including combined stormwater and wastewater	37° 44' 58"	122° 22' 22"	Lower San Francisco Bay
EFF 002 Quint Street Outfall	Secondary treated effluent, of combined stormwater and wastewater	37° 44' 50"	122° 23' 13"	Islais Creek
EFF 003 and EFF 004 Pier 33	Primary treated effluent of combined stormwater and wastewater	37° 48' 25"	122° 24' 11"	Central San Francisco Bay
EFF 005 and EFF 006 Pier 35	Primary treated effluent of combined stormwater and wastewater	37° 48' 36"	122° 24' 20"	Central San Francisco Bay
CSO Discharge Points				
009 Baker Street	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 48' 29"	122° 26' 48"	Marina Beach North Shore Drainage Basin

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
010 Pierce Street	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 48' 25"	122° 26' 24"	Marina Beach North Shore Drainage Basin
011 Laguna Street	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 48' 22"	122° 25' 53"	Yacht Harbor #2 North Shore Drainage Basin
013 Beach Street	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 48' 30"	122° 24' 24"	Pier 39 North Shore Drainage Basin
015 Sansome Street	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 48' 24"	122° 24' 11"	Pier 31 North Shore Drainage Basin
017 Jackson Street	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 47' 54"	122° 23' 41"	Pier 9 North Shore Drainage Basin
018 Howard Street	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 47' 35"	122° 23' 24"	Pier 14 Central Drainage Basin
019 Brannan Street	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 47' 7"	122° 23' 24"	Pier 32 Central Drainage Basin
022 Third Street	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 46' 38"	122° 23' 22"	Mission Creek Central Drainage Basin
023 Fourth Street North	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 46' 32"	122° 23' 29"	Mission Creek Central Drainage Basin
024 Fifth Street North	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 46' 26"	122° 23' 38"	Mission Creek Central Drainage Basin
025 Sixth Street North	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 46' 19"	122° 23' 46"	Mission Creek Central Drainage Basin

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
026 Division Street	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 46' 13"	122° 23' 51"	Mission Creek Central Drainage Basin
027 Sixth Street South	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 46' 17"	122° 23' 42"	Mission Creek Central Drainage Basin
028 Fourth Street South	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 46' 30"	122° 23' 28"	Mission Creek Central Drainage Basin
029 Mariposa Street	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 45' 53"	122° 23' 7"	Central Basin Central Drainage Basin
030 20th Street	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 45' 40"	122° 22' 48"	Central Basin Central Drainage Basin
030A 22nd Street	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 45' 28"	122° 22' 49"	Central Basin Central Drainage Basin
031 Third Street North	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 44' 52"	122° 23' 10"	Islais Creek Central Drainage Basin
031A Islais Creek North	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 44' 52"	122° 23' 15"	Islais Creek Central Drainage Basin
032 Marin Street	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 44' 55"	122° 23' 27"	Islais Creek Central Drainage Basin
033 Selby Street	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 44' 52"	122° 23' 27"	Islais Creek Central Drainage Basin
035 Third Street South	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 44' 50"	122° 23' 10"	Islais Creek Central Drainage Basin

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
037 Evans Avenue	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 44' 9"	122° 22' 26"	India Basin Southeast Drainage Basin
038 Hudson Avenue	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 44' 0"	122° 22' 26"	India Basin Southeast Drainage Basin
040 Griffith Street South	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 43' 23"	122° 22' 56"	Yosemite Canal Southeast Drainage Basin
041 Yosemite Avenue	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 43' 26"	122° 23' 8"	Yosemite Canal Southeast Drainage Basin
042 Fitch Street	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 43' 20"	122° 22' 55"	South Basin Southeast Drainage Basin
043 Sunnydale Avenue	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 44' 50"	122° 23' 13"	Candlestick Cove Southeast Drainage Basin

Table 3. Administrative Information

This Order was adopted by the Regional Water Board on:	**January 30, 2008**
This Order shall become effective on:	**April 1, 2008**
This Order shall expire on:	**March 31, 2013**
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Board have classified this discharge as a major discharge.	
CIWQS Regulatory Measure: 337351	
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 this Order expiration date as application for issuance of new waste discharge requirements.	

I, Bruce H. Wolfe, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on the date indicated above.

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Bruce H. Wolfe**,** Executive Officer

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List of Tables

Attachments

I. FACILITY INFORMATION

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

Table 4. Facility Information

Discharger	City and County of San Francisco
Name of Facility	Southeast Water Pollution Control Plant, North Point Wet Weather Facility, Bayside Wet Weather Facilities and Wastewater Collection System.
Facility Address	San Francisco Public Utilities Commission (SFPUC)/Wastewater Enterprise.
	750 Phelps St.
	San Francisco, CA 94124
	San Francisco County
Facility Contact, Title, and Phone	Tommy Moala; Assistant General Manager, Wastewater Enterprise, (415) 554-2465, tmoala@sfwater.org
Mailing Address	1155 Market Street, 11th Floor, San Francisco, CA 94103
CIWQS Place Number	256499
CIWQS Party ID	39680
Type of Facility	Publicly Owned Treatment Works and Wet Weather Facilities
Facility Design Flow	Southeast Water Pollution Control Plant: 84.5 million gallons per day (MGD) – Average dry weather design flow capacity; 63 MGD – Average annual daily flow; 250 MGD – Wet weather design flow capacity: 150 MGD receives primary and secondary treatment, Additional 100 MGD receives only primary treatment. North Point Wet Weather Facility: 150 MGD - Wet weather design flow capacity (primary treatment).

II. FINDINGS

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

A. Background. The City and County of San Francisco, is the owner and operator of the Southeast Water Pollution Control Plant (Southeast Plant), the North Point Wet Weather Facility, the Bayside Wet Weather Facilities, and the Wastewater Collection System within the City and adjoining service areas. The Discharger is currently discharging under Order No. R2-2002-0073 (CIWQS Regulatory Measure 131370) and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0037664. The Discharger submitted a Report of Waste Discharge, dated November 30, 2006, and applied for an NPDES permit renewal to discharge:

(1) From the Southeast Plant, during dry weather, up to 84.5 million gallons per day (MGD) of secondary treated wastewater through a deep water outfall at the end of Pier 80, and during wet weather up to 150 MGD of secondary treated and an additional 100 MGD of primary-only treated stormwater and wastewater. There would be a maximum flow of110

MGD of mixed primary and secondary treated flow discharged through a deep water outfall at the end of Pier 80. There would also be an additional flow of 140 MGD of secondary treated flow discharged through a shallow water outfall into Islais Creek.

(2) From the North Point Wet Weather Facility, during wet weather, up to 150 MGD of primary treated combined wastewater and stormwater would be discharged to San Francisco Bay though outfalls at the end of Piers 33 and 35.

(3) From the Bayside Wet Weather Facilities during wet weather the equivalent of wet weather primary treated combined stormwater and industrial and domestic wastewater would be discharged through any of the 29 shoreline combined sewer overflow (CSO) structures,.

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

B. Facility Description.

The Discharger's combined sewer system is designed to collect and provide wastewater treatment for a service area that includes the City of San Francisco, the Bayshore Sanitary District (portions of Brisbane, and Daly City), the City of Brisbane (residential sector), and the North San Mateo County Sanitation District (portion of Daly City). The Discharger's service area has a population of almost 556,000. The collection system consists of 600 miles of pipe and seven major and eleven minor pump stations. The Discharger is responsible for this collection system but the Discharger is not responsible for collection systems controlled by satellite agencies.

The Discharger's combined sewer system consists of three main components: the Southeast Plant, the North Point Wet Weather Facility, and the Bayside Wet Weather Facilities. The Southeast Plant provides secondary wastewater treatment during dry weather conditions for the entire service area; during wet weather the Southeast Plant provides a combination of secondary and primary treatment for mixed stormwater and sewage and industrial wastes. The North Point Wet Weather Facility operates only during wet weather and provides primary treatment for combined stormwater and sewage and industrial wastes. The Bayside Wet Weather Facilities consist of a series of interconnected large underground rectangular tanks and tunnels that, during dry weather, are operated to transport combined wastewater and street runoff to the Southeast Plant. During wet weather conditions, these storage/transport structures provide storage and treatment that is equivalent to wet weather primary treatment.

The treatment process at the Southeast Plant consists of a headworks (with coarse and fine bar screens and grit removal), primary sedimentation tanks, pure oxygen aeration basins, secondary clarifiers, and chlorine contact basins (for chlorination with sodium hypochlorite and dechlorination with sodium bisulfite).

The Discharger presently discharges an annual average dry weather flow of 63 MGD although it has the wet weather capacity to process up to 250 MGD of combined stormwater and sewage. During wet weather, up to 150 MGD receives secondary

treatment, and the remaining 100 MGD receives only primary treatment. All the treated stormwater and wastewater is disinfected prior to discharge.

During dry weather conditions, all flow receives secondary treatment and is discharged through the Southeast Plant deep water outfall at Pier 80 (Discharge Point 001). At full wet weather capacity, the discharge at this outfall is maximized to 110 MGD, a blend of 100 MGD primary and 10 MGD secondary. The remaining 140 MGD receiving secondary treatment is discharged via the Quint Street shallow water outfall into Islais Creek (Discharge Point 002).

Primary and secondary sludge is processed via anaerobic digestion. The digested and dewatered sludge is beneficially re-used as alternative daily cover at a permitted landfill site or is land applied at a permitted site. The Discharger may elect to reuse its biosolids as Class A compost or through a waste to energy facility, or other recognized and approved reuse technology.

The treatment process at the North Point Wet Weather Facility consists of primary sedimentation, clarification, floatables removal, disinfection, and dechlorination operations. It treats only wet weather flow that consists of domestic and industrial wastewater mixed with stormwater runoff to a maximum capacity of 150 MGD. This level of treatment meets the minimum treatment specified by the USEPA *Combined Sewer Overflow Control Policy* (CSO Policy) I50 FR 18688; April 11, 1994.

The treated water is discharged from the North Point Wet Weather Facility into San Francisco Bay through four deep water outfalls: two at the end of Pier 33 (Discharge Points 003 and 004), and two at the end of Pier 35 (Discharge Points 005 and 006).

Primary sludge from this Facility is directed to the Southeast Plant for treatment.

The Discharger recently completed several upgrades to this Facility, including the addition of new screens, and new dechlorination facilities.

The treatment process at the Bayside Wet Weather Storage/Transport and Diversion Structures consists of a series of baffles and weirs that are designed to remove settleable solids and floatables. The level of treatment meets the minimum treatment specified by the CSO Policy. During dry weather these structures transport combined sewage and street runoff to the Southeast Plant. During wet weather, these structures provide storage for additional stormwater, while pumps continue to transfer combined stormwater and wastewater at a steady flow to the Southeast Plant.

In the event that the capacities of the Southeast Plant, the North Point Facility, and wet weather facilities and storage structures are exceeded, the combined stormwater and sewage, after receiving the equivalent of wet weather primary treatment in the transport structures, is discharged into San Francisco Bay through any one of the 29 shoreline combined sewer overflow (CSO) structures. The outfalls associated with these CSO structures are very wide diameter pipes or box culverts. All solids that settle out in the storage/transport structures are flushed to the Southeast Plant after the rainstorm subsides.

Attachment B provides a schematic showing the location of San Francisco's transport/storage structures, the Southeast Plant and the North Point Wet Weather Facility, and a map indicating the location of all the discharge points. Attachment C provides a process flow schematic diagram of the Southeast Plant and of the North Point Wet Weather Facility.

C. Legal Authorities. This Order is issued pursuant to CWA section 402 and implements regulations adopted by the USEPA and Chapters 5.5, Division 7 of the California Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from these combined facilities to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4, Division 7 of the Water Code (commencing with section 13260).

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 other available sources. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E and G and H are also incorporated into this Order.

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

F. Technology-based Effluent Limitations. Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, Title 40 of the Code of Federal Regulations[1], require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 CFR Part 133. For wet weather discharges, this Order includes technology-based requirements based on Best Professional Judgment in accordance with Part 125, section 125.3. A detailed discussion on the development of the technology-based effluent limitations and requirements is included in the Fact Sheet.

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

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

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

(2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

Under this Order, numeric WQBELs have been established, as needed, for dry weather discharges from the Southeast Plant. For wet weather discharges, as specified in the CSO Policy, wet weather effluent from Discharge Point EFF-001 to EFF-006 and CSO wastes through Discharge Points 009 to 043 are presumed to meet water quality standards and thus there is no need for WQBELs for wet weather discharges.

H. 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. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Because of the marine influence on receiving waters of the San Francisco Bay the designation MUN is not applicable. Beneficial uses applicable to Lower San Francisco Bay and Central San Francisco Bay are as follows:

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

Discharge Point	Receiving Water Name	Beneficial Uses
001, 002, 019, 022, 023, 024, 025, 026, 027, 028, 029, 030, 030A, 031, 031A, 032, 033, 035, 037, 038, 040, 041, 042, 043	Lower San Francisco Bay	Ocean, Commercial, and Sport Fishing (COMM) Estuarine Habitat (EST) Industrial Service Supply (IND) Fish Migration (MIGR) Navigation (NAV) Preservation of Rare and Endangered Species (RARE) Water Contact Recreation (REC-1) Noncontact Water Recreation (REC-2) Shellfish Harvesting (SHELL) Wildlife Habitat (WILD)
003, 004, 005, 006, 009, 010, 011, 013, 015, 017, 018	Central San Francisco Bay	Ocean, Commercial, and Sport Fishing (COMM) Estuarine Habitat (EST) Industrial Service Supply (IND) Industrial Process Supply (PROC) Fish Migration (MIGR) Fish Spawning (SPAWN) Navigation (NAV) Preservation of Rare and Endangered Species (RARE) Water Contact Recreation (REC-1) Noncontact Water Recreation (REC-2) Shellfish Harvesting (SHELL) Wildlife Habitat (WILD)

Requirements of this Order implement the Basin Plan.

I. National Toxics Rule (NTR) and California Toxics Rule (CTR). USEPA adopted the NTR on December 22, 1992, and later amended it 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 established new water quality criteria for toxic chemicals in California and incorporated the previously adopted NTR criteria that were applicable in the State. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority, toxic pollutants.

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. CSO Policy. Facilities that treat combined sewer overflows are subject to Section 301(b)(1)(A) of the Clean Water Act; thus they are not subject to secondary treatment regulations. Wet weather flows are governed by compliance with the nine minimum controls contained in the CSO Policy (59 Federal Register 18688-18698) and further described in Combined Sewer Overflows, Guidance for Nine Minimum Controls, EPA 832-B-95-003, May 1995.

L. 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, this 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 water quality objectives. This Order includes a compliance schedule. A detailed discussion of the basis for the compliance schedule is included in the Fact Sheet.

M. Alaska Rule. On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards 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.

N. Stringency of Requirements for Individual Pollutants. This Order contains both technology-based and water quality-based effluent limitations (WQBEL) for individual pollutants. The technology-based effluent limitations consist of restrictions on 5-day biochemical oxygen demand (BOD_5), total suspended solids (TSS), pH, oil and grease, and chlorine residual. Restrictions on these pollutants are specified in federal regulations as discussed in the Fact Sheet (Attachment F). WQBELs have been 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 procedures for calculating the individual WQBELs are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR §131.21 (c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the CWA and the applicable water quality standards for purposes of the CWA.

O. Antidegradation Policy. NPDES regulations at 40 CFR §131.12 require that the State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. As discussed in the Fact Sheet, in this Order, the treatment is the same so the permitted discharge is consistent with the antidegradation provisions of 40 CFR §131.12 and Resolution No. 68-16.

P. 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. As discussed in detail in the Fact Sheet, the effluent limitations and requirements of this Order are consistent with anti-backsliding requirements of the CWA and NPDES regulations.

Q. Endangered Species Act. This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the State. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

R. Monitoring and Reporting. NPDES regulations at 40 CFR §122.48 require 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, provided as Attachment E to this Order, establishes monitoring and reporting requirements to implement federal and State requirements.

S. Standard and Special Provisions. Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR §122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR §122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under 40 CFR §122.42. The Regional Water Board has also included special provisions in this Order as Attachment G. A rationale for the provisions contained in this Order is provided in the attached Fact Sheet (Attachment F).

T. Provisions and Requirements Implementing State Law. The provisions/requirements in subsection VI.A.2 of this Order are included to implement State law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

U. 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. Details of notification are provided in the Fact Sheet of this Order.

V. 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 of this Order.

THEREFORE, IT IS HEREBY ORDERED, that this Order supersedes Order No. R2-2002-0073 except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

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

B. Discharge from Discharge Point 001 that does not receive an initial dilution of at least 36:1 is prohibited.

C. Except during wet weather (as defined in Attachment A, Definitions), discharges from Discharge Points 002 through 006, and combined sewer overflow (CSO) discharges from Discharge Points 009 through 043 are prohibited.

D. The bypass of untreated or partially treated wastewater to waters of the United States is prohibited except during wet weather and as provided for in the conditions stated in 40 CFR §122.41(m)(4) and in A.12 of the *Standard Provisions and Reporting Requirements for NPDES Surface Water Discharge Permits*, August 1993 (**Attachment G**).

E. An exceedance of the average dry weather flow, as measured at Monitoring Location EFF-001 described in the attached Monitoring and Reporting Program (MRP) Attachment E, of 84.5 MGD is prohibited. For compliance with this prohibition, actual average dry weather flow shall be determined from three consecutive dry weather months in each year.

F. Degradation of harvestable shellfish in the area resulting from dry weather discharges from Discharge Point No. 001 is prohibited.

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

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point 001

1. Effluent Limitations – Discharge Point 001 (Dry Weather)

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 001 during dry weather (as defined in Attachment A) with compliance measured at Monitoring Location EFF-001 as described in the attached MRP (Attachment E).

a. The discharge shall meet the limitations specified in Table 6.

Table 6. Effluent Limitations – Conventional Pollutants – Discharge Point 001 (Dry Weather)

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand (5-day @ 20 Deg. C) (BOD_5)	mg/L	30	45	--	--	--
Total Suspended Solids (TSS)	mg/L	30	45	--	--	--
Oil and Grease	mg/L	10	--	20	--	--
pH[(1)]	standard units	--	--	--	6.0	9.0
Chlorine, Total Residual[(2)]	mg/L	--	--	--	--	0.0

(1) If the Discharger monitors pH continuously, pursuant to 40 CFR §401.17, the Discharger shall be in compliance with the pH limitation, 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) a. This requirement is defined as below the limit of detection in standard test methods, as defined in the latest edition of Standard Methods for the Examination of Water and Wastewater. For total residual chlorine (TRC) detection levels, the Discharger shall use a method for analysis of TRC that is identified as approved by USEPA for analysis of wastewaters at 40 CFR Part 136. The method of analysis shall achieve a method detection limit (MDL) at least as low as that achieved by the Amperometric Titration Method (4500-Cl D from *Standard Methods for Examination of Water and Wastewater*, Edition 20). The State Water Board is considering a statewide policy on chlorine residual. This Order may be reopened in the future to reflect any changes relating to chlorine residual.

b. The Discharger may elect to use a continuous on-line monitoring system(s) for measuring flows, chlorine residual and/or 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 positivie chlorine residual exceedances are not violations of this permit limitation.

b. **BOD_5 and TSS 85 Percent Removal:** The average monthly percent removal of BOD_5 and TSS values, by concentration, shall not be less than 85 percent.

c. **Fecal Coliform Bacteria:** The discharge shall meet the following limitations of bacteriological quality:

(1) The 30-day moving median value for fecal coliform density in final effluent samples shall not exceed 500 colony forming units (CFU) or most probable number (MPN)/100 mL; and

(2) No more than 10% of the samples in any 30-day period shall equal or exceed 1,100 CFU or MPN/100 mL.

d. **Enterococci Bacteria:** The monthly geometric mean enterococci bacteria density shall not exceed 35 MPN/100 mL.

e. **Toxic Pollutants:** The discharge of effluent at Discharge Point 001 (dry weather) shall not exceed the following limitations.

Table 7. Effluent Limitations - Toxic Pollutants – Discharge Point 001 (Dry Weather)

Parameter	Units	Effluent Limitations [1][2]				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Priority Pollutants						
Copper [3]	µg/L	71	--	100	--	--
Lead	µg/L	36	--	89	--	--
Mercury [8]	µg/L	0.021	--	0.039	--	--
Silver	µg/L	7	--	22	--	--
Zinc	µg/L	490	--	720	--	--
Cyanide [4, 5]	µg/L	15	--	31	--	--
Dioxin-TEQ [6]	mg/year	[7]	—	[7]	--	--
Tetrachloroethylene	µg/L	84	--	240	--	--
Bis (2-ethylhexyl) phthalate	µg/L	55	--	110	--	--
Ammonia	mg/L	190		290		
Tributyltin	µg/L	0.032	--	0.065	--	--

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

(b) All metals limitations are expressed as total recoverable metal.

(2) 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). An 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.

Minimum Levels for Pollutants with Effluent Limitations

Parameter	Minimum Level	Units
Copper	0.5	µg/L
Lead	0.5	µg/L
Mercury	0.0005	µg/L
Silver	0.25	µg/L
Zinc	1	µg/L
Cyanide	5	µg/L
Tetrachloroethylene	2	µg/L
Bis (2-ethylhexyl) phthalate	10	µg/L
Tributyltin	0.001	µg/L

Parameter	Minimum Level	Units
Dioxin-TEQ		--
2,3,7,8-TetraCDD	5	pg/L
1,2,3,7,8-PentaCDD	25	pg/L
1,2,3,4,7,8-HexaCDD	25	pg/L
1,2,3,6,7,8-HexaCDD	25	pg/L
1,2,3,7,8,9-HexaCDD	25	pg/L
1,2,3,4,6,7,8-HeptaCDD	25	pg/L
OctaCDD	50	pg/L
2,3,7,8-TetraCDF	5	pg/L
1,2,3,7,8-PentaCDF	25	pg/L
2,3,4,7,8-PentaCDF	25	pg/L
1,2,3,4,7,8-HexaCDF	25	pg/L
1,2,3,6,7,8-HexaCDF	25	pg/L
1,2,3,7,8,9-HexaCDF	25	pg/L
2,3,4,6,7,8-HexaCDF	25	pg/L
1,2,3,4,6,7,8-HeptaCDF	25	pg/L
1,2,3,4,7,8,9-HeptaCDF	25	pg/L
OctaCDF	50	pg/L

(3) Alternate Effluent Limitations for Copper:

a. If a copper SSO for the receiving water becomes legally effective, resulting in adjusted saltwater Criterion Continuous Concentration of 2.5 µg/L and Criterion Maximum Concentration (CMC) of 3.9 µg/L as documented in the *North of Dumbarton Bridge Copper and Nickel Site-Specific Objective (SSO) Derivation (Clean Estuary Partnership December 2004)*, upon its effective date, the following limitations shall supersede those copper limitations listed in Table 7. AMEL of 53 µg/L, and MDEL of 76 µg/L.

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

(4) Alternate Effluent Limitations for Cyanide

a. If a cyanide SSO for the receiving water becomes legally effective, resulting in adjusted saltwater Criterion Continuous Concentration of 2.9 µg/L (based on the Basin Plan Amendment, approved by the Regional Water Board,Resolution R2-2006-0086), upon its effective date, the following limitations shall supersede those cyanide limitations listed in Table 7. AMEL of 20 µg/L, and MDEL of 43 µg/L.

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) Compliance may be demonstrated by measurement of weak acid dissociable cyanide.

(6) The limits for this pollutant becomes effective according to the compliance schedule described in VI.C.4. The final limitation for dioxin-TEQ shall become effective June 30, 2012. Compliance with the dioxin-TEQ effluent imitations may be demonstrated by implementation of a dioxin-TEQ mass offset program. Such a program must be approved at a hearing of the Regional Water Board through a Board Order amending this Order.

(7) The dioxin-TEQ limit is 1.6 mg/year. Compliance to be based on the product of the average concentration in samples collected each year and the annual dry weather flow.

(8) Alternate Effluent Limitations for Mercury. If a mercury watershed permit becomes effective that includes effluent limitations that implement a San Francisco Bay Mercury TMDL, that permit shall supersede these mercury limitations.

f. **Acute Toxicity:**

(1) Representative samples of the effluent shall meet the following limits 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 combined 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.

(2) These acute toxicity limitations are further defined as follows.

11 sample median: 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 fewer 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 fewer bioassay tests show less than 70 percent survival.

(3) 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.

g. **Chronic Toxicity**

(1) 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 treated final effluent 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.

(a) Conduct routine monitoring.

(b) 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.

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

(d) If accelerated monitoring confirms consistent toxicity above either "trigger" in (b), 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;

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

(2) Test Species and Methods

The Discharger shall conduct routine monitoring using 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).

2. Effluent Limitations – Discharge Point 001 (Wet Weather)

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001 during wet weather (as defined in Attachment A) with compliance measured at Monitoring Location EFF-001 as described in the attached MRP (Attachment E).

a. The discharge shall meet the limitations specified in Table 8.

Table 8. Effluent Limitations – Conventional Pollutants – Discharge Point 001 (Wet Weather)

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Chlorine, Total Residual[(1)]	mg/L	--	--	--	--	0.0

(1) a. This requirement is defined as below the limit of detection in standard test methods, as defined in the latest edition of Standard Methods for the Examination of Water and Wastewater. For total residual chlorine (TRC) detection levels, the Discharger shall use a method for analysis of TRC that is identified as approved by USEPA for analysis of wastewaters at 40 CFR Part 136. The method of analysis shall achieve a method detection limit (MDL) at least as low as that achieved by the Amperometric Titration Method (4500-Cl D from *Standard Methods for Examination of Water and Wastewater*, Edition 20). The State Water Board is considering a statewide policy on chlorine residual. This Order may be reopened in the future to reflect any changes relating to chlorine residual.

b. The Discharger may elect to use a continuous on-line monitoring system(s) for measuring flows, chlorine residual and/or 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 positivie chlorine residual exceedances are not violations of this permit limitation.

b. **Fecal Coliform Bacteria:** The treated wastewater shall meet the following limitations of bacteriological quality:

(1) The 30-day moving median value for fecal coliform density in final effluent samples shall not exceed 500 CFU or MPN/100 mL; and

(2) No more than 10% of the samples in any 30-day period shall equal or exceed 1,100 CFU or MPN/100 mL.

c. **Enterococci Bacteria:** In samples of wastewater the enterococci bacteria density shall not exceed 104 MPN/100 mL.

B. Effluent Limitations – Discharge Points 002 through 006

1. Effluent Limitations – Discharge Points 002 through 006

The Discharger shall maintain compliance with the following effluent limitations at Discharge Points 002 through 006 during wet weather (as defined in Attachment A) with compliance measured at Monitoring Locations EFF-002 through EFF-003 as described in the attached MRP (Attachment E).

a. The discharge shall meet the limitations specified in Table 9.

Table 9. Effluent Limitations – Conventional Pollutants – Discharge Points 002 through 006 (Wet Weather)

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Chlorine, Total Residual[(1)]	mg/L	--	--	--	--	0.0

(1) a. This requirement is defined as below the limit of detection in standard test methods, as defined in the latest edition of Standard Methods for the Examination of Water and Wastewater. For total residual chlorine (TRC) detection levels, the Discharger shall use a method for analysis of TRC that is identified as approved by USEPA for analysis of wastewaters at 40 CFR Part 136. The method of analysis shall achieve a method detection limit (MDL) at least as low as that achieved by the Amperometric Titration Method (4500-Cl D from *Standard Methods for Examination of Water and Wastewater*, Edition 20). The State Water Board is considering a statewide policy on chlorine residual. This Order may be reopened in the future to reflect any changes relating to chlorine residual.

b. The Discharger may elect to use a continuous on-line monitoring system(s) for measuring flows, chlorine residual and/or 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 positivie chlorine residual exceedances are not violations of this permit limitation.

b. **Fecal Coliform Bacteria:** The treated wastewater shall meet the following limitations of bacteriological quality:

(1) The 30-day moving median value for fecal coliform density in final effluent samples shall not exceed 500 CFU or MPN/100mL; and

(2) No more than 10% of the samples in any 30-day period shall equal or exceed 1,100 CFU or MPN/100mL.

c. **Enterococci Bacteria:** In samples of treated wastewater the enterococci bacteria density shall not exceed 104 or MPN/100mL.

C. Reclamation Specifications

Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

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

   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 limitations 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 3 consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, 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. 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

Not Applicable

VI. PROVISIONS

A. Standard Provisions

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

2. 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),** including any amendments thereto. Where provisions or reporting requirements specified in this Order are different from equivalent or related provisions or reporting requirements given in the Federal Standard Provisions, the specifications of this Order and/or **Attachment G** shall apply in areas where those provisions are more stringent. Duplicative requirements in the federal Standard Provisions in VI.A.1, 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 (MRP) Requirements

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

C. Special Provisions

1. Re-opener Provisions

The Regional Water Board may modify or re-open 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 have, or will cease to have, a reasonable potential to cause or contribute to 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. Adoption of effluent limitations contained in this Order is not intended to restrict in any way future modifications based on legally adopted WQOs, TMDLs, or as otherwise permitted under Federal regulations governing NPDES permit modifications.

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

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

e. Or as otherwise authorized by law.

The Discharger may request permit modification based on the above. The Discharger shall include with any such request an antidegradation and anti-backsliding 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 dry weather discharge from Discharge Point 001 (measured at Monitoring Location EFF-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 Dischargers.

The Discharger shall, on an annual basis, evaluate 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 RPA and to calculate effluent limitations. The data on the 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 Bay Area Clean Water Agencies (BACWA) Study, or a similar ambient monitoring program for San Francisco Bay. This Order may be reopened, as appropriate, to incorporate effluent limitations or other requirements based on Regional Water Board review of these data.

The Discharger shall submit a final, summary report that presents all such receiving water data to the Regional Water Board 180 days prior to expiration of this Order. This final report shall be submitted with the application for permit reissuance.

c. Optional Mass Offset Plan

If the Discharger demonstrates that further net reductions of the total mass loadings of dioxin-TEQ to the receiving water cannot be achieved through economically feasible measures such as source control, wastewater reuse, and treatment plant optimization, but only through a mass offset program, the Discharger shall submit to the Regional Water Board for approval a mass offset plan to reduce net dioxin-TEQ discharges. The Regional Water Board may modify this Order to allow an approved mass offset program. The mass offset program shall be developed and implemented consistent with the compliance schedule shown in Table 10.

3. Best Management Practices and Pollution Minimization

a. Pollution Minimization Program

The Discharger shall continue to implement and improve, in a manner acceptable to the Executive Officer, its existing Pollutant Minimization Program (referred to by the Discharger as its Pollution Prevention Program) to reduce pollutant loadings to the combined sewer system and therefore to the receiving waters. The Discharger shall implement any applicable additional pollutant minimization measures described in Basin Plan implementation requirements associated with the copper SSO and cyanide SSO if and when each of those SSOs become effective and alternate limitations take effect.

b. Annual Pollution Minimization Report

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

(1) *A brief description of its treatment plant, treatment plant processes and service area.*

(2) *A discussion of the current pollutants of concern.* Periodically, the Discharger shall 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.

(3) *Identification of sources for the pollutants of concern.* This discussion shall include how the Discharger intends to estimate and identify pollutant sources. 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.

(4) *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 the tasks themselves or 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.

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

(6) *Continuation of Public Outreach Program.* The Discharger shall prepare a public outreach program to communicate pollution minimization measures 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 treatment plant tours, and providing public information in various media. Information shall be specific to target audiences. The Discharger shall coordinate with other agencies as appropriate.

(7) *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 discussion shall include the specific criteria used to measure the effectiveness of each of the tasks in item b(3), b(4), b(5), and b(6).

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

(9) *Evaluation of Program's and tasks' effectiveness.* The Discharger shall use the criteria established in b. (7) to evaluate the Program's and tasks' effectiveness.

(10) *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 to more effectively reduce the amount of pollutants to the treatment Plant and subsequently its effluent.

c. Pollutant Minimization Program for Reportable Priority Pollutants

The Discharger shall develop and conduct a Pollutant Minimization Program 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:

(1) A sample result is reported as DNQ and the effluent limitation is less than the RL; or

(2) 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 Pollutant Minimization Program shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

(1) 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;

(2) 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;

(3) 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;

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

(5) The annual report required by **3.b**. above, shall specifically address the following items:

(a) All Pollutant Minimization Program monitoring results for the previous year;

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

(c) A summary of all actions undertaken pursuant to the control strategy; and

(d) A description of actions to be taken in the following year.

4. Requirement to Assure Compliance with Final Limits

In an effort to assure compliance with final effluent limitations for dioxin-TEQ, the Discharger shall comply with the following tasks and dates:

Table 10. Requirements to Assure Compliance with Final Limitations

Task	Compliance Date
1. The Discharger shall enhance source control measures identified in its Dioxins Feasibility Assessment, to reduce loading of dioxin-TEQ to the Southeast Plant and its receiving waters.	Upon the effective date of this Order
2. The Discharger shall prepare and submit a plan to the Regional Water Board identifying the implementation of additional source control measures. The plan shall quantify the potential benefits of these measures in reducing the loading of dioxin-TEQ to the Southeast Plant.	Within 90 days of the effective date of this Order
3. The Discharger shall evaluate and report on the effectiveness of its source control measures.	Annually in the Annual Pollution Minimization Report required by Provision VI.C.3.b
4. If, by February 28, 2010, discharge data continue to show that the discharge would be out of compliance with the final WQBEL specified in Effluent Limitations and Discharge Specifications IV.A.1.a for dioxin-TEQ, the Discharger shall submit a plan and schedule of additional actions to reduce the loading of dioxin-TEQ. Additional actions could include, for example, implementation of a mass offset program[(1)] to reduce the inflow of dioxin-TEQ to the treatment plant, or implementation of modifications to the treatment plant to increase removal of dioxin-TEQ or other means.	May 1, 2010
5. The Discharger shall commence implementation of the identified additional actions in accordance with the plan and schedule submitted in Task 4 above.	July 1, 2010
6 The Discharger shall annually report on the status of its activities under Task 5 in its Annual Self-Monitoring Reports.	February 1, 2010 February 1, 2011
7. The Discharger shall fully comply with IV Effluent Limitations and Discharge Specifications IV.A.1.a for dioxin-TEQ.	June 30, 2012

[(1)] To comply with the dioxin-TEQ limit through an offset program, the Regional Water Board must approve the offset program.

5. 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 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 Manual (O&M), 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 be 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) to ensure 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 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 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.

6. Special Provisions for POTWs

a. Pretreatment Program Requirements

(1) Pretreatment Program: The Discharger shall implement and enforce its approved pretreatment program in accordance with federal pretreatment regulations (40 CFR Part 403); pretreatment standards promulgated under CWA section 307(b), 307(c), and 307(d); pretreatment requirements specified at 40 CFR 122.44(j); and the requirements of Attachment H of this Order. The Discharger's responsibilities include, but are not limited to:

(a) Enforcement of National Pretreatment Standards established at 40 CFR 403.5 and 403.6.

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

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

(d) Evaluate the need to revise local limits pursuant to 40 CFR 403.5(c)(1) and within 180 days after the effective date of this Order, submit a report acceptable to the Executive Officer 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 Order. 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, managed, or reused in a municipal solid waste landfill, through land application, as Class A compost, through a waste to energy facility, or other recognized and approved technology, or disposed of in a sludge-only landfill in accordance with 40 CFR Part 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 Part 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) The discharge of sludge shall not cause waste material to be in a position where it is or can be carried from the sludge treatment and storage site 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 Part 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 19 of each year, for the period covering the previous calendar year.

(7) Sludge that is disposed of in a municipal solid waste landfill must meet the requirements of 40 CFR Part 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 Order. 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 Order prior to expiration if changes occur in applicable state and federal sludge regulations.

c. Sanitary Sewer Overflows and Sewer System Management Plan

The Discharger's collection system is predominantly a combined sewer system with some limited separate sanitary sewers. The Discharger must properly operate and maintain its entire sanitary sewer collection system (Attachment D, Standard Provisions – Permit Compliance, Section I.D). The Discharger must

report any noncompliance (Attachment D, Standard Provision – Reporting, Sections V.E.1 and V.E.2) and mitigate any discharge from the Discharger's separate sanitary sewer collection system in violation of this Order (Attachment D, Standard Provisions – Permit Compliance, Section I.C). The Discharger's limited separate sewer collection system is subject to the General Waste Discharge Requirements for Collection System Agencies (Order No. 2006-0003 DWQ), which has requirements for operation and maintenance of separate sanitary sewer collection systems and for reporting and mitigating sanitary sewer overflows. While the Discharger must comply with both the General Waste Discharge Requirements for Collection System Agencies (General Collection System WDR) and this Order, the General Collection System WDR more clearly and specifically stipulates requirements for operation and maintenance and for reporting and mitigating sanitary sewer overflows. Implementation of the General Collection System WDR requirements for proper operation and maintenance and mitigation of separate sanitary sewer system sewage spills will satisfy the corresponding federal NPDES requirements specified in this Order. Following reporting requirements in the General Collection System WDR will satisfy NPDES reporting requirements for sanitary sewage spills. Furthermore, the Discharger shall comply with the schedule for development of sewer system management plans for its sanitary sewer system as indicated in the letter issued by the Regional Water Board on July 7, 2005, pursuant to Water Code Section 13267. This section does not apply to operations of the combined sewer system.

7. Combined Sewer Overflow (CSO) Controls

In accordance with the USEPA Combined Sewer Overflow Control Policy's Nine Minimum Controls and the Discharger's Long-Term Control Plan, the Discharger must maximize flow to the Southeast Plant and pollutant removal during wet weather. Adherence to the following provisions will constitute compliance with the CSO Policy requirements for control of discharges from the Discharger's combined sewer system (CSS).

a. **Combined Sewer System Operation and Maintenance Plan (Plan)**. The Discharger shall revise and update as necessary its Plan that ensures compliance with the nine minimum controls and long term control plan requirements included below. The revised Plan shall be filed by August 31, 2008, and then as modified during the life of the permit. Operations parameters, equipment maintenance schedules, and replacement parts for the system shall be set forth in the Plan.

b. Nine Minimum Controls. The Discharger shall implement and comply with the following technology-based requirements for their combined sewer system.

(1) Conduct Proper Operations and Regular Maintenance Programs. The Discharger shall implement the Operations and Maintenance Plan for the combined sewer system that will include the elements listed below. The Discharger shall also update the plan to incorporate any changes to the system and shall operate and maintain the system according to the Plan. The Discharger shall keep records to document the implementation of the Plan.

i. **Designation of a Manager for the Combined Sewer System**. The Discharger shall designate a person to be responsible for the wastewater collection system and serve as the contact person regarding the operation of the combined sewer system. The Discharger shall notify the Executive Officer of the Board within 90 days of designation of a new contact person.

ii. **Inspection and maintenance of the Combined Sewer System**. The Discharger shall:

- Inspect and maintain all overflow structures, regulators, pumping stations, and tide gates to ensure that they are in good working condition and adjusted to minimize overflows and prevent tidal inflow.

- Inspect each overflow outfall at least once per year. The inspection shall include, but is not limited to: entering the regulator structure if accessible, determining the extent of debris and grit build-up, and removing any debris that may constrict flow, cause blockage, and result in a dry weather overflow. For overflow outfalls that are inaccessible, the Discharger may perform a visual check of the overflow pipe to determine whether or not an overflow occurred or could potentially occur during dry weather flow conditions.

- Record the results of the inspections in a maintenance log.

iii. **Provision for Trained Staff**. The Discharger shall provide adequate staff to carry out the operation, maintenance, repair and testing functions required to ensure compliance with the terms and conditions of this Order. Each staff person shall receive appropriate training.

iv. **Allocation of Funds for Operation and Maintenance**. The Discharger shall allocate adequate funds specifically for operation and maintenance activities. The Discharger shall submit a certification of assurance that the necessary funds, equipment, and personnel have been or will be committed to carry out the Plan.

(2) Maximize Use of the Collection System for Storage. The Discharger shall continue to maximize the use of sewers as inline storage capacity. (This provision does not refer to the Bayside wet weather storage/transport and diversion structures.)

(3) Review and Modify Pretreatment Program. The Discharger shall continue to implement selected controls to minimize the impact of non-domestic discharges. Every three years the Discharger shall re-evaluate whether additional modifications to its pretreatment program are feasible or practical. The Discharger shall keep records to document this evaluation and to document implementation of the selected controls to minimize non-domestic discharges.

(4) Maximize Flow to the Southeast Plant and North Point Wet Weather Facility. The Discharger shall operate the Southeast Plant at a maximum treatable flow during wet weather flow conditions. The Discharger shall report rainfall and flow data to the Regional Water Board as part of the Self-Monitoring Report.

The Discharger shall ensure that the Operations and Maintenance Plan is implemented to achieve the following objective:

i. To maximize the volume of wastewater treated, at either the Southeast Plant or North Point Wet Weather Facility, and discharged via deep water outfalls, consistent with the hydraulic capacities of the Discharger's storage, transport, treatment, and disposal facilities.

(5) Prohibit Combined Sewer Overflows During Dry Weather. Dry weather overflows from Discharge Points 002 through 006 and 009 through 043 are prohibited. All dry weather overflows must be reported to the Board within 24 hours of when the Discharger becomes aware of a dry weather overflow. When the Discharger detects a dry weather overflow, the Discharger shall begin corrective actions immediately.

The Discharger shall inspect the dry weather overflow point each subsequent day of the overflow until the overflow has been eliminated. The Discharger shall record in the inspection log each dry weather overflow event, as well as the cause, corrective measures taken, and the dates of the beginning and cessation of the overflow.

(6) Control Solid and Floatable Materials in Combined Sewer Overflows. The Discharger shall continue to implement measures to control solid and floatable materials in its overflows. These measures shall include:

i. Ensuring that all overflows from the combined sewer diversion structures are baffled or that other means are used to reduce the volume of floatable materials.

ii. Removing solid or floatable materials captured in the storage/transport system, in an acceptable manner prior to discharge to the receiving water.

(7) Develop and Implement a Pollution Prevention Program. The Discharger shall continue to implement a pollution prevention program focused on reducing the impact of treated overflows on receiving waters. This pollution prevention program is authorized by the Basin Plan and federal regulations on combined sewer overflows. The Discharger shall keep records to document pollution prevention implementation activities. This program shall be developed and implemented in accordance with Special Provision VI.C.3, and shall include conducting street sweeping and catch basin modification or cleaning at a frequency that will prevent large accumulations of pollutants and debris.

(8) Notify the Public of Overflows. The Discharger shall continue to implement a public notification plan to inform citizens of when and where combined sewer overflows occur. The plan must include:

i. A mechanism to alert persons using recreational beaches affected by overflows.

ii. A system that informs persons of the nature and duration of conditions due to overflows that are potentially harmful to users of these receiving water bodies.

Specifically, warning signs shall be posted at beach locations where water contact recreation is enjoyed by the public whenever there is a discharge from the diversion structures. Such warning signs should be posted on the same day as each overflow unless the overflow occurs after 4:00 p.m., in which case the signs shall be posted by 8:00 a.m. the next day. The Discharger shall keep records documenting public notification.

The Discharger's current notification process fulfills these requirements. The process includes permanent information signs at all beach locations around the perimeter of San Francisco. These signs inform the public in English, Spanish and Chinese that other signs will be posted when it is unsafe to enter the water, and also warn users that bacteria concentrations may be elevated during periods of heavy rainfall. NO SWIMMING signs are posted at beach locations whenever an overflow occurs in the vicinity. These signs remain posted until water sampling indicates the bacteria concentration has dropped below the level of concern for water contact recreation. Both signs reference the City's toll free water quality hotline (1-877-SF BEACH) which is updated weekly or whenever beach conditions change. The City also provides color coded descriptions of beach water quality conditions (green/open; red/posted) on the internet at http://beaches.sfwater.org and http://www.earth911.org .

iii. The Discharger shall update the June 19, 2006 Bayside Recreational Use Study of the bayside beaches and water use areas (Candlestick Point Recreation Area, Islais Creek and Mission Bay) in order to determine the number of users impacted from combined sewer overflow events. The study shall commence in the first wet weather period after adoption of this Order and shall assess and report the current levels of recreational use of the shoreline and nearshore waters and will identify types and frequency of use. The study shall also, at minimum, encompass two full wet weather seasons in order to get adequate information relating combined sewer overflow events and recreational use data. A final report documenting the findings of the study shall be submitted to the Executive Officer not later than one year prior to the expiration of this permit.

(9) Monitor to Effectively Characterize Overflow Impacts and the Efficacy of Combined Sewer Overflow Controls. The Discharger shall monitor wet weather outfalls to effectively characterize overflow impacts and efficacy of

combined sewer overflow controls. This monitoring shall specifically build on efforts and results provided by the Discharger in its June 19, 2006, Bayside Study to Effectively Characterize Overflow Impacts and the Efficacy of Combined Sewer Overflow Controls. In particular, the Discharger is required to revise the existing monitoring study plan to incorporate the following additional requirements:

i. Monitoring of wet weather discharges from selected Discharge Points 009 through 043. Representative discharge points are 010, 029, and 033. Additional or other Discharge Points may be monitored depending on discharge frequency and feasibility of sample collection.

ii. Expand the list of pollutants of concern to be monitored to include all CTR criteria for the protection of marine aquatic life.

iii. Develop an assessment of the environmental benefits provided by the existing stormwater treatment controls.

The study shall, at minimum, encompass two full wet weather seasons in order to get adequate information for combined sewer events. The Discharger shall submit a final report documenting the findings of the study not later than one year prior to expiration of the permit.

c. Long-Term Control Plan. The Discharger has designed, built, and implemented long-term control and treatment strategies to address wet weather flow conditions. To protect beneficial uses the Discharger shall comply with the following provisions.

(1) Wet Weather Effluent Performance Criteria

The Discharger designed its combined sewer system based on historical rainfall to achieve the following long-term average goals:

i. Eight combined sewer overflow events per year on the west side area of the City;

ii. Four combined sewer overflow events per year along the north shore area of the City;

iii. Ten combined sewer overflow events per year within the central basin area of the City; and

iv. One combined sewer overflow event per year along the southeast sector of the City.

As specified in Regional Water Board Order No. 79-67 and permits for these facilities subsequent to that order, these long term design criteria will not be used to determine compliance or non-compliance. The Regional Water Board recognizes that some years are wetter than others and may contribute more flow than anticipated in the system design criteria. The Discharger is

required to optimize the operation of its system to minimize overflows and maximize pollutant removal. Allowances may be made in an offset program that increases pollutant removal but may incrementally increase the number of combined sewer overflows. For each combined sewer overflow event, the Discharger shall report the average duration and volume of the overflow in its monthly Self Monitoring Report. To be considered a discrete overflow event, the overflow must be separated by six hours in time from any other overflow.

(2) Wet Weather Operation of Bayside Facilities

i. NORTH DRAINAGE BASIN: Activation and operation of the North Point Wet Weather Facility depends on rainfall, forecasts and storage conditions in the North Drainage Basin and the Central Drainage Basin.

- The North Point Wet Weather Facility shall be activated when the level of combined sewage and stormwater in the North Shore Storage/Transport Box is at 200 inches.

- The North Point Wet Weather Facility shall be activated to treat 135 to 145 MGD of combined in-flow within 60 minutes of a discharge through Discharge Points 013 to 017.

- The North Point Wet Weather Facility shall remain operational as long as necessary to minimize the likelihood of storage transport discharges in the Central or Southeast Drainage Basins.

ii. CENTRAL DRAINAGE BASIN: Activation and operation of the Channel Pump Station depends on rainfall, forecasts and storage conditions in the Central Drainage Basin and the Southeast Drainage Basin.

- The Channel Pump Station shall pump 80 MGD to the Southeast Plant or Southeast influent shall be at 250 MGD (from the Channel and Flynn Pump Stations and the Southeast Plant Lift Station) before there are any storage/transport discharges to Mission Creek (Discharge Points 022 to 027).

- Flow from Channel Pump Station to the Southeast Plant may be reduced to prevent discharge from the Southeast Drainage Basin storage/transport structures if the flow levels between the Central Drainage Basin structures and the Southeast Drainage Basin structures (Griffith Pump Station and/or Flynn Pump Station) become unbalanced, e.g., Griffith and/or Flynn storage levels continue to rise while the Southeast Plant is at a maximum flow.

iii. Mariposa Pump Station

- The Mariposa Pump Station (two wet weather pumps) shall be operated at full capacity prior to discharge through Discharge Point 029.

iv. 20th Street Pump Station

- The 20th St. Pump Station (two wet weather pumps) shall be operated at full capacity prior to discharge through Discharge Point 030 or 030A.

v. SOUTH DRAINAGE BASIN: Southeast Plant operation depends on rainfall, forecasts and storage conditions in the Central Drainage Basin and the Southeast Drainage Basin.

- The Southeast Plant shall have an influent flow rate of 240 to 250 MGD prior to discharge into Islais Creek from Discharge Point Nos. 031 through 035.

vi. Griffith Pump Station

- The Griffith Pump Station (four wet weather pumps) shall be operated at full capacity prior to discharge through Discharge Points 040 through 042.

vii. Sunnydale Pump Station

- The Sunnydale Pump Station (3 wet weather pumps) shall be operated at full capacity prior to discharge through Discharge Point 043.

(3) **Post Rain Activities.** Treatment at the Southeast Plant and North Point Wet Weather Facility shall continue until North, Central and Southeast Drainage Basin storage/transports are substantially empty of stormwater flows.

i. If the National Weather Service predicts rain during the next 24 hours:

- Pumping shall occur until the level of combined sewage/stormwater in the Channel Pump Station Box is between 100 to 150 inches,

- Pumping shall occur until the level of combined sewage/stormwater in the North Shore Box is at 100 inches, and

- Pumping shall occur until the Islais Creek storage level is essentially zero.

ii. If the National Weather Service does not predict rain:

- Pumping shall occur until the level of combined sewage/stormwater in the Channel Pump Station Box is below 150 inches,

- Pumping shall occur until the level of combined sewage/stormwater in the North Shore Box is below 150 inches, and

- Pumping shall occur until the Islais Creek storage level is essentially zero.

8. Other Special Provisions

a. Cyanide Action Plan

The Discharger shall initiate implementation of an action plan for cyanide as described in Appendix I of "Staff Report on Proposed Site-Specific Water Quality Objectives for Cyanide for San Francisco Bay," December 4, 2006.

b. Copper Action Plan

If and when the copper alternate limits in IV become effective, the Discharger shall initiate implementation of an action plan for copper, consistent with the copper SSO Basin Plan Amendment.

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, Attachment E and Section VI of the Fact Sheet 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 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 (μ), 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 Order), 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 1 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.

Dry Weather is any day in the year that is not defined as wet weather.

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 USEPA 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 include, 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 = $(X_{n/2} + X_{(n/2)+1})/2$ (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:

$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

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.)

Wet Weather is defined as any day in which any one of the following conditions exists as a result of rainfall:

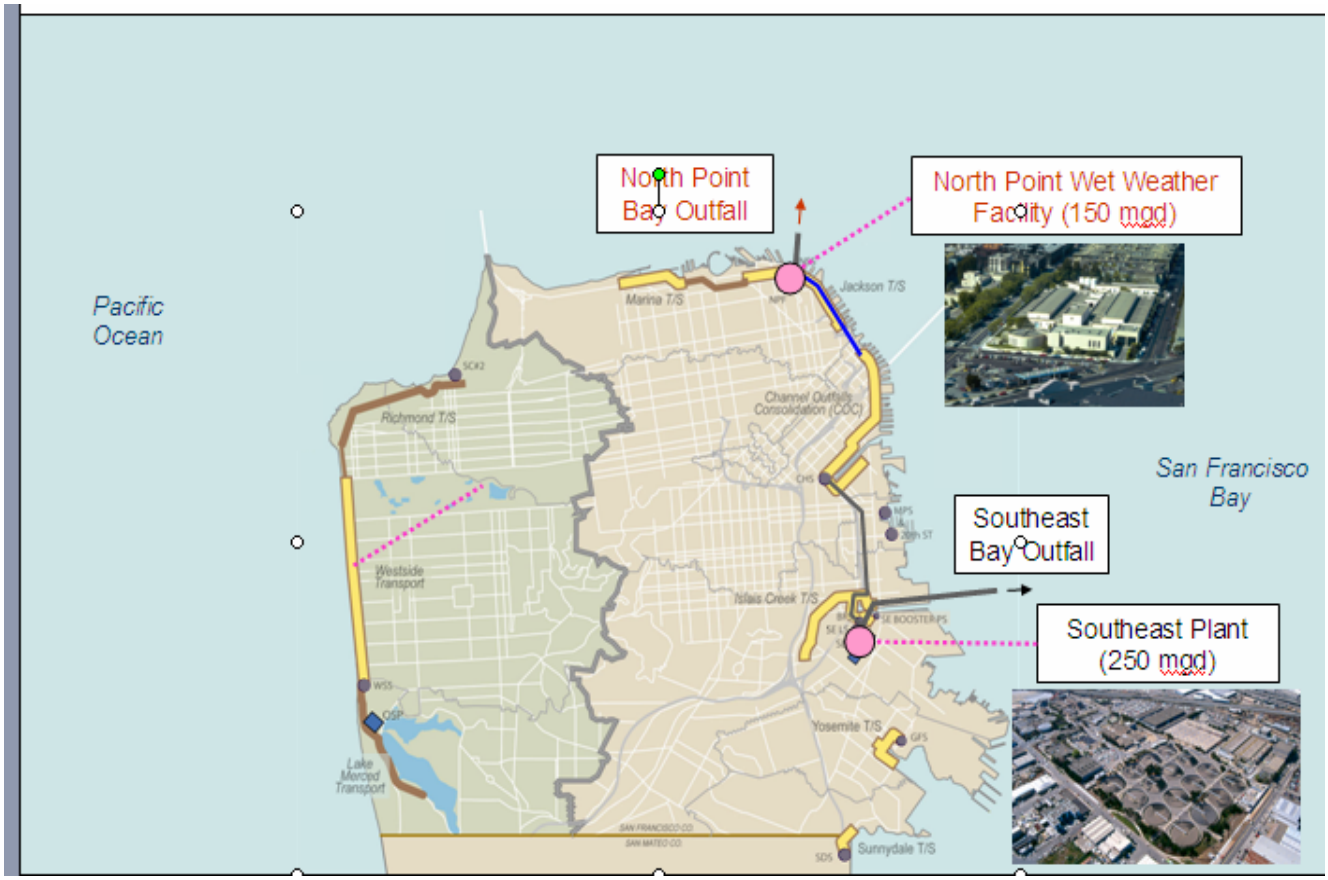
1. Instantaneous influent flow to the Southeast Water Pollution Control Plant exceeds 110 MGD; or

2. The average influent flow concentration of TSS or BOD is less than 100 mg/L, or

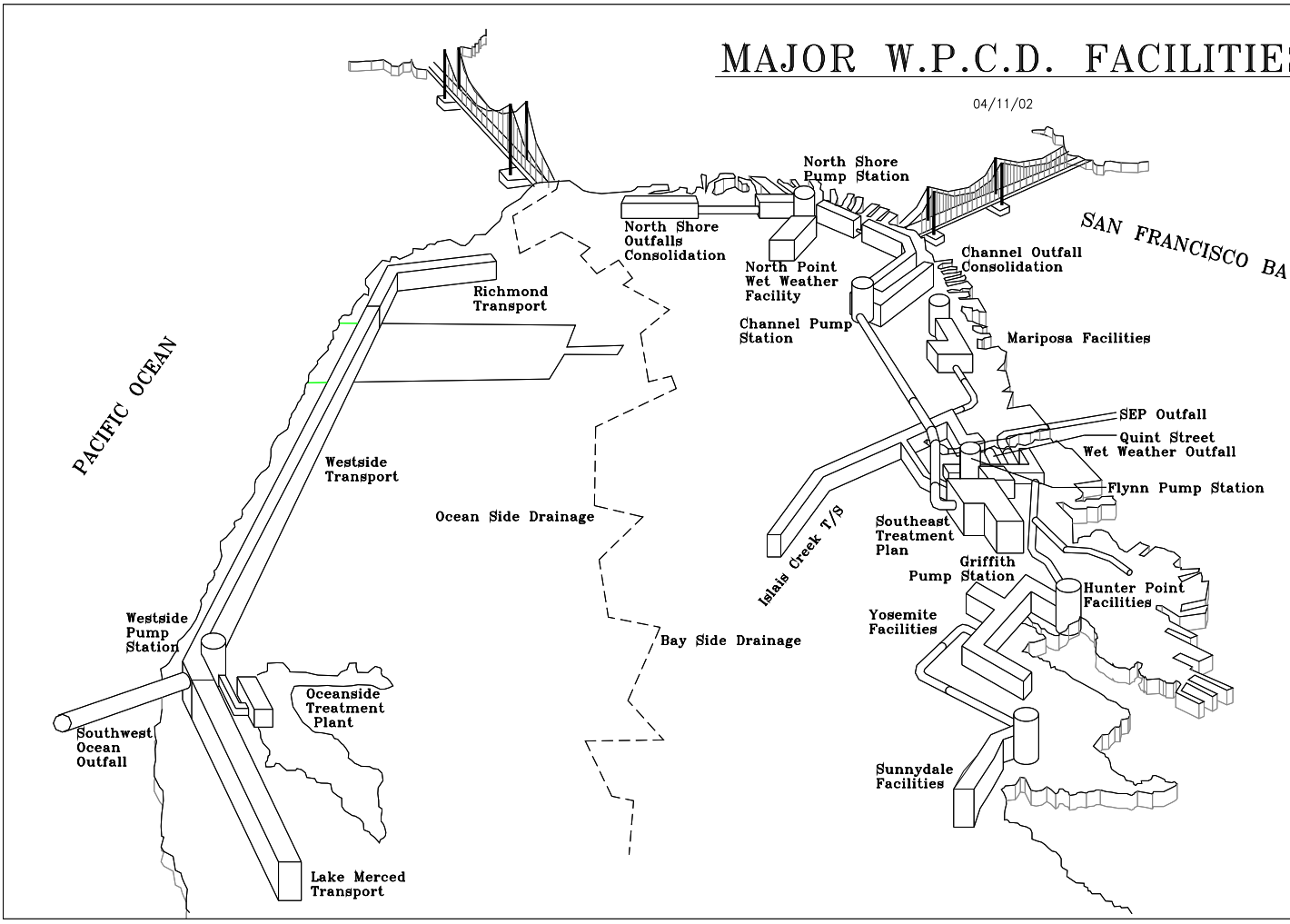
3. North Shore storage/transport wastewater elevation exceeds 100 inches.

ATTACHMENT B – MAPS

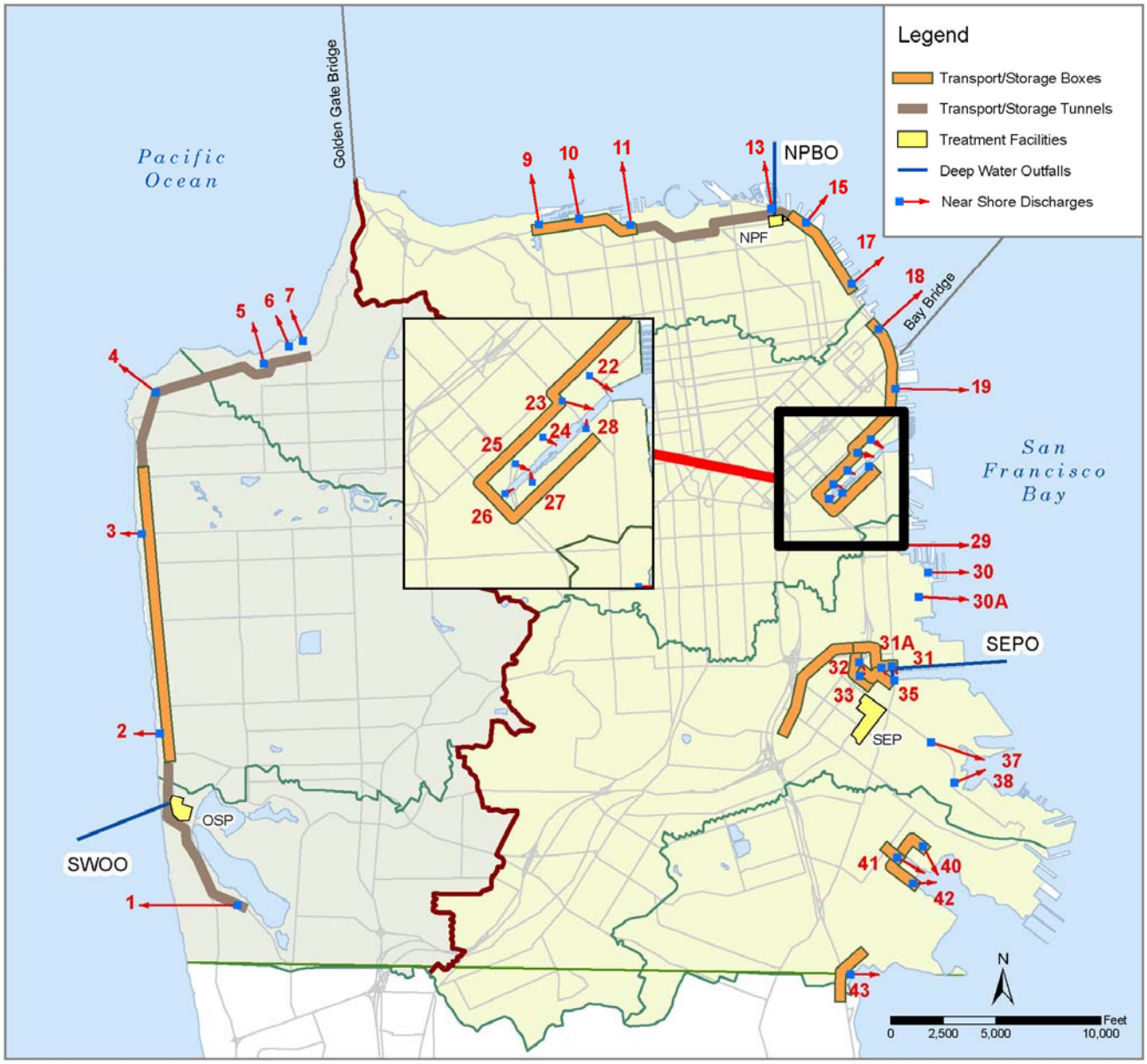
DISCHARGE FACILITY LOCATION MAP



DISCHARGE FACILITIES

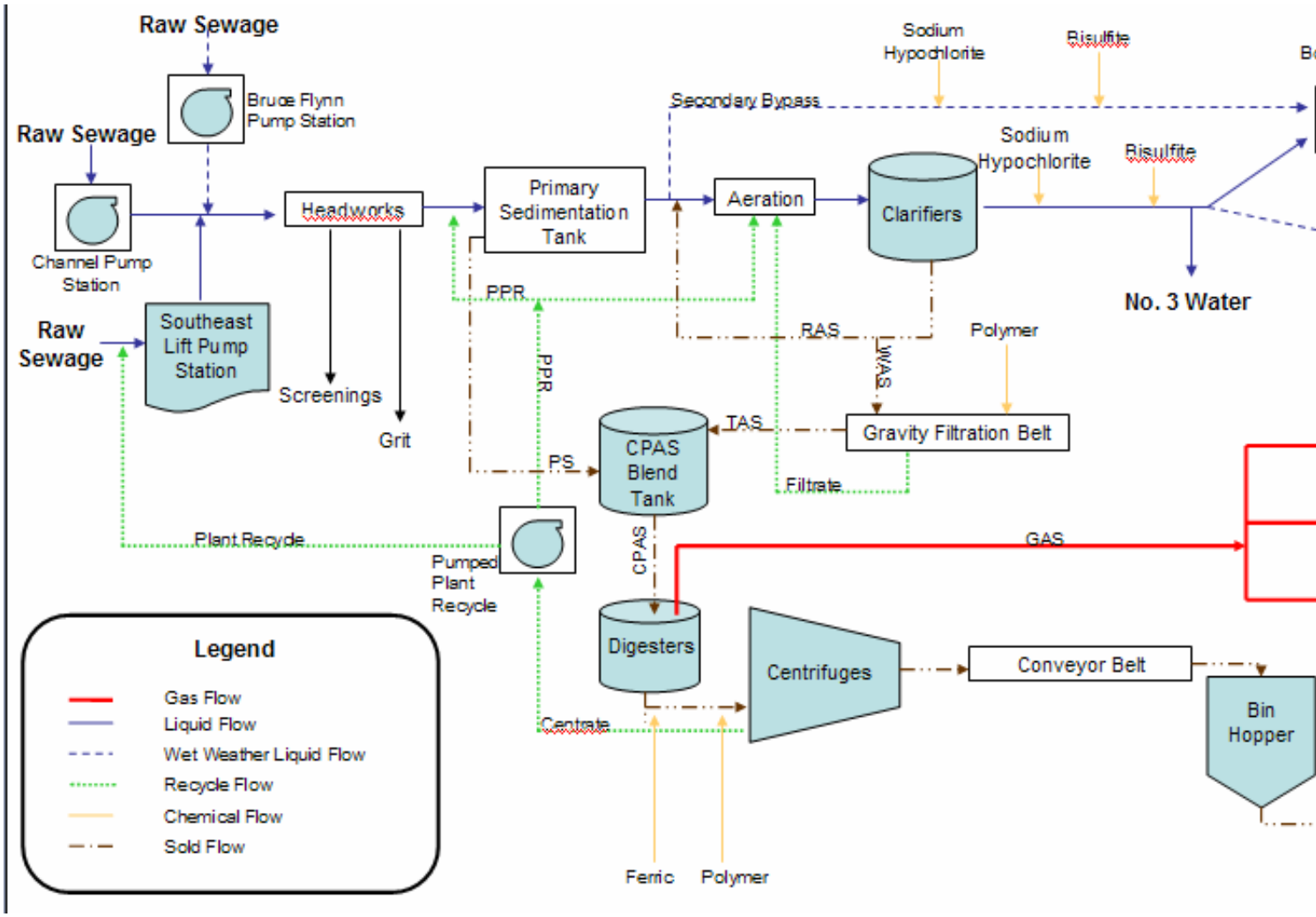


MAJOR DRAINAGE BASINS AND CSO OUTFALL LOCATIONS

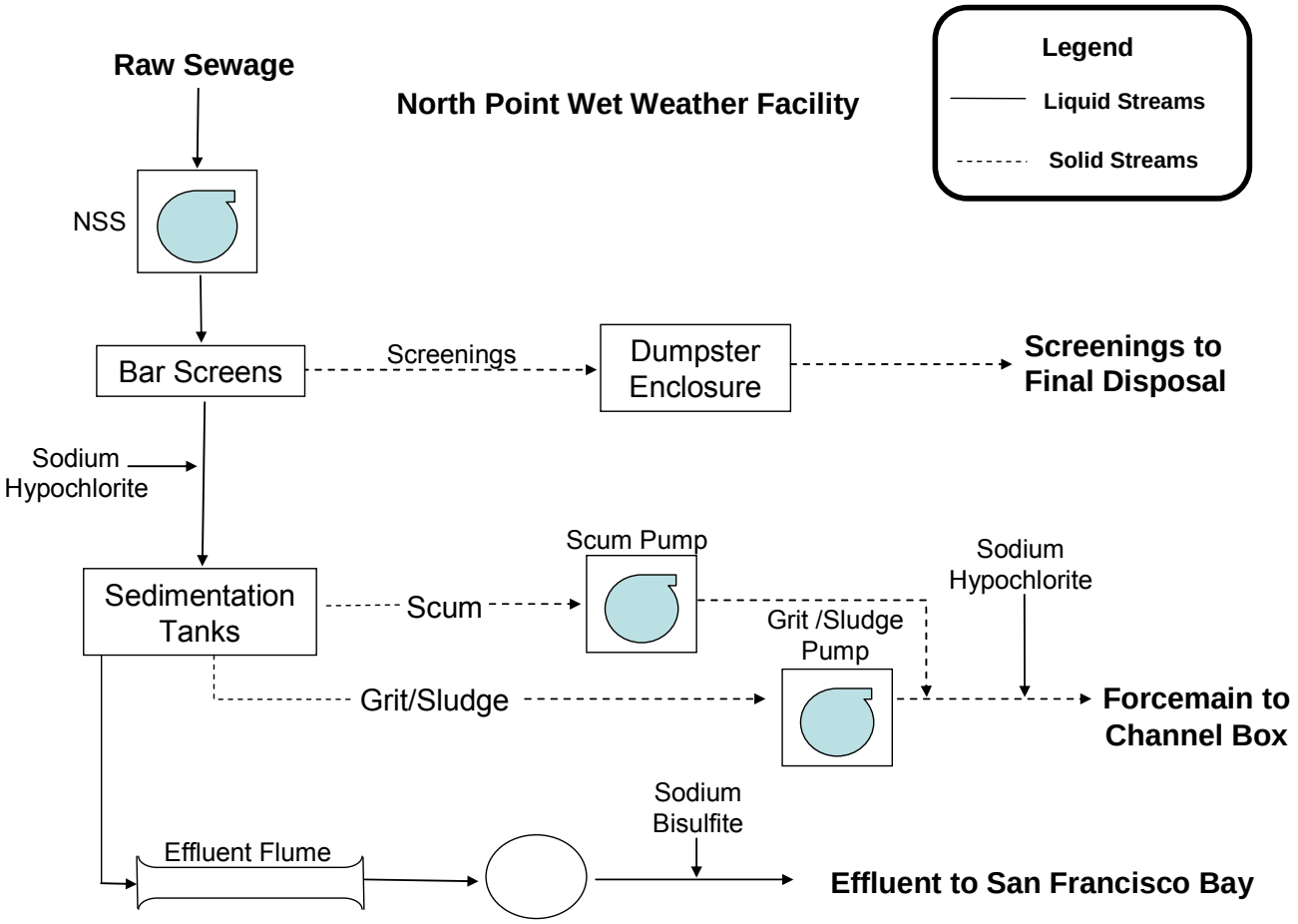


CSO Discharge Point	Water Body		Discharge Point	Water Body
001 to 007	Regulated under Oceanside Permit		029	Central Basin
009	Marina Beach		030	Central Basin
010	Marina Beach		030A	Central Basin
011	St. Francis Yacht Harbor		031 to 035	Islais Creek
013	Pier 39		037	India Basin
015	Pier 31		038	India Basin
017	Pier 9		040	Yosemite Canal
018	Pier 14		041	Yosemite Canal
019	Pier 32		042	South Basin
022 to 028	Mission Creek		043	Candlestick Cove

ATTACHMENT C: FLOW SCHEMATIC FOR THE SOUTHEAST PLANT



ATTACHMENT C, FLOW SCHEMATIC FOR NORTH POINT WET WEATHER FACILITY



ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

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

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use 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 yet been modified to incorporate the requirement. (40 CFR §122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 CFR §122.41I.)

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 §122.5I.)

F. Inspection and Entry

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

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

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

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

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

G. Bypass

1. Definitions

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

   b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 CFR §122.41(m)(1)(ii).)

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

3. Prohibition of bypass. Bypass is prohibited, and the 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)(i)(A));

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 CFR §122.41(m)(4)(i)(B)); and

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

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

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 CFR §122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 CFR §122.41(n)(2).).

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

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

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

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

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

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

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

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

III. STANDARD PROVISIONS – MONITORING

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

B. Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 CFR §122.41(j)(4); §122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least 5 years (or longer as required by Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the 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); Wat. Code, §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 Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 CFR §122.41(k).)

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

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

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

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of Plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 CFR §122.22(b)(2)); and

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

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

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

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

that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (40 CFR §122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 CFR §122.22(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 Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the 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).)

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 section 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 that are not subject to effluent limitations in this Order. (40 CFR §122.41(l)(1)(ii).)

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 CFR §122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the 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 V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 CFR §122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the 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 Regional Water Board is authorized to enforce the terms of this Order under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. 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 this 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

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Tables

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

NPDES regulations at 40 CFR §122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California 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 Self-Monitoring Program, Part A, adopted August 1993 (SMP). 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 limitations and to perform reasonable potential analysis. Equivalent methods must be more sensitive than those specified in 40 CFR Part 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 entitled, *Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy* (**Attachment G**).

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 applicable water quality objectives or criteria, 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 (MLs) given below.

MLs are the concentrations 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. All MLs are expressed as µg/L.

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

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	Color	ICP	ICPMS	CVAA
6	Copper				10	0.5	
7	Lead				5	0.5	
8	Mercury [2]						0.0005
11	Silver				10	0.25	
13	Zinc				20	1	
14	Cyanide			5			
	Dioxin-TEQ[3]						
38	Tetrachloroethene	0.5	2				
68	Bis (2-ethylhexyl) phthalate	10	5				
	Ammonia [5]						
	Tributyltin[4]		0.005				

(1) Analytical Methods / Laboratory techniques are defined as follows:
Color = Colorimetric
FAA = Furnace Atomic Absorption
GC = Gas Chromatography
GCMS = Gas Chromatography Mass Spectroscopy
ICP = Inductively Coupled Plasma
ICPMS = Inductively Coupled Plasma/Mass Spectrometry

(2) Mercury: The discharger may, at its option, sample effluent mercury either as grab or as 24-hour composite samples. Use ultra-clean sampling (USEPA Method 1669) to the maximum extent practicable, and ultra-clean analytical methods (USEPA Method 1631) for mercury monitoring. The Discharger may only use alternative methods if the method has an ML of 0.5 ng/L or less, and approval is obtained from the Executive Officer prior to conducting the monitoring.

(3) Use USEPA Method 1613. Minimum levels for the various congeners are shown as footnotes in the Section IV.A.1 of the Order.

(4) To determine tributyltin, the Discharger shall use GC-FPD, GC/MS or an USEPA approved method; the method shall be capable of speciating organotins and detecting concentrations at low limits on the order of 5 ng/l. Alternative methods of analysis must be approved by the Executive Officer.

(5) Ammonia-N measured by Ammonia Selective Electrode Method. Reference SM 4500-NH3 F (18th Edition) Minimum Detection Level 0.1 mg/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. Monitoring Station Locations

Type of Sampling Location	Monitoring Location Name	Monitoring Location Description
Influent Station	INF-001	Formerly Sampling Station A-001, Southeast Water Pollution Control Plant Station, at any point in facilities upstream of the primary sedimentation basins at which all waste tributary to the treatment system is present, and preceding any phase of treatment. Latitude 37° 44'40.6"', Longitude 122° 23' 31.6"
Influent Station	INF-002	Formerly Sampling Station A-002, North Point Wet Weather Facility, at any point at which all waste tributary to the system is present and preceding any phase of treatment. Latitude 37° 48' 22.8"', Longitude 122° 24' 33.8"
Effluent Station	EFF-001A	Formerly Sampling Station E-001, Southeast Plant. Under dry weather discharge conditions, at any point in the sewerage system, between the point at which all wastes have gone through complete secondary treatment, including disinfection and the point of discharge to deep water. Latitude 37° 44' 36.9"', Longitude 122° 23' 24"
Effluent Station	EFF-001B	Formerly Sampling Station E-001, Southeast Plant. Under wet weather discharge conditions, at any point in the sewerage system, between the point at which adequate contact with the disinfectant is assured and the point of discharge to deep water. Latitude 37° 44' 36.9"', Longitude 122° 23' 24"
Effluent Station	EFF-001D	Formerly Sampling Station E-001-D, Southeast Plant, at any point in the disinfection facilities at which point adequate contact with the disinfectant is assured (may be the same location as EFF-001A). Latitude 37° 44' 36.9"', Longitude 122° 23' 24"
Effluent Station	EFF-002	Formerly E-002, Southeast Plant, wet weather discharge only, at any point in the sewerage system, between the point at which all wastes have gone through complete secondary treatment, including disinfection and the point of discharge into Islais Creek. Latitude 37° 44' 49.1"', Longitude 122° 23' 17.4"
Effluent Station	EFF-002D	Formerly E-002-D, Southeast Plant, wet weather discharge only, at any point in the disinfection facilities at which point adequate contact with the disinfectant is assured (may be the same location as EFF-002). Latitude 37° 44' 49.1"', Longitude 122° 23' 17.4"
Effluent Station	EFF-003	Formerly E-003, North Point Wet Weather Facility, at any point in the facility system between the point of discharge to Pier 33 (Discharge Point Nos. 003 and 004) and Pier 35 (Discharge Point 005 and 006) outfalls and the point at which all waste tributary to those outfalls is present. Latitude 37° 84' 24"', Longitude 122° 24' 26.8"
Effluent Station	EFF-003D	Formerly E-003-D, North Point Wet Weather Facility, at any point in the disinfection facilities for Discharge Point 003 through 006 at which point adequate contact with the disinfectant is assured (may be the same as EFF-003). Latitude 37° 48' 31.5"', Longitude 122° 24' 15.3"
Sanitary Sewer Overflows and Bypass Station	OV-1 thru OV-n	Bypass or sanitary sewer overflows from treatment facility, manholes, pump stations, and interceptors under the discharger's control.
Shoreline Station	S-202.5	Crissy Field West Latitude 37° 48.42', Longitude 122° 28.12'

Type of Sampling Location	Monitoring Location Name	Monitoring Location Description
Shoreline Station	S-202.4	Crissy Field (east of Lagoon) Latitude 37° 48.37', Longitude 122° 27.10'
Shoreline Station	S-210.1	Aquatic Park (Hyde St. Pier) Latitude 37° 48.54', Longitude 122° 25.33'
Shoreline Station	S-211	Aquatic Park Beach East End Latitude 37° 48.53', Longitude 122° 25.27'
Shoreline Station	S-300.1	Candlestick Point SRA (Sunnydale Cove Beach) Latitude 37° 42.57', Longitude 122° 23.39'
Shoreline Station	S-301.1	Candlestick Point SRA (Windsurfer Circle) Latitude 37° 42.55', Longitude 122° 22.94'
Shoreline Station	S-301.2	Candlestick Point SRA (Jack Rabbit Beach) Latitude 37° 42.67', Longitude 122° 22.81'

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. The Discharger shall monitor influent to the Southeast Plant during dry weather at INF-001 as follows.

Table E-3. Influent Monitoring – Dry Weather

Parameter	Units	Minimum Sampling Frequency	Required Analytical Test Method
		C-24 (1)	
Flow rate (2)	MGD	Cont/D	Meter
Biochemical Oxygen Demand (5-day @ 20 Deg. C) (BOD_5)	mg/L	W	(3)
Total Suspended Solids (TSS)	mg/L	5/W	(3)

(1) Weekly composite samples of influent shall be collected on varying days selected at random and shall not include any Plant recirculation or other side stream waste, and shall coincide with effluent composite sampling days for these same constituents. Deviation from this must be approved by the Executive Officer.

(2) For influent flows, the following information shall also be reported monthly:

Daily: Total Daily Flow Volume (Million gallons)
Daily: Daily Average Flow (MGD)
Monthly: Monthly Average Flow (MGD)
Daily: Maximum Daily Flow (MGD)
Daily: Minimum Daily Flow (MGD)
Monthly: Total Flow Volume (million gallons)

(3) Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.

B. Monitoring Location INF-002

1. The Discharger shall monitor influent to the North Point Wet Weather Facility during wet weather at INF-002 as follows.

Table E-4. Influent Monitoring – Wet Weather

Parameter	Units	Minimum Sampling Frequency	Required Analytical Test Method
		C-X	
Flow rate [1]	MGD	Cont/E	Meter

[1] For influent flows, the following information shall also be reported monthly:

Daily: Total Daily Flow Volume (Million gallons)
Daily: Daily Average Flow (MGD)
Monthly: Monthly Average Flow (MGD)
Daily: Maximum Daily Flow (MGD)
Daily: Minimum Daily Flow (MGD)
Monthly: Total Flow Volume (Million gallons)

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001A

1. The Discharger shall monitor treated effluent from the Southeast Plant during dry weather conditions as follows:

Table E-5. Effluent Monitoring Dry Weather

Parameter	Units	Minimum Sampling Frequency			Required Analytical Test Method
		Continuous	C-24	G	
Flow[1]	MGD	Cont/D			meter
pH	standard units			5/W	[2]
BOD_5[3,4]	mg/L		W		[2]
COD[4]	mg/L		5/W		[2]
TSS [3]	mg/L		5/W		[2]
Oil and Grease[5]	mg/L			M	[2]
Fecal Coliform[6]	CFU or MPN/100 mL			W	[2]
Enterococci Bacteria[14]	MPN/100mL			W	[2]
Chlorine, Total Residual	mg/L	[7]			[2]
Acute Toxicity[8]	% Survival		M		[2]
Chronic Toxicity[9]	TUc		2/Y		[2]
Copper	µg/L		M		[2]
Lead	µg/L		M		[2]
Mercury[10]	µg/L& kg/month		M		[2]
Silver	µg/L		M		[2]
Zinc	µg/L		M		[2]
Cyanide[11]	µg/L			M	[2]
Dioxin (TEQ)[12]	µg/L & mg/year			2/Y	[2]
Tetrachloroethylene	µg/L			2/Y	[2]
Bis (2-ethylhexyl) phthalate	µg/L			Q	[2]
Ammonia	mg/L			M	[2]
Tributyltin	µg/L			Q	[2]
CTR Priority Pollutants	µg/L	1/Y and in accordance with			[2]

Parameter	Units	Minimum Sampling Frequency			Required Analytical Test Method
		Continuous	C-24	G	
except those listed above [13]		the August 6, 2001 Letter			

(1) Flow Monitoring:

For effluent flows, the following information shall also be reported monthly:
Daily: Total Daily Flow Volume (Million gallons)
Daily: Daily Average Flow (MGD)
Monthly: Monthly Average Flow (MGD)
Daily: Maximum Daily Flow (MGD)
Daily: Minimum Daily Flow (MGD)
Monthly: Total Flow Volume (Million gallons)

(2) Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136. For priority pollutants, the methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP. Where no methods are specified for a given pollutant, the methods must be approved by this Regional Water Board or the State Water Board.

(3) The percent removal for BOD_5 and TSS shall be reported for each calendar month.

(4) The Discharger will analyze COD five times per week. If the effluent COD concentration exceeds 75 mg/L on 2 consecutive days, the Discharger will initiate daily BOD_5 sampling until it is shown that the effluent BOD_5 concentration is below a concentration of 30 mg/L.

(5) Each oil and grease sample 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.

(6) Report the running 30-day median fecal coliform bacteria density per 100 mL, and the percent fecal coliform greater than 1100/100 mL in the same 30-day period. Sample shall be collected during period of maximum flow and at a time when sampling for chlorine residual.

(7) During all times when chlorination is used for disinfection of the effluent, effluent chlorine residual concentrations shall be monitored continuously, or by grab samples taken every 2 hours. Grab samples may be taken by hand or by automated means using in-line equipment such as three-way valves and chlorine residual analyzers. Chlorine residual concentrations shall be monitored and reported for sampling points both prior to and following dechlorination. Chlorine dosage (kg/day) and dechlorination chemical dosage and/or residual (if desired to demonstrate chlorine exceedances are false positives) shall be recorded on a daily basis. The Discharger may elect to use a continuous on-line monitoring system(s) for measuring flows, chlorine residual and/or sodium bisulfite (or other dechlorinating chemical) dosage (including a safety factor) concentration(s) to demonstrate that chlorine residual exceedances are false positives.

(8) Acute bioassay tests shall be performed and reported in accordance with the Whole Effluent Acute Toxicity Requirements specified in Section V.A of this MRP.

(9) Critical Life Stage Toxicity Test shall be performed and reported in accordance with the Whole Effluent Chronic Toxicity Requirements specified in Sections V.B of the MRP.

(10) Mercury: The Discharger may, at its option, sample effluent mercury either as grab or as 24-hour composite samples. Use ultra-clean sampling (USEPA Method 1669) to the maximum extent practicable and ultra-clean analytical methods (USEPA Method 1631) for mercury monitoring. The Discharger may only use alternative methods if the method has an ML of 0.5 ng/L or less, and approval is obtained from the Executive Officer prior to conducting the monitoring.

(11) The Discharger may analyze for cyanide as Weak Acid Dissociable Cyanide using protocols specified in Standard Methods Part 4500-CN-I, USEPA Method OI 1677, or an equivalent alternative as specified in the latest edition of Standard Methods for Analysis of Water and Wastewater. Alternative methods of analysis must be approved by the Executive Officer.

(12) The Discharger shall use USEPA Method 1613 for analysis using this Order's specified MLs. The minimum levels for dioxin and furn congeners is given in Table 7 of the permit. Analysis results below these MLs are considered zero for use in calculation for compliance determination with the effluent limit. However, all estimated concentrations from the laboratory that are above detection but below the lowest calibration standard shall be reported in the Self-Monitoring Reports. The annual mass discharge shall be the product of average concentrations in samples collected each year and the total dry weather flow for that year.

(13) Those pollutants identified as Compound Nos. 1 – 126 by the California Toxics Rule at 40 CFR §131.38 (b)(1).

(14) The Discharger shall monitor for enterococci using USEPA's Membrane Filter Test Method 1600, or an EPA approved method such as Enterolert.

B. Monitoring Locations EFF-001B, EFF-002, and EFF-003

1. The Discharger shall monitor effluent during wet weather from the Southeast Plant at EFF-001B and EFF-002, and effluent during wet weather from the North Point Wet Weather Facility at EFF-003 as follows:

Table E-6. Effluent Monitoring – Wet weather Monitoring Locations

Parameter	Units	Minimum Sampling Frequency			Required Analytical Test Method
		Continuous	C-X	G	
Flow[1]	MGD	Cont/E			meter
COD	mg/L		[2]		[3]
Oil and Grease[4]	mg/L			[2]	[3]
Fecal Coliform[5]	CFU or MPN/100 mL			[6]	[3]
Enterococci Bacteria	MPN/100mL			[2]	[8]
Chlorine Residual	mg/L	[7]			[3]
Acute Toxicity	Percent Survival		[2]		[3]
Copper	µg/L		[2]		[3]
Lead	µg/L		[2]		[3]
Mercury	µg/L & kg/month		[2]		[3]
Silver	µg/L		[2]		[3]
Zinc	µg/L		[2]		[3]
Cyanide	µg/L		[2]		[3]
Ammonia	mg/L			[2]	[3]

[1] Flow Monitoring:

For effluent flows, the following information shall also be reported monthly:
Daily: Total Daily Flow Volume (million gallons)
Daily: Daily Average Flow (MGD)
Monthly: Monthly Average Flow (MGD)
Daily: Maximum Daily Flow (MGD)
Daily: Minimum Daily Flow (MGD)
Monthly: Total Flow Volume (million gallons)

[2] Under wet weather conditions, sample one event of each month when wet weather facilities are operational.

[3] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136. For priority pollutants, the methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP. Where no methods are specified for a given pollutant, the methods must be approved by this Regional Water Board or the State Water Board.

[4] Oil and Grease samples shall be collected only from monitoring point EFF-003. During wet weather, each oil and grease sample event shall consist of a composite sample comprised of three grab samples taken at appropriate intervals during the wet weather event (at the beginning, during the middle, and towards the end), with each grab sample being collected in a glass container. After the wet weather event, the grab samples shall be mixed. Each glass container used for sample collection or mixing shall be thoroughly rinsed with solvent as soon as possible after use, and the solvent rinsate shall be added to the composite sample for extraction and analysis.

[5] Report the running 30-day median fecal coliform bacteria density per 100 mL, and the percent fecal coliform greater than 1100/100 mL in the same 30-day period. Sample shall be collected at a time when sampling for chlorine residual.

[6] Under wet weather conditions, the monitoring frequency shall be per event (E). The fecal coliform effluent sample collected from wet weather discharges shall be collected within 4 hours after discharge start (between 4:00 AM and 2:00 PM); sample shall be collected first thing in the morning if the wet weather facility begins operation after 2:00 PM. When calculating the 30-day moving median, effluent concentration shall assume to be zero on the days of no discharge.

[7] During all times when chlorination is used for disinfection of the effluent, effluent chlorine residual concentrations shall be monitored continuously, or by grab samples taken every 2 hours. Grab samples may be taken by hand or by automated means using in-line equipment such as three-way valves and chlorine residual analyzers. Chlorine residual

concentrations shall be monitored and reported for sampling points both prior to and following dechlorination. Chlorine dosage (Kg/day) and dechlorination chemical dosage and/or residual (if desired to demonstrate chlorine exceedances are false positives) shall be recorded on a daily basis. The Discharger may elect to use a continuous on-line monitoring system(s) for measuring flows, chlorine residual and/or 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 positivie chlorine residual exceedances are not violations of this permit limitation.

(8) The Discharger shall monitor for enterococci using USEPA's Membrane Filter Test Method 1600, or an EPA approved method such as Enterolert.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

The Discharger shall monitor acute and chronic toxicity as follows:

A. Whole Effluent Acute Toxicity - Monitoring Location EFF-001A

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 the fathead minnow (*Pimephales promelas*) or rainbow trout unless specified otherwise in writing by the Executive Officer.

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. 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 Acute Toxicity - Monitoring Locations EFF-001B, EFF-002, and EFF-003

1. Due to the fact that discharges from these points are discrete events, compliance with the acute toxicity effluent limitations of this Order shall be evaluated by measuring survival of test organisms exposed to 96-hour static bioassays.

2. Test organisms shall be the fathead minnow (*Pimephales promelas*) or rainbow trout unless specified otherwise in writing by the Executive Officer.

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. Effluent used for fish bioassays must be dechlorinated prior to testing. The Discharger may use organic buffers to maintain the effluent test pH at or near discharge pH. 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.

C. Whole Effluent Chronic Toxicity – Monitoring Location EFF-001A

1. Chronic Toxicity Monitoring Requirements

   a. *Sampling*. The Discharger shall collect 24-hour composite samples of the effluent 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*. Echinoderm embryo development with the sand dollar (*Dendraster excentricus*) was selected as the most sensitive species for chronic testing in a study completed in November 2006. The purple sea urchin (*Strongylocentrotus purpuratus*) may be used as an alternate test species when *Dendraster* is not gravid.

   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-2.** These are “Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms,” currently (EPA/600/R-95/136. August 1995), 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 20%, 15%, 10%, 5%, and 2%. The "%" represents percent effluent as discharged. The Discharger may remove ammonia from the effluent prior to toxicity testing.

2. Chronic Toxicity Reporting Requirements

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

      (1) Sample date(s)

      (2) Test initiation date

      (3) Test species

(4) End point values for each dilution (e.g., number of young, growth rate, percent survival)

(5) NOEC value(s) in percent effluent

(6) IC15, IC25, IC40, and IC50 values (or EC15, EC25 ... etc.) as percent effluent

(7) TUc values (100/NOEC, 100/IC25, or 100/EC25)

(8) Mean percent mortality (±s.d.) after 96 hours in 100% effluent (if applicable)

(9) NOEC and LOEC values for reference toxicant test(s)

(10) IC50 or EC50 value(s) for reference toxicant test(s)

(11) Available water quality measurements for each test (pH, D.O., temperature, salinity, ammonia)

b. *Compliance Summary*. The results of the chronic toxicity testing shall be provided in the self-monitoring report and shall include a summary table of chronic toxicity data from at least eleven 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. *Prepare Generic TRE Work Plan.* To be ready to respond 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. Submit 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 prepared 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 requirements of Section IV.A.1 of this Order).

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 Water Board 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 – SURFACE WATER AND GROUNDWATER

A. Regional Monitoring Program

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.

B. Shoreline Monitoring

The Discharger shall monitor receiving waters at shoreline stations S-202.4, S-202.5, S-210.1, S-211, S-300.1, S-301.1, and S-301.2 as follows:

Table E-7. Shoreline Monitoring – Monitoring Locations S-202.4, S-202.5, S-210.1, S-211, S-300.1, S-301.1, and S-301.2

Parameter	Units	Minimum Sampling Frequency	Required Analytical Test Method
		G	
Fecal Coliform[1,]	MPN/100 mL	W	[1]
Enterococci[2]	MPN/100 mL	W	[2]

[1] May be satisfied by measuring *E.coli* as recommended in the USEPA Beach Monitoring Program. Total coliform bacteria and *E. coli* may be measured using the *Colisure* method of analysis.

[2] The Discharger shall monitor for enterococci using USEPA's Membrane Filter Test Method 1600, or an EPA approved method such as Enterolert.

C. Additional Monitoring

With each annual self-monitoring report, the Discharger shall document how it complies with Receiving Water Limitations. This may include discharge characteristics (e.g. mass balance with effluent data and closest RMP station), receiving water data, or a combination of both.

IX. LEGEND FOR MRP TABLES

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

Frequency of Sampling
Cont. = continuous
Cont/D = continuous monitoring & daily reporting
Cont/E = continuous monitoring & reporting for each occurrence
2H = once every two hours
E = each occurrence

W = once each week
5/W = five times each week
M = once each month
Q = once each quarter (at about three month intervals)
1/Y = once each calendar year
2/Y = twice each calendar year (at about 6 month intervals, once during dry season, once during wet season)

Parameter and Unit Abbreviations

BOD_5	=	Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C)
CFU/100 mL	=	Coliform Forming Units per 100 milliliters
COD	=	Chemical Oxygen Demand
D.O.	=	Dissolved Oxygen
Est V	=	Estimated Volume (gallons)
Metals	=	multiple metals; See SMP Section VI.G.
PAHs	=	Polycyclic Aromatic Hydrocarbons; See SMP Section VI.H.
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
µmhos/cm	=	micromhos per centimeter
kg/d	=	kilograms per day
kg/M	=	kilograms per month
TU_C	=	Toxic Unit Chronic
MPN/100 mL	=	Most Probable Number per 100 milliliters

X. OTHER MONITORING REQUIREMENTS

A. Separate Sanitary Sewer System Overflows

Those portions of the sewer system that are operated as a separate sewer system shall monitor sanitary sewer overflows and report the date(s) and times of overflows beginning and end, estimated volume of each overflow event, the duration of the event, and the corrective action measures taken as required in the State Water Board General Waste Discharge Requirements for Sanitary Sewer Systems.

B. Bypasses Monitoring Requirements

The Discharger is served predominantly by a combined sewer system and required to operate this system under requirements of the CSO Control Policy to maximize flows to the treatment plants and to minimize overflows. Therefore, under wet weather conditions, there are no bypasses of treatment plant processes. Bypasses of treatment plant processes during dry weather are subject to the monitoring requirements listed below.

Table E-8. Bypasses Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow and Total Volume	MGD	Continuous	1/Day	(1)
Duration	hours	Continuous	1/Day	(1)
BOD_5	mg/L; kg/d	Grab	1/Day	(1)
TSS	mg/L; kg/d	Grab	1/Day	(1)
Enterococci Bacteria	MPN/100 mL	Grab	1/Day	(1)
Fecal Coliform Bacteria	MPN/100 mL	Grab	1/Day	(1)
Total Coliform	MPN/100 mL	Grab	1/Day	(1)
Standard Observations	--	Observation	Each Occurrence	--

(1) Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.

C. Sludge Monitoring

The Discharger shall adhere to sludge monitoring requirements required by 40 CFR Part 503.

XI. REPORTING REQUIRMENTS

A. General Monitoring and Reporting Requirements

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

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 (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). Until such notification is given, the Discharger shall submit paper copies of SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

2. The Discharger shall 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:

Table E-9. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period
Cont.	Day after permit effective date	All
Cont/D	Day after permit effective date	All
Cont/E	Day after permit effective date	All
2H	Day after permit effective date	All
W	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday
5/W	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
Q	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
2/Y	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31
1/Y	January 1 following (or on) permit effective date	January 1 through December 31

4. Reporting Protocols. The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 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.

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

5. Compliance Determination. Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined above 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).

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

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

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

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

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

C. Discharge Monitoring Reports (DMRs)

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

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

Standard Mail	FedEx/UPS/Other Private Carriers
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15th Floor Sacramento, CA 95814

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Computer generated forms may be accepted with authorization from the USEPA.

D. Modifications to Part A of Self-Monitoring Program (Attachment G)

1. If any discrepancies exist between SMP Part A, August 1993 (Attachment G) and this MRP, this MRP prevails.

2. 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 by the 30th day after the end of each calendar month, 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 Regional Water Board staff and will be based solely on the documentation submitted at that time, or within 60 days of the report due date if additional time is necessary to obtain the necessary evidence.

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 1 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.

7. Add at the end of Section F.5, Annual Reporting, the following:

   d. A plan view drawing or map showing the Discharger's facility, flow routing and sampling and observation station locations.

E. Other Reports

Annually, by February 1st of each year, the Discharger shall report the results of any special studies, monitoring, and reporting required by section VII.C.2 (Special Studies, Technical Reports, and Additional Monitoring Requirements) of this Order.

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 IC25 or EC25. If the IC25 or EC25 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. EC25 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 IC25 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 Appendix E-2, attached, and use of the protocols referenced in those tables, or as approved by the Executive Officer.

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 **Appendix E-2** (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 and as approved by the Executive Officer.

3. Appropriate controls.

4. Concurrent reference toxicant tests.

5. Dilution series should bracket the permit trigger of 10% as follows: 20%, 15%, 10%, 5%, 2.5%, 0 %, where "%" is percent effluent as discharged, or as otherwise approved the Executive Officer.

C. The Discharger shall submit a screening phase proposal acceptable to the Executive Officer. The proposal shall address each of the elements listed above. If within 30 days, the Executive Officer does not comment, the Discharge shall commence with screening phase monitoring.

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 Development test	1 hour 72 hours	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

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ATTACHMENT F – FACT SHEET

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

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	2 386010001
Discharger	City and County of San Francisco
Name of Facility	Southeast Water Pollution Control Plant, North Point Wet Weather Facility, and Bayside Wet Weather Facilities
Facility Address	San Francisco Public Utilities Commission (SFPUC)/Wastewater Enterprise
	750 Phelps St.
	San Francisco, CA 94124
	San Francisco County
CIWQS Place Number	256499
Facility Contact, Title, Phone	Tommy Moala; Assistant General Manager, Wastewater Enterprise, (415) 554-2465, tmoala@sfwater.org
Authorized Person to Sign and Submit Reports	Johnson Ho, Superintendent, Wastewater Operations Division, (415) 242-2256, ext. 1324, jho@sfwater.org
Mailing Address	San Francisco Public Utilities Commission
	1155 Market Street, 11th Floor
	San Francisco, CA 94103
CIWQS Party ID	39680
Billing Address	SAME
Type of Facility	Publicly Owned Treatment Works
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	Yes
Reclamation Requirements	N/A
Facility Permitted Flow	84.5 million gallons per day (MGD)

Facility Design Flow	Southeast Water Pollution Control Plant: 84.5 MGD – Average dry weather design flow capacity; 63 MGD – Average annual daily flow; 250 MGD – Wet weather design flow capacity in which 150 MGD receives primary and secondary treatment and an additional 100 MGD receives only primary treatment. North Point Wet Weather Facility: 150 MGD - Wet weather design flow capacity which receives primary treatment.
CIWQS Regulatory Measure	337351
Watershed	San Francisco Bay
Receiving Water	Central San Francisco Bay
Receiving Water Type	Marine

A. The City and County of San Francisco, (hereinafter Discharger) is the owner and operator of the Southeast Water Pollution Control Plant (Southeast Plant), North Point Wet Weather Facility, and Bayside Wet Weather Facilities.

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

B. The Southeast Plant, North Point Wet Weather Facility, and Bayside Wet Weather Facilities discharge a combination of primary and secondary treated combined wastewater and stormwater into the Lower San Francisco Bay and the Central San Francisco Bay, waters of the United States, and are currently regulated by Order No. R2-2002-0073 (CIWQS Regulatory Measure 131370) and NPDES Permit No. CA0037664, which was adopted on June 19, 2002, and expires on May 31, 2007.

C. The Discharger filed a Report of Waste Discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and NPDES permit on November 30, 2006.

II. FACILITY DESCRIPTION

The Discharger's combined sewer system is designed to collect and provide wastewater treatment for a service area that includes the City of San Francisco, the Bayshore Sanitary District (portions of Brisbane, Colma, South San Francisco, and Daly City), the City of Brisbane (residential sector), and the North San Mateo County Sanitation District (portion of Daly City). The Discharger's service area has a population of almost 556,000. The collection system consists of 600 miles of pipe and seven major and eleven minor pump stations. The Discharger is responsible for this collection system but the Discharger is not responsible for collection systems controlled by satellite agencies.

The Discharger's combined sewer system consists of three main components: the Southeast Plant, the North Point Wet Weather Facility, and the Bayside Wet Weather Facilities. The Southeast Plant provides secondary wastewater treatment during dry weather conditions; and during wet weather the Plant also provides primary treatment for the combined stormwater and sewage. The North Point Wet Weather Facility operates

only during wet weather and provides primary treatment of combined stormwater and sewage and industrial wastewater. The Bayside Wet Weather Facilities are a series of interconnected large underground rectangular tanks and tunnels that, during dry weather, transport sewage and industrial wastewater to the Southeast Plant but, during wet weather, these storage/transport structures also provide the equivalent of wet weather primary treatment to the combined stormwater and wastewater. When capacities at the treatment plant, wet weather facilities, and storage/transport structures are exceeded, the excess flow is discharged into San Francisco Bay via 29 shoreline combined sewer overflow (CSO) structures.

The combined sewer system, with exceptions noted, provides treatment of all dry weather and wet weather flows. The exceptions are small isolated areas within San Francisco that are served by separate sanitary and storm drains that include parts of the Lake Merced, Pine Lake, Golden Gate Park, Seacliff, and McLaren Park neighborhoods; Candlestick Point; Presidio National Park; and Port of San Francisco property.

A. Description of Wastewater and Biosolids Treatment or Controls

The treatment process at the Southeast Plant consists of a headworks (with coarse and fine bar screens and grit removal), primary sedimentation tanks, pure oxygen aeration basins, secondary clarifiers and chlorine contact basins (for chlorination using sodium hypochlorite and dechlorination using sodium bisulfite). A schematic diagram of the treatment process is included as Attachment C of this Order.

The Southeast Plant has a dry weather design capacity of 84.5 MGD and has had an average dry weather flow of 63 MGD. During wet weather the Southeast Plant can process up to 250 MGD of combined stormwater and sewage. Up to 150 MGD receives both primary and secondary treatment, and the remaining 100 MGD receives only primary treatment. The entire volume is disinfected prior to discharge.

During dry weather conditions, all flow is discharged through the Southeast Plant deep water outfall at Pier 80 (Discharge Point 001), during wet weather, this discharge is maximized to 110 MGD. This can be a mixture of primary and secondary treated wastewater. During wet weather up to an additional 140 MGD of secondary treated combined stormwater and wastewater is discharged via the Quint Street shallow water outfall into Islais Creek (Discharge Point No. 002).

Sludge from the primary and secondary clarification operations is processed via anaerobic digestion. The digested and dewatered sludge is beneficially re-used as alternative daily cover at a permitted landfill site or is land applied at a permitted site. The Discharger is exploring options to reuse biosolids in a Class A compost facility or in a waste to energy facility.

The treatment process at the North Point Wet Weather Facility consists of primary sedimentation, clarification, floatables removal, disinfection, and dechlorination. It treats exclusively wet weather flow consisting of a combination of domestic and industrial wastewater mixed with stormwater runoff. The treatment level at this wet weather facility meets the minimum treatment specified by the USEPA *Combined Sewer Overflow Control Policy* (50 FR 18688; April 11, 1994). The facility is operational only during wet weather

and has the capacity to provide primary treatment to a maximum of 150 MGD of combined stormwater and sewage and industrial wastewater.

Treated wastewater from the North Point Wet Weather Facility is discharged into San Francisco Bay through four deep water outfalls, two of which terminate at the end of Pier 33 (Discharge Points 003 and 004), and two of which terminate at the end of Pier 35 (Discharge Points 005 and 006). The entire volume of treated wastewater is disinfected and dechlorinated prior to discharge. Primary sludge from this facility is directed to the Southeast Plant for digestion. The Discharger recently completed several upgrades to the North Point Wet Weather Facility, including the following:

- Addition of new screens, new dechlorination facilities;
- Replacement of existing wet weather pumps, motors, drives, and bar screens at the North Shore Pump Station (two for dry weather, one for wet weather);
- Replacement of existing 3/4-inch bar screens with new 3/8 -inch bar screens in the receiving structure and dumpster enclosure;
- Installation of higher capacity sludge/grit pumps to dewater the sedimentation buildings;
- Upgrade of selected HVAC systems;
- Installation of a new odor control system;
- Installation of new sodium bisulfite unloading, transfer, storage, and recirculation systems; and
- Upgrade of electrical systems; and installation of new instrumentation and controls.

In the Bayside Wet Weather Storage/Transport and Diversion Structures, the wastewater, sewage, stormwater and industrial wastewater is exposed to a series of baffles and weirs that are designed to remove settleable solids and floatables. The treatment is equivalent to the minimum treatment specified by the USEPA *Combined Sewer Overflow Control Policy* (50 FR 18688; April 11, 1994). During dry weather, these storage/transport structures transport wastewater to the Southeast Plant, but during wet weather, these structures provide storage capacity for stormwater flows, while pumps transfer the combined wastewater and stormwater to the Southeast Plant at a steady flow rate. If, in wet weather, the capacity of the storage structure is exceeded, the combined wastewater and stormwater, after receiving the equivalent of wet weather primary treatment, is discharged into San Francisco Bay via any one of the 29 shoreline combined sewer overflow structures. After the rainstorm subsides, the solids that settle out in primary treatment are flushed to the Southeast Plant for anaerobic digestion.

The Discharger is responsible for operating the combined sewer system at optimal efficiency in order to maximize treatment during wet weather. The previous Order (R2-2002-0073) defined performance criteria for operation of the Discharger's combined sewer system, identified the average number of combined sewer overflow occurrences by areas within the City based upon system design criteria, and defined specific operational activities to occur during and after rainstorm events. Details of these performance criteria are provided in Section IV of this Fact Sheet.

B. Discharge Points and Receiving Waters

The discharge points, authorized by this Order, and the receiving water, are shown in the Table below:

Table F-2. Treatment Plant and Combined Sewer Outfall Locations

Discharge Point No.	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
Treatment Plant Discharge Points				
EFF 001 Pier 80 Outfall	Blended primary and secondary treated effluent, including combined stormwater and sewage and industrial wastewater	37° 44' 58"	122° 22' 22"	Lower San Francisco Bay
EFF 002 Quint Street	Secondary treated effluent of combined stormwater and sewage and industrial wastewater	37° 44' 50"	122° 23' 13"	Islais Creek
EFF 003 and EFF 004 Pier 33	Primary treated effluent of combined stormwater and sewage and industrial wastewater	37° 48' 25"	122° 24' 11"	Central San Francisco Bay
EFF 005 and EFF 006 Pier 35	Primary treated effluent of combined stormwater and sewage and industrial wastewater	37° 48' 36"	122° 24' 20"	Central San Francisco Bay
CSO Discharge Points				
009 Baker Street	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial wastewater	37° 48' 29"	122° 26' 48"	Marina Beach North Shore Drainage Basin
010 Pierce Street	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 48' 25"	122° 26' 24"	Marina Beach North Shore Drainage Basin
011 Laguna Street	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 48' 22"	122° 25' 53"	Yacht Harbor #2 North Shore Drainage Basin

Discharge Point No.	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
013 Beach Street	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 48' 30"	122° 24' 24"	Pier 39 North Shore Drainage Basin
015 Sansome Street	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 48' 24"	122° 24' 11"	Pier 31 North Shore Drainage Basin
017 Jackson Street	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 47' 54"	122° 23' 41"	Pier 9 North Shore Drainage Basin
018 Howard Street	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 47' 35"	122° 23' 24"	Pier 14 Central Drainage Basin
019 Brannan Street	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 47' 7"	122° 23' 24"	Pier 32 Central Drainage Basin
022 Third Street	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 46' 38"	122° 23' 22"	Mission Creek Central Drainage Basin
023 Fourth Street North	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 46' 32"	122° 23' 29"	Mission Creek Central Drainage Basin
024 Fifth street North	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 46' 26"	122° 23' 38"	Mission Creek Central Drainage Basin

Discharge Point No.	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
025 Sixth Street North	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 46' 19"	122° 23' 46"	Mission Creek Central Drainage Basin
026 Division Street	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 46' 13"	122° 23' 51"	Mission Creek Central Drainage Basin
027 Sixth Street South	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 46' 17"	122° 23' 42"	Mission Creek Central Drainage Basin
028 Fourth Street South	Equivalent-to-primary treated effluent of combined stormwater and wastewater	37° 46' 30"	122° 23' 28"	Mission Creek Central Drainage Basin
029 Mariposa Street	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 45' 53"	122° 23' 7"	Central Basin Central Drainage Basin
030 20th Street	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 45' 40"	122° 22' 48"	Central Basin Central Drainage Basin
030A 22nd Street	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 45' 28"	122° 22' 49"	Central Basin Central Drainage Basin
031 Third Street North	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 44' 52"	122° 23' 10"	Islais Creek Central Drainage Basin
031A Islais Creek North	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 44' 52"	122° 23' 15"	Islais Creek Central Drainage Basin

Discharge Point No.	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
032 Marin Street	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 44' 55"	122° 23' 27"	Islais Creek Central Drainage Basin
033 Selby Street	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 44' 52"	122° 23' 27"	Islais Creek Central Drainage Basin
035 Third Street South	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 44' 50"	122° 23' 10"	Islais Creek Central Drainage Basin
037 Evans Avenue	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 44' 9"	122° 22' 26"	India Basin Southeast Drainage Basin
038 Hudson Avenue	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 44' 0"	122° 22' 26"	India Basin Southeast Drainage Basin
040 Griffith Street South	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 43' 23"	122° 22' 56"	Yosemite Canal Southeast Drainage Basin
041 Yosemite Avenue	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 43' 26"	122° 23' 8"	Yosemite Canal Southeast Drainage Basin
042 Fitch Street	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 43' 20"	122° 22' 55"	South Basin Southeast Drainage Basin

Discharge Point No.	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
043 Sunnydale Avenue	Equivalent-to-primary treated effluent of combined stormwater and sewage and industrial and wastewater	37° 44' 50"	122° 23' 13"	Candlestick Cove Southeast Drainage Basin

Lower San Francisco Bay is located in the South Bay Basin watershed management area. Central San Francisco Bay is located in the Central Basin watershed management area.

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

1. Effluent limitations contained in the previous Order for dry weather discharges from the Southeast Plant through Outfall EFF-001 and representative monitoring data from the term of the previous Order are presented in the following two tables.

Table F-3. Historic Conventional Parameter Effluent Limitations and Monitoring Data (Outfall EFF-001 During Dry Weather)

Parameter	Units	Effluent Limitations			Monitoring Data (From Jan 2003 to Dec 2006)		
		Monthly Average	Weekly Average	Daily Maximum	Highest Monthly Average	Highest Weekly Average	Highest Daily Discharge
Biochemical Oxygen Demand (5-day @ 20°C) (BOD_5)	mg/L	30	45	--	25.42	38.5	--
	% Removal	85[1]	--	--	84	--	--
Total Suspended Solids (TSS)	mg/L	30	45	--	28.06	43.61	--
	% Removal	85[1]	--	--	87	--	--
Oil and Grease	mg/L	10	--	20	9.4	--	14.9
Settleable Matter	mL/L-hr	0.1	--	0.2	0	--	0
Total Chlorine Residual (TRC)	mg/L	--	--	(2)	--	--	1.1
pH	s.u.	(3)			6.8—8.69		
Fecal Coliform Bacteria	MPN/100 mL	(4)	--	--	20(5)	--	--
Acute Toxicity	% Survival	(6)	(7)	--	90(6)(8)	75(7)(9)	--

ND = Non-Detect
NR = Not Reported
NA = Not Applicable

(1) The arithmetic mean of the 5-day biochemical oxygen demand (BOD_5) and total suspended solids (TSS) concentrations for effluent samples collected in each calendar month shall not exceed 15 percent of the arithmetic mean of the respective values for influent samples collected at approximately the same times during the same period.

(2) For TRC, 0.0 mg/L was established as an instantaneous maximum effluent limitation.

(3) The pH shall not exceed 9.0 nor be less than 6.0.

(4) Treated wastewater, at some point in the treatment process prior to discharge, shall meet the following limits of bacteriological quality: The 30-day moving median value for fecal coliform density in final effluent samples shall not exceed 500 Colony Forming Units (CFU)/100 mL, nor shall more than 10% of the samples in any 30-day period equal or exceed 1,100 CFU/100 mL.
(5) Represents the maximum 30-day moving median fecal coliform density.
(6) The survival of bioassay test organisms in 96-hour bioassays of undiluted effluent shall be an 11-sample median value of not less than 90 percent survival.
(7) The survival of bioassay test organisms in 96-hour bioassays of undiluted effluent shall be an 11-sample 90th percentile value of not less than 70% survival.
(8) Represents the lowest 11-sample median survival of bioassay test organisms in 96-hour bioassays of undiluted effluent.
(9) Represents the lowest 11-sample 90th percentile survival of bioassay test organisms in 96-hour bioassays of undiluted effluent.

Table F-4. Historic Toxic Parameter Effluent Limitations and Monitoring Data (Outfall EFF-001 During Dry Weather)

Parameter	Units	Water Quality-Based Effluent Limitations (WQBELs)		Interim Limitations		Monitoring Data (From 1/03 to 12/06)
		Daily Maximum	Monthly Average	Daily Maximum	Monthly Average	Highest Daily Discharge
Copper	µg/L	--	--	37	--	16.49
Mercury	µg/L	--	--	--	0.087	0.026
Lead	µg/L	89	36	--	--	14.7
Nickel	µg/L	59	34	--	--	7.95
Silver	µg/L	22	12	--	--	5.81 (DNQ)
Zinc	µg/L	720	490	--	--	176
Dieldrin	µg/L	0.00028	0.00014	--	--	ND
4,4-DDE	µg/L	0.0012	0.00059	--	--	ND

ND = Non-Detect
DNQ = Detected but Not Quantified (an estimated value)

2. Effluent limitations contained in the previous Order for wet weather discharges from the Southeast Plant Discharge Point 001 and representative monitoring data from the term of the previous Order are presented in the table below. During wet weather, apart from fecal coliform, there are no effluent limits on the discharge.

Table F-5. Historic Conventional Parameter Monitoring Data (Outfall EFF-001 During Wet Weather)

Parameter	Units	Monitoring Data (From 1/03 – 12/06)		
		Highest Monthly Average	Highest Weekly Average	Highest Daily Discharge
Total Chlorine Residual (TRC)	mg/L	--	--	0
Fecal Coliform Bacteria	MPN/100 mL	40(1)	300(2)	560
Chemical Oxygen Demand	mg/L	--	--	232
Oil and Grease	mg/L	--	--	17
Settleable Solids	mL/L-hr	--	--	0
Acute Toxicity	% survival	--	--	80(3)

(1) Represents the maximum 30-day moving median fecal coliform density.
(2) Represents the maximum monthly 90th percentile fecal coliform density.

(3) Represents the lowest 11-sample median percent survival.

3. Effluent limitations contained in the previous Order for wet weather discharges from the Southeast Plant into Islais Creek and representative monitoring data from the term of the previous Order are as follows:

Table F-6. Historic Conventional Parameter Monitoring Data (Outfall EFF-002)

Parameter	Units	Monitoring Data (From 1/03 – 12/06)		
		Highest Monthly Average	Highest Weekly Average	Highest Daily Discharge
Total Chlorine Residual (TRC)	mg/L	--	--	NA
Fecal Coliform Bacteria	MPN/100 mL	220(1)	300(2)	1900
Chemical Oxygen Demand	mg/L	--	--	133.5
Oil and Grease	mg/L	--	--	25.6
Settleable Solids	mL/L-hr	--	--	0
Acute Toxicity	% survival	--	--	90(3)

(1) Represents the maximum 30-day moving median fecal coliform density.
(2) Represents the maximum monthly 90th percentile fecal coliform density.
(3) Represents the lowest 11-sample median percent survival.

4. Effluent limitations contained in the previous Order for wet weather discharges from the North Point Wet Weather Facility and representative monitoring data from the term of the previous Order are presented in the table below.

Table F-7. Historic Conventional Parameter Monitoring Data (Outfall EFF-003)

Parameter	Units	Monitoring Data (From 1/03 – 12/06)		
		Highest Monthly Average	Highest Weekly Average	Highest Daily Discharge
Total Chlorine Residual (TRC)	mg/L	--	--	NA
Fecal Coliform Bacteria	MPN/100 mL	<10(1)	690(2)	>1600
Chemical Oxygen Demand	mg/L	--	--	280
Oil and Grease	mg/L	--	--	34.6
Settleable Solids	mL/L-hr	--	--	<0.1
Acute Toxicity	% survival	--	--	25(3)

(1) Represents the maximum 30-day moving median fecal coliform density.
(2) Represents the maximum monthly 90th percentile fecal coliform density.
(3) Represents the lowest 11-sample median percent survival.

The Discharger also monitored for all the CTR toxic pollutants, including dioxins and furans for wet weather discharges from the North Point Wet Weather Facility. A summary of the detected values is provided in Attachment I.

5. Data related to the combined sewer overflow (CSO) events that occurred during the last year of the previous Order is summarized below:

Table F-8. Summary of Combined Sewer Overflow Events that Occurred During the Previous Year (2006)

Outfall Number	Number of Events	Average Duration of Event (hours)	Minimum Rainfall That Caused Event (inches)
CSO-009	0	NA	NA
CSO-010	0	NA	NA
CSO-011	0	NA	NA
CSO-013	0	NA	NA
CSO-015	6	1.02	0.38
CSO-017	0	NA	NA
CSO-018	12	4.45	0.49
CSO-019	1	7.5	0.84
CSO-022	1	6.32	0.71
CSO-023	0	NA	NA
CSO-024	3	0.28	0.57
CSO-025	4	1.15	0.57
CSO-026	8	3.45	0.38
CSO-027	0	NA	NA
CSO-028	0	NA	NA
CSO-029	10	1.61	0.57
CSO-030	3	4.87	0.7
CSO-030A	0	NA	NA
CSO-031	1	3.73	0.6
CSO-031A	9	5.86	0.6
CSO-032	0	NA	NA
CSO-033	0	NA	NA
CSO-035	1	3.46	0.6
CSO-037	0	NA	NA
CSO-038	0	NA	NA
CSO-040	2	1.3	1.73
CSO-041	2	1.35	1.73
CSO-042	2	1.41	1.73
CSO-043	2	3.65	1.73

NA = Not Available

D. Compliance Summary

1. **Compliance with Numeric Effluent Limitations.** From January 2003 through December 2006, the Discharger reported one violation of effluent limitations (CIWQS violation ID 268474) contained in Order No. R2-2002-0073 (CIWQS Regulatory Measure 131370) for dry weather discharges from the Southeast Plant to Lower San Francisco Bay. This was a chlorine residual exceedance due to an operational malfunction that was corrected after 10 minutes.

Table F-9: Summary of Effluent Violations from the Southeast Plant

Date of Violation	Effluent Limitation Described	Effluent Limit	Reported Value
10/30/04	Total Chlorine Residual, Instantaneous Maximum	0.0 mg/L	1.1 mg/L

2. Compliance with Permit Provisions. The special activities required in the provisions for Order No. R2-2002-0073 were all completed.

3. Compliance with Submittal of Self-Monitoring Reports. The Discharger submitted all Self-Monitoring Reports on or before the due date during the term of the previous Order.

E. Planned Changes

Not Applicable

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 CWA section 402 and implementing regulations adopted by the USEPA and Chapter 5.5, Division 7 of the California Water Code (CWC) (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters. This Order also serves as WDRs pursuant to CWC Article 4, Chapter 4, Division 7 (commencing with section 13260).

B. California Environmental Quality Act (CEQA)

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

C. State and Federal Regulations, Policies, and Plans

1. Water Quality Control Plans

The *Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan) is the Regional Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan was duly adopted by the Regional Water Board and approved by the State Water Resources Control Board, USEPA, and the Office of Administrative Law where required. In

addition, the Basin Plan implements State Water Board Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply (MUN). Because of the marine influence on receiving waters of the San Francisco Bay, total dissolved solids levels in the Bay commonly (and often significantly) exceed 3,000 mg/L and thereby meet an exception to State Water Board Resolution No. 88-63. Therefore, the MUN designation will not be applicable to the Lower San Francisco Bay and Central San Francisco Bay. Beneficial uses applicable to the Lower San Francisco Bay and Central San Francisco Bay are as follows:

Table F-10. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Uses
001, 002, 019, 022, 023, 024, 025, 026, 027, 028, 029, 030, 030A, 031, 031A, 032, 033, 035, 037, 038, 040, 041, 042, 043	Lower San Francisco Bay	Ocean, Commercial, and Sport Fishing (COMM) Estuarine Habitat (EST) Industrial Service Supply (IND) Fish Migration (MIGR) Navigation (NAV) Preservation of Rare and Endangered Species (RARE) Water Contact Recreation (REC-1) Noncontact Water Recreation (REC-2) Shellfish Harvesting (SHELL) Wildlife Habitat (WILD)
003, 004, 005, 006, 009, 010, 011, 013, 015, 017, 018	Central San Francisco Bay	Ocean, Commercial, and Sport Fishing (COMM) Estuarine Habitat (EST) Industrial Service Supply (IND) Industrial Process Supply (PROC) Fish Migration (MIGR) Fish Spawning (SPAWN) Navigation (NAV) Preservation of Rare and Endangered Species (RARE) Water Contact Recreation (REC-1) Noncontact Water Recreation (REC-2) Shellfish Harvesting (SHELL) Wildlife Habitat (WILD)

Requirements of this Order implement the Basin Plan.

2. 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 40 water quality criteria (WQC) in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

3. State Implementation Policy

On March 2, 2000, 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.

4. Wet Weather Discharges (CSO Policy)

a. According to the USEPA *Combined Sewer Overflow Control Policy*, dischargers should develop long-term control plans for controlling combined sewer overflows (CSOs). A discharger may use one of two approaches: 1) demonstrate that its plan is adequate to meet the water quality-based requirements of the CWA ("demonstration approach"), or 2) implement a minimum level of treatment (e.g., primary clarification of at least 85 percent of the collected combined sewage flows) that is presumed to meet the water quality-based requirements of the CWA, unless data indicate otherwise ("presumption approach").

b. The Discharger's long term control plan complies with the presumption approach. The presumption approach, as described in the USEPA CSO Policy, is shown below:

"A program that meets any of the criteria listed below would be presumed to provide an adequate level of control to meet the water quality-based requirements of the CWA, provided the permitting authority determines that such presumption is reasonable in light of the data and analysis conducted in the characterization, monitoring, and modeling of the system and the consideration of sensitive areas described above. These criteria are provided because data and modeling of wet weather events often do not give a clear picture of the level of CSO controls necessary to protect WQS [Water Quality Standards].

i. No more than an average of four overflow events per year, provided that the permitting authority may allow up to two additional overflow events per year. For the purpose of this criterion, an overflow event is one or more overflows from a CSS (Combined Sewer System) as the result of a precipitation event that does not receive the minimum treatment specified below; or

ii. The elimination or the capture for treatment of no less than 85% by volume of the combined sewage collected in the Combined Sewer System during precipitation events on a system-wide annual average basis; or

iii. The elimination or removal of no less than the mass of the pollutants, identified as causing water quality impairment through the sewer system characterization, monitoring, and modeling effort, for the volumes that would be eliminated or captured for treatment under paragraph ii above.

Combined sewer overflows remaining after implementation of the nine minimum controls and within the criteria specified at II.C.4.a.i or ii, should receive a minimum of:

- *Primary clarification (Removal of floatables and settleable solids may be achieved by any combination of treatment technologies or methods that are shown to be equivalent to primary clarification.);*
- *Solids and floatables disposal; and*
- *Disinfection of effluent, if necessary, to meet WQS, protect designated uses and protect human health, including removal of harmful disinfection chemical residuals, where necessary."*

The Discharger's long term control plan exceeds the specifications of the presumption approach. The Discharger captures and provides treatment to 100 percent of the combined sewer flows rather than the 85 percent identified in option ii. As defined in the USEPA CSO Policy, the Discharger has no remaining untreated CSO events; the CSOs that occur receive treatment (within the storage/transport boxes) consisting of removal of floatables and settleable solids.

The wet weather conditions in this Order require continued implementation of the Long Term Control Plan such that pollutant removal is maximized (see discussion under Section VII.C.7 below).

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 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.

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 5-day biochemical oxygen demand (BOD5), total suspended solids (TSS), pH, oil and grease, and chlorine residual. Water quality-based effluent limitations have been 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 water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The procedures for calculating the individual water quality-based effluent limitations are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1). 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

NPDES regulations at 40 CFR 131.12 required 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 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 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 quality degradation that could result from an increase in permitted design flow or a reduction in the level of treatment. This Order does not provide for an increase in the permitted design flow or allow for a reduction in the level of treatment.

For cyanide, the effluent limits are higher than those in the previous permit, but these revised limits will not degrade water quality because the permitted flow will remain unchanged and the level of treatment provided by the plant will not be reduced. The new limits are equivalent to those anticipated in the antidegradation analysis section of the Staff Report supporting the cyanide site-specific objectives. That analysis concluded that these new limits would not likely result in degradation and that any increase would not have a measurable impact on ambient cyanide levels in the Bay. Since the limits anticipated with the site-specific objectives would not degrade the quality of the receiving water, neither will the increased limits in this permit. As such there will be no lowering of water quality beyond the current level authorized in the previous permit, which is the baseline by which to measure whether degradation will occur. Moreover, this Order requires implementation of action plans for cyanide source identification and pollution prevention. These measures will further ensure that existing water quality is maintained or improved.

8. 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 that effluent limitations in a reissued permit be as stringent as those in the previous Order, with some exceptions in which limitations may be relaxed. All limitations and requirements of the Order are consistent with anti-backsliding requirements of the CWA and NPDES regulations.

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

On November 30, 2006, 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), which requires 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. Lower and Central San Francisco Bay are listed as impaired waterbodies. The pollutants impairing both Lower and Central San Francisco Bay include chlordane, DDT, dieldrin, dioxin compounds, exotic species, furan compounds, mercury, PCBs, and dioxin-like PCBs; Central San Francisco Bay is also listed as impaired for selenium. The SIP requires final effluent limitations for all 303(d)-listed pollutants to be consistent with total maximum daily loads (TMDLs) and associated waste load allocations.

1. Total Maximum Daily Loads

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

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 water quality-based effluent limitations (WQBELs) for 303(d) listed pollutants in this discharge will be based on WLAs contained in the respective TMDLs. If a TMDL is developed and WLAs are established for San Francisco, the stormwater and wastewater WLAs may be combined to be met collectively by the wastewater and stormwater effluent loads.

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 dischargers to San Francisco Bay 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 water quality objectives (WQOs)/water quality criteria (WQC). 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 Lower and 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 Regional Monitoring Program 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, 40 CFR §131.38(b) and amendments.

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 Parts 122 and 131];

5. 40 CFR §131.36(b) and amendments [Federal Register Volume 60, No. 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];

8. USEPA's April 11, 1994 Combined Sewer Overflow Control Policy [Federal Register Volume Volume 59, No. 75, pp. 18688-18698]; and

9. Guidance provided with State Water Board Orders remanding permits to the Regional Water Board for further consideration.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

A. Discharge Prohibitions

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

1. **Discharge Prohibition III.A. (No E-001 discharge other than that described in this Order):** This prohibition is the same as in the previous Order. 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 E-001 discharges receiving less than 36:1 dilution):** For dry weather discharge through Discharge Point 001 this prohibition 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 36:1 dilution credit in the calculation of some WQBELs, and these limitations would not be protective of water quality if the discharge did not actually achieve a 36:1 minimum initial dilution. If the Discharger conducts a comprehensive dilution study during the effective life of this permit that indicates a different initial dilution, this Order will be amended to reflect the more accurate initial dilution.

   For wet weather discharges through Discharge Point 002, Regional Water Board Order No. 96-116 amended Order No 94-149 allowing for, provided there is compliance with Effluent Limitations B.1.1 and B.1.3 in Order 94-149, wet weather discharge into Islais Creek where a 10:1 dilution is not likely to occur. Order No. 96-116 recognized that the Basin Plan prohibits waste discharges to surface waters where less than 10:1 initial dilution is achieved except for certain situations. These situations include when an inordinate burden would be placed on the discharger and when an equivalent level of environmental protection can be achieved by alternate means. The Order determined that an equivalent level of environmental protection could be achieved by a 25-acre wetland project near Pier 98 and that an exception to the 10:1 discharge prohibition was appropriate. Order No. 96-116 also noted that changes were being made to ensure only secondary treated wastewater was discharged to the Creek and that this discharge from this point only occurs when the deep-water outfall (Discharge Point 001) is at

capacity. In 1998 the Discharger entered a memorandum of understanding with the Port of San Francisco and agreed to contribute to establishing wetlands near Pier 98 and completed its contribution in May 1999. The Discharger currently discharges only full secondary treated combined wastewater and stormwater to Islais Creek during wet weather when the deep water outfall is at capacity.

For CSO discharges that do not receive a 10:1 minimum dilution or discharge into a dead-end slough, Regional Water Board Order No. 89-102 concluded that these CSO discharges meet the requirements for an exception to the Basin Plan prohibition against discharges receiving 10:1 minimum initial dilution or discharging to a dead-end slough.

The exceptions to Basin Plan requirements cited in these previous Orders are still consistent with the Basin Plan. In particular, they are consistent with and implement the approach for wet weather overflows as described in Chapter 4 of the Basin Plan.

3. **Discharge Prohibition III.C. (No wet weather discharges outside of wet weather days):** This prohibition is the same as the previous Order prohibiting discharges from Discharge Points 002 through 006, and CSO discharges from Discharge Points 009 through 043, except during wet weather as defined in Attachment A, Definitions.

4. **Discharge Prohibition III.D.** (No bypasses except under wet weather and in accordance with the conditions at 40 CFR 122.41(m)(4)(i)(A), (B) and (C)): This prohibition is the same as the previous Order and is based on 40 CFR 122.41(m)(4).

5. **Discharge Prohibition III.E**. (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.

6. **Discharge Prohibition III.F**. (No degradation of harvestable shellfish resulting from dry weather discharges). This prohibition is the same as in the previous Order and is included to protect shellfish from dry weather discharges from Discharge Point 001.

7. **Discharge Prohibition III.G.** (no sanitary sewer overflows to waters of the United States): Discharge Prohibition No. 15 from Table 4-1 of the Basin Plan and the Clean Water Act prohibit the discharge of wastewater to surface waters except as authorized 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 [33 U.S.C. §1311(b)(1)(B) and (C)]. Thus, a sanitary sewer overflow that results in the discharge of raw sewage, or sewage not receiving secondary treatment, to surface waters is prohibited under the Clean Water Act and the Basin Plan. This prohibition does not apply to combined wastewater and stormwater discharges during wet weather.

B. Technology-Based Effluent Limitations

1. Scope and Authority

a. Dry Weather Discharge from the Southeast Plant. CWA section 301(b)(1)(B) requires USEPA to develop secondary treatment standards for publicly owned wastewater treatment facilities (POTWs) – defined as the level of effluent quality attainable through the application of secondary or equivalent treatment. USEPA promulgated such technology-based effluent guidelines for POTWs at 40 CFR Part 133. These Secondary Treatment regulations include the following minimum requirements.

Table F-11. Secondary Treatment Requirements

Constituent[(1)]	30-Day Average	7-Day Average
Biochemical Oxygen Demand (5-day @ 20°C) (BOD_5)	30 mg/L	45 mg/L
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C) ($CBOD_5$) [(2)]	25 mg/L	40 mg/L
Total Suspended Solids (TSS)	30 mg/L	45 mg/L
pH	6.0 – 9.0	

(1) In addition to the numeric effluent limitations for BOD, $CBOD_5$, and TSS, the 30-day average percent removal shall not be less than 85 percent.

(2) At the option of the permitting authority, effluent limitations for $CBOD_5$ may be substituted for limitations for BOD_5.

b. **Wet Weather Discharges.** Discharges from combined sewer systems are point sources subject to NPDES permit requirements, including both technology-based and water quality-based requirements of the CWA. However, wet weather discharges from combined sewer systems are not subject to the secondary treatment regulations applicable to publicly owned treatment works [see *Montgomery Environmental Coalition vs. Costle*, 646 F.2d 568 (DC. Cir.1908)].

According to the USEPA Combined Sewer Overflow Control Policy (40 CFR 125.3) all permits for combined sewer systems should require the nine minimum controls as a minimum best available technology economically achievable and best conventional technology (BAT/BCT) established on a best professional judgment (BPJ) basis.

2. Applicable Technology-Based Effluent Limitations

a. Dry Weather Discharge from the Southeast Plant. The Order retains the following technology-based effluent limitations, applicable to the dry weather discharge from the Southeast Plant (Discharge Point 001), from Order No. R2-2002-0073.

Table F-12. Summary of Technology-Based Effluent Limitations – Discharge Point 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
BOD_5	mg/L	30	45	--	--	--
TSS	mg/L	30	45	--	--	--
Oil and Grease	mg/L	10	--	20	--	--
pH	standard units	--	--	--	6.0	9.0
Total Chlorine Residual	mg/L	--	--	--	--	0.0

For this Order, compliance with the percent removals for BOD_5 and TSS in the secondary treatment regulations (the 30-day average percent removal shall not be less than 85 percent) is required.

The limitations established for oil and grease are levels attainable by secondary treatment and are required by the Basin Plan (Table 4-2) for all discharges to inland surface waters and enclosed bays and estuaries of the Region.

The pH limitation is retained from the previous Order and is required by USEPA's secondary treatment regulations at 40 CFR Part 133 and by the Basin Plan (Table 4-2) for deep water discharges.

The instantaneous maximum limitation for chlorine of 0.0 mg/L is retained by this Order. This limitation is required by the Basin Plan (Table 4-2).

Technology-based effluent limitations for settleable matter are not retained from the previous Order, as the Regional Water Board has determined that compliance with the secondary treatment regulations at 40 CFR Part 133 and with the Basin Plan (Table 4-2) requirements for all discharges to inland surface waters and enclosed bays and estuaries will ensure removal of settleable solids to acceptably low levels – below 0.1 mL/L/hr (30-day average) and 0.2 mL/L/hr (daily maximum).

b. Wet Weather Discharges. This Order retains the following technology-based effluent limitations, applicable to the wet weather discharge from the wet weather outfalls (Discharge Points 002 through 006), from Order No. R2-2002-0073.

Table F-13. Summary of Technology-Based Effluent Limitations – Discharge Points 002 through 006

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Total Chlorine Residual	mg/L	--	--	--	--	0.0

This limitation is required by the Basin Plan (Table 4-2). The USEPA *Combined Sewer Overflow Control Policy* specifically requires the implementation of nine minimum controls that serve as the technology-based requirements for CSOs as indicated in Section VII.C.7.b of this Fact Sheet.

The instantaneous maximum limitation for chlorine of 0.0 mg/L is retained by this Order.

3. Bacteria

The Basin Plan, Table 4-2, establishes effluent limitations for total coliform bacteria for all discharges from sewage treatment facilities to inland surface waters and enclosed bays and estuaries of the Region. Fecal coliform limitations may be substituted for the limitations of the Basin Plan "provided it can be conclusively demonstrated through a program approved by the Regional Water Board that such substitution will not result in unacceptable adverse impacts on the beneficial uses of the receiving water." This Order carries over the requirement to comply with fecal coliform effluent limitations for discharges from the Southeast Plant (Discharge Point 001) during dry weather and the wet weather discharges (Discharge Points 001 through 006). These are a 30-day moving median fecal coliform effluent limitation of 500 colony forming units (CFU) or most probable number (MPN)/100mL and not more than 10% of the samples in any 30-day period equal or exceed 1,100 CFU or MPN/100 mL. A bacteriological field study of the discharge was conducted between October 1992 and October 1994, and the changes described above added to the Plant's permit in October 1994. The reasoning for using fecal coliform limits, instead of total coliform, is further described in the article, "NPDES Limits for Bacteria", Water Environment & Technology, Vol 8, August 1996 pp 69-73, James Salerno, Arleen Navarret and Paul Pitt, Department of Public Works, City and County of San Francisco. There are no known shellfish beds that are impacted by the outfalls from the Southeast Plant or North Point Wet Weather Facility.

Enterococci bacteria are more closely associated with gastrointestinal disease than fecal coliform bacteria for water contact. Pursuant to the BEACH Act of 2000, USEPA has promulgated enterococci bacteria criteria for water contact recreation in coastal waters that apply to this discharge. The limit for enterococci bacteria established by this Order (geometric mean not to exceed 35 colonies per 100 milliliters) for discharges from the Southeast Plant (Discharge Point 001) during dry weather is based on water quality criteria established by the USEPA at 40 CFR §131.41 for coastal recreation waters, including coastal estuaries, in California. These water quality criteria became effective on December 16, 2004. [69 Fed Reg. 67218 (November 16, 2004)].

USEPA also established single sample maximum criteria for enterococci bacteria, this Order implements this maximum of 104 colonies per 100 milliliters as an effluent limitation only for wet weather discharges in samples collected at Discharge Points 001 through 006. When these water quality criteria were promulgated, USEPA expected that the single sample maximum values would be used for making beach notification and beach closure decisions. "Other than in the beach notification and closure decision context, the geometric mean is the more relevant value for assuring

that appropriate actions are taken to protect and improve water quality because it is a more reliable measure, being less subject to random variation ….” [69 Fed Reg. 67224 (November 16, 2004)]. However wet weather events are intermittent and of limited duration. The use of a geometic mean would require the collection of multiple samples over a continuous time period, a condition not appropriate for wet weather events.

C. Water Quality-Based Effluent Limitations (WQBELs) for dry weather

1. Scope and Authority

a. Except for CSOs**,** NPDES regulations at 40 CFR §122.44(d)(1)(i), require permits to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an excursion above any state water quality standard (Reasonable Potential). The process for determining Reasonable Potential and calculating WQBELs, when necessary, is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in the CTR, NTR, Basin Plan, and other State plans and policies.

b. NPDES regulations and the SIP provide the basis to establish maximum daily effluent limitations (MDELs).

1) NPDES Regulations. 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 discharge limitations for POTWs.”

2) SIP. The SIP (page 8, Section 1.4) requires WQBELs be expressed as MDELs and average monthly effluent limitations (AMELs).

c. MDELs are used in this Order to protect against acute water quality effects. The MDELs are necessary for preventing fish kills or mortality to aquatic organisms.

2. Applicable Beneficial Uses and Water Quality Criteria (WQC) and Objectives (WQOs)

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. Basin Plan. The Basin Plan specifies numeric WQOs for 10 priority toxic pollutants, as well as narrative WQOs, such as those 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.

b. 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 the Basin Plan includes certain numeric objectives that supersede CTR criteria.

c. 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 apply to Central San Francisco Bay, the receiving water for this discharge.

d. Technical Support Document for Water Quality-Based Toxics Controls. Where numeric objectives have not been established or updated in the Basin Plan, NPDES regulations at 40 CFR §122.44(d) require that WQBELs be established based on USEPA criteria, supplemented where necessary by other relevant information, to attain and maintain narrative WQOs to fully protect designated beneficial uses.

To determine the need for and establish WQBELs, when necessary, the Regional Water Board staff has followed the requirements of applicable NPDES regulations, including 40 CFR Parts 122 and 131, as well as guidance and requirements established by the Basin Plan; USEPA's *Technical Support Document for Water Quality-Based Toxics Control* (the TSD, EPA/505/2-90-001, 1991); and the State Water Resources Control Board's *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP, 2005).

e. Basin Plan Receiving Water Salinity Policy. The Basin Plan (like the CTR and the NTR) states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water shall be considered in determining the applicable WQC. Freshwater criteria shall apply to discharges to waters with salinities equal to or less than one 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 water with salinities in between these two categories, or tidally influenced freshwaters that support

estuarine beneficial uses, the criteria shall be the lower of the salt or freshwater criteria (the latter calculated based on ambient hardness) for each substance.

The receiving water for this discharge, Central and Lower San Francisco Bay, is a marine environment based on salinity data generated through the Regional Monitoring Program (RMP) at the Alameda (BB70) sampling station between 1993 and 2001. In that period, the maximum salinity was 31 ppt, average salinity was 24 ppt, and minimum salinity was 11 ppt. As salinity was greater than 10 ppt in 100 percent of receiving water samples, only the saltwater criteria from the Basin Plan, NTR, and CTR apply to this discharge.

f. Site-Specific Metals 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 that 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) that 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 the 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 use 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 use default translators established by USEPA in the CTR at 40 CFR §131.38 (b)(2), Table 2.

Table F-14. Translators for Copper and Nickel for Deepwater Discharges North of Dumbarton Bridge (Central Bay Regions)

Copper and Nickel 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." 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. 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 Southeast Plant demonstrates reasonable potential as described below in sections 3.a – 3.e.

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 Southeast Plant demonstrates Reasonable Potential. The Reasonable Potential Analysis (RPA) compares the effluent data with numeric and narrative WQOs in the Basin Plan and numeric WQC established by the USEPA in the NTR and CTR. The Basin Plan objectives and CTR criteria are shown in Appendix A of this Fact Sheet.

As specified by the USEPA *Combined Sewer Overflow Policy*, wet weather effluent from Discharge Points 001 through 006 and CSO wastes from Discharge Points 009 through 043 do not have reasonable potential to cause or contribute to an excursion above any state water quality standard as long as the Discharger implements and maintains the nine minimum control measures and fully implements its long term control plan (Wet Weather Operations Plan). Therefore, the following methods of determining reasonable potential do not apply to wet weather effluent wastes and CSOs.

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.

1. The first trigger is activated if the maximum effluent concentration (MEC) is greater than the lowest applicable WQO/WQC (MEC $\geq$ WQO/WQC), 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/WQC), and the pollutant is detected in any of the effluent samples (MEC > ND).

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 - available online; see Standard Language and Other References Available Online, below) 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. The Regional Water Board's RPA procedures consider monitoring frequency to determine the body of effluent data (3 or 5 years) to use in an RPA. For analytes that are monitored monthly or more often, 3 years of data are used, and for analytes that are monitored less frequently, 5 years of data are used. For larger dischargers that perform monthly monitoring for toxics, a 3-year dataset more accurately reflects recent treatment performance than a 5-year data set.

Regional Water Board staff analyzed the effluent data and the nature of the Southeast Plant to determine if the discharge has Reasonable Potential. The RPA was based on the effluent monitoring data collected by the Discharger from September 2003 through August 2006 for most inorganic pollutants, and from January 2003 through August 2006 for most organic pollutants. The ammonia data are from January 2005 to September 2007.

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 WQC/WQOs 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 these data from the RMP were 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 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.

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 WQOs/WQC for all pollutants, and monitoring data was not available for others. RPA results are shown below and in Appendix A of this Fact Sheet. The pollutants that exhibit reasonable potential are copper, lead, mercury, silver, zinc, cyanide, dioxin-TEQ, tetrachloroethylene, bis(2-ethylhexyl)phthalate, and tributyltin.

Table F-15. Summary of Reasonable Potential Determination for the Southeast Plant

CTR #	Priority Pollutants	MEC or Minimum DL [a][b] (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL [a][b] (µg/L)	RPA Results[c]
1	Antimony	0.78	4300	1.8	No
2	Arsenic	5.0	36	2.46	No
3	Beryllium	< 0.5	No Criteria	0.215	Ud
4	Cadmium	3.9	9.4	0.13	No
5a	Chromium (III)	5.2	No Criteria	Not Available	Ud
5b	Chromium (VI)	<5.2	50	4.4	No
6	Copper	**16**	4.2	2.55	**Yes**
7	Lead	**15**	8.5	0.80	**Yes**
8	Mercury (303d listed)	**0.026**	0.025	0.0086	**Yes**
9	Nickel	8	13	3.7	No
10	Selenium	1.9	5.0	0.39	No
11	Silver	**5.8**	2.2	0.052	**Yes**
12	Thallium	< 0.5	6.3	0.21	No
13	Zinc	176	86	5.1	**Yes**
14	Cyanide	11	1.0	< 0.4	**Yes**
15	Asbestos	Not Available	No Criteria	Not Available	Ud
16	2,3,7,8-TCDD (303d listed)	3.46E-07	1.4E-08	Not Available	No
	Dioxin TEQ (303d listed)	**4.82E-07**	1.4E-08	7.10E-08	**Yes**
17	Acrolein	< 0.8	780	< 0.5	No
18	Acrylonitrile	< 0.8	0.66	0.03	No
19	Benzene	2	71	< 0.05	No
20	Bromoform	< 0.053	360	< 0.5	No
21	Carbon Tetrachloride	< 0.061	4.4	0.06	No
22	Chlorobenzene	< 0.053	21000	< 0.5	No
23	Chlorodibromomethane	0.35	34	< 0.05	No
24	Chloroethane	< 0.036	No Criteria	< 0.5	Ud
25	2-Chloroethylvinyl ether	< 0.156	No Criteria	< 0.5	Ud
26	Chloroform	10	No Criteria	< 0.5	Ud
27	Dichlorobromomethane	0.94	46	< 0.05	No
28	1,1-Dichloroethane	< 0.135	No Criteria	< 0.05	Ud
29	1,2-Dichloroethane	< 0.067	99	0.04	No
30	1,1-Dichloroethylene	< 0.074	3.2	< 0.5	No
31	1,2-Dichloropropane	< 0.149	39	< 0.05	No

CTR #	Priority Pollutants	MEC or Minimum DL [a][b] (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL [a][b] (µg/L)	RPA Results[c]
32	1,3-Dichloropropylene	< 0.162	1700	Not Available	No
33	Ethylbenzene	< 0.099	29000	< 0.5	No
34	Methyl Bromide	0.17	4000	< 0.5	No
35	Methyl Chloride	1.3	No Criteria	< 0.5	Ud
36	Methylene Chloride	8.1	1600	0.5	No
37	1,1,2,2-Tetrachloroethane	< 0.094	11	< 0.05	No
38	Tetrachloroethylene	**9.3**	8.85	< 0.05	**Yes**
39	Toluene	2.2	200000	< 0.3	No
40	1,2-Trans-Dichloroethylene	< 0.111	140000	< 0.5	No
41	1,1,1-Trichloroethane	0.38	No Criteria	< 0.5	Ud
42	1,1,2-Trichloroethane	< 0.111	42	< 0.05	No
43	Trichloroethylene	0.80	81	< 0.5	No
44	Vinyl Chloride	1.4	525	< 0.5	No
45	2-Chlorophenol	< 1.05	400	< 1.2	No
46	2,4-Dichlorophenol	< 1.2	790	< 1.3	No
47	2,4-Dimethylphenol	< 1.15	2300	< 1.3	No
48	2-Methyl- 4,6-Dinitrophenol	< 1.08	765	< 1.2	No
49	2,4-Dinitrophenol	< 1.48	14000	< 0.7	No
50	2-Nitrophenol	< 0.41	No Criteria	< 1.3	Ud
51	4-Nitrophenol	< 1.96	No Criteria	< 1.6	Ud
52	3-Methyl 4-Chlorophenol	< 0.73	No Criteria	< 1.1	Ud
53	Pentachlorophenol	< 0.64	7.9	< 1.0	No
54	Phenol	< 0.13	4600000	< 1.3	No
55	2,4,6-Trichlorophenol	< 1.62	6.5	< 1.3	No
56	Acenaphthene	< 0.11	2700	0.0015	No
57	Acenaphthylene	< 0.07	No Criteria	0.00053	Ud
58	Anthracene	< 0.01	110000	0.0005	No
59	Benzidine	< 1.49	0.00054	< 0.0015	No
60	Benzo(a)Anthracene	< 0.02	0.049	0.0053	No
61	Benzo(a)Pyrene	< 0.02	0.049	0.00029	No
62	Benzo(b)Fluoranthene	< 0.02	0.049	0.0046	No
63	Benzo(ghi)Perylene	< 0.02	No Criteria	0.0027	Ud
64	Benzo(k)Fluoranthene	< 0.03	0.049	0.0015	No
65	Bis(2-Chloroethoxy)Methane	< 0.81	No Criteria	< 0.3	Ud
66	Bis(2-Chloroethyl)Ether	< 0.81	1.4	< 0.3	No
67	Bis(2-Chloroisopropyl)Ether	< 0.73	170000	Not Available	No
68	Bis(2-Ethylhexyl)Phthalate	**6.8**	5.9	< 0.5	**Yes**
69	4-Bromophenyl Phenyl Ether	< 0.69	No Criteria	< 0.23	Ud
70	Butylbenzyl Phthalate	< 0.26	5200	< 0.52	No
71	2-Chloronaphthalene	< 1	4300	< 0.3	No
72	4-Chlorophenyl Phenyl Ether	< 0.89	No Criteria	< 0.3	Ud
73	Chrysene	< 0.03	0.049	0.0024	No
74	Dibenzo(a,h)Anthracene	< 0.02	0.049	0.00064	No
75	1,2-Dichlorobenzene	**0.9**	17000	< 0.8	No
76	1,3-Dichlorobenzene	< 0.178	2600	< 0.8	No
77	1,4-Dichlorobenzene	**1.2**	2600	< 0.8	No
78	3,3 Dichlorobenzidine	< 0.9	0.077	< 0.001	No
79	Diethyl Phthalate	< 0.44	120000	< 0.24	No
80	Dimethyl Phthalate	< 0.45	2900000	< 0.24	No
81	Di-n-Butyl Phthalate	**0.91**	12000	< 0.5	No
82	2,4-Dinitrotoluene	< 0.58	9.1	< 0.27	No

CTR #	Priority Pollutants	MEC or Minimum DL [a][b] (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL [a][b] (µg/L)	RPA Results[c]
83	2,6-Dinitrotoluene	< 0.56	No Criteria	< 0.29	No
84	Di-n-Octyl Phthalate	< 0.56	No Criteria	< 0.38	No
85	1,2-Diphenylhydrazine	< 0.74	0.54	0.0037	No
86	Fluoranthene	< 0.06	370	0.011	No
87	Fluorene	< 0.03	14000	0.00208	No
88	Hexachlorobenzene	< 0.71	0.00077	0.0000202	No
89	Hexachlorobutadiene	< 0.76	50	< 0.3	No
90	Hexachlorocyclopentadiene	< 0.58	17000	< 0.31	No
91	Hexachloroethane	< 0.74	8.9	< 0.2	No
92	Indeno(1,2,3-cd)Pyrene	< 0.03	0.049	0.004	No
93	Isophorone	< 0.75	600	< 0.3	No
94	Naphthalene	< 0.08	No Criteria	0.0023	Ud
95	Nitrobenzene	< 0.71	1900	< 0.25	No
96	N-Nitrosodimethylamine	< 0.1	8.1	< 0.3	No
97	N-Nitrosodi-n-Propylamine	< 0.84	1.4	< 0.001	No
98	N-Nitrosodiphenylamine	< 0.55	16	< 0.001	No
99	Phenanthrene	< 0.03	No Criteria	0.0061	Ud
100	Pyrene	< 0.06	11000	0.0051	No
101	1,2,4-Trichlorobenzene	< 0.91	No Criteria	< 0.3	Ud
102	Aldrin	< 0.002	0.00014	Not Available	No
103	Alpha-BHC	< 0.001	0.013	0.000496	No
104	beta-BHC	< 0.002	0.046	0.000413	No
105	gamma-BHC	< 0.001	0.063	0.0007034	No
106	delta-BHC	< 0.002	No Criteria	0.000042	Ud
107	Chlordane (303d listed)	< 0.003	0.00059	0.00018	No
108	4,4'-DDT (303d listed)	< 0.006	0.00059	0.000066	No
109	4,4'-DDE (linked to DDT)	< 0.004	0.00059	0.000693	No
110	4,4'-DDD	< 0.006	0.00084	0.000313	No
111	Dieldrin (303d listed)	< 0.002	0.00014	0.000264	No
112	Alpha-Endosulfan	< 0.003	0.0087	0.000031	No
113	beta-Endolsulfan	< 0.002	0.0087	0.000069	No
114	Endosulfan Sulfate	< 0.006	240	0.0000819	No
115	Endrin	< 0.002	0.0023	0.000036	No
116	Endrin Aldehyde	< 0.007	0.81	Not Available	No
117	Heptachlor	< 0.001	0.00021	0.000019	No
118	Heptachlor Epoxide	< 0.001	0.00011	0.00002458	No
119-125	PCBs sum (303d listed)	< 0.01	0.00017	Not Available	No
126	Toxaphene	< 0.035	0.0002	Not Available	No
	Ammonia	**40,000**	1,100	220	**Yes**
	Tributyltin	**0.011**	0.0074	< 0.001	**Yes**
	Total PAHs	Not Available	15	0.26	Ud

[a] 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.

[b] The MEC or maximum background concentration is "Not Available" when there are no monitoring data for the constituent.

[c] RPA Results = Yes, if MEC > WQO/WQC, or B > WQO/WQC and MEC is detected;
= No, if MEC and B are < WQO/WQC or all effluent data are undetected;
= Undetermined (Ud), if no criteria have been promulgated or if there are insufficient 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) [Provision VI.C.2.a of this Order]. Remedial measures are required if the increases pose a threat to water quality in the receiving water.

Order No. R2-2002-073 included final WQBELs for nickel, dieldrin, and 4,4-DDE; however, because the reasonable potential analysis showed that discharges from the Southeast Plant no longer demonstrate a reasonable potential to cause or contribute to exceedances of applicable water quality criteria for nickel, dieldrin, and 4,4-DDE, limitations from the previous Order are not retained and new limitations are not included in this Order for these pollutants.

4. Water Quality Based Effluent Limitation (WQBEL) Calculations

a. Applicable WQC/WQOs for Pollutants with Reasonable Potential

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 WQOs or WQC used for each pollutant with Reasonable Potential and the basis for the WQOs/WQC is indicated in the following table.

Table F-16. Summary of Water Quality Criteria or Objectives for Constituents with Reasonable Potential

CTR #	Pollutant	Water Quality Criterion or Objective (µg/L)			Basis
		Aquatic Life Chronic	Aquatic Life Acute	Human Health	
6	Copper	4.2	5.5	--	Basin Plan and CTR saltwater aquatic life
7	Lead	8.5	221	--	Basin Plan and CTR saltwater aquatic life
8	Mercury	0.025	2.1	0.05	Basin Plan saltwater aquatic life and CTR human health
11	Silver	--	2.2	--	CTR saltwater aquatic life
13	Zinc	86	95	--	Basin Plan (fresh water aquatic life)
14	Cyanide	1.0	1.0	220,000	NTR saltwater aquatic life and

CTR #	Pollutant	Water Quality Criterion or Objective (µg/L)			Basis
		Aquatic Life Chronic	Aquatic Life Acute	Human Health	
					human health
	Dioxin TEQ	--	--	1.4×10^{-8}	Basin Plan narrative (bioaccumulation)
38	Tetrachloroethylene	--	--	8.85	CTR Human Health
68	Bis (2-ethylhexyl) phthalate	--	--	5.9	CTR Human Health
	Ammonia	1,100	12,000		Basin Plan aquatic life
	Tributyltin	0.0074	0.42	--	Basin Plan narrative (toxicity)

b. Dilution Credit

The SIP provides the basis for any dilution credit. Based on a review of RMP data from local and Central Bay stations, there is variability in the receiving water, and the hydrology of the receiving water is itself very complex. Thus 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 most nonbioaccumulative priority pollutants, and a zero dilution credit for many bioaccumulative priority pollutants are necessary for protection of beneficial uses. The detailed bases for the assignment of dilution credits for the different types of pollutants are explained below.

(i) For certain bioaccumulative pollutants dilution credits are not included in calculating the final WQBELs. This decision is based on the 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. USEPA added dioxin and furan compounds, chlordane, dieldrin, and 4,4'-DDT to the list. The reasoning for these decisions is based on the following factors that suggest there is no more assimilative capacity in the Bay for these pollutants.

Samples of tissue taken from fish in the San Francisco Bay show the presence of these pollutants at concentrations greater than screening levels (*Contaminant Concentrations in Fish from San Francisco Bay*, May 1997). The Office of Environmental Health and Hazard Assessment (OEHHA) also completed a preliminary review of data in the 1994 San Francisco Bay pilot study, *Contaminated Levels in Fish Tissue from San Francisco Bay*. The results of this study also showed elevated levels of chemical contaminants in fish tissues. In December 1994 OEHHA subsequently issued an interim consumption advisory covering certain fish species in the Bay. This advisory is still in effect for exposure to sport fish that are found to be contaminated with mercury, dioxins, and pesticides (e.g., DDT).

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 are appropriate. The Regional Water Board finds that mass-loading limits are warranted for mercury in the receiving waters of this Discharger during dry weather. This is to ensure that this Discharger does not contribute further to impairment of the narrative objective for bioaccumulation.

(ii) For most non-bioaccumulative constituents, a conservative allowance of 10:1 dilution for discharges to the Bay has been assigned for protection of beneficial uses. The basis for using 10:1 is that it was granted in the previous Order. Moreover, this 10:1 dilution ratio also follows Basin Plan Prohibition Number 1 in Table 4-1, which prohibits discharges with less than 10:1 dilution. The dilution credit is also based on SIP provisions, Section 1.4.2, that consider the following:

(a) 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 have 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 water from this station is representative of water that will mix with the discharge from this Discharger. Although this station is located near the Golden Gate, it represents the typical water flushing in and out of the Bay each tidal cycle and represents the receiving water that will mix with the discharge.

(b) 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.

(c) The SIP allows a limited mixing zone and dilution credit for persistent pollutants. 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 at section 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.

(iii) For ammonia, a non-persistent pollutant, estimated actual initial dilution levels have been used to calculate the effluent limit. This is justified because ammonia would be quickly dispersed and degraded to a non-toxic state very rapidly. A draft study, *Dilution Model for the San Francisco Southeast Treatment Plant Bay Outfall (Pier 80)* to determine the actual dilution was performed by the Discharger and submitted to the Regional Water Board on October 1, 2007. Dilution factors were calculated using the Visual Plumes (Version 1.0, released in August 2001) UM3 model.

The discharge is pumped to an outfall 810 feet east of Pier 80 through an effluent diffuser submerged 42 to 44 feet below mean lower low water. Pier 80 is immediately north of Islais Creek channel. Using the average discharge flow of 68 MGD, a 1-hour acute dilution factor of 47 was calculated for ammonia and the 1-year chronic dilution factor of 286 was also calculated. A more conservative dilution factor of 36 was calculated assuming a maximum flow of 110 MGD. For determining the water quality based effluent limit (maximum daily and average monthly), the lowest dilution factor of 36 was used.

(iv) For cyanide, another non-persistent pollutant that quickly disperses and degrades like ammonia, the draft study, *Dilution Model for the San Francisco Southeast Treatment Plant Bay Outfall (Pier 80)* determined a dilution factor of 36 to calculate the water quality based effluent limits.

The background documentation for the proposed cyanide site-specific objectives included an antidegradation analysis, which concluded that certain effluent limitations resulting from implementation of the site-specific objectives (assuming 10:1 dilution) would not degrade water quality. The dilution credit used here results in effluent limits lower than those identified in the site-specific objectives documents for this Discharger; therefore, these cyanide limits also comply with antidegradation policies. Consistent with the site-specific objective conclusion on antidegradation, to further ensure that water quality is not degraded, this Order requires a cyanide action plan similar to that proposed with the site-specific objective.

c. Development of Effluent Limitations for Specific Pollutants

(1) Copper

i. *Copper WQC*. The salt water acute and chronic criteria from the Basin Plan and the CTR for copper for protection of aquatic life are 5.5 and 4.2 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 chronic protection and 5.5 µg/L for acute protection, which were used to perform the RPA.

ii. *RPA Results*. This Order establishes effluent limitations for copper, as the maximum observed effluent concentration of 6 µg/L exceeds the applicable water quality criteria for this pollutant, demonstrating reasonable potential by Trigger 1, as defined previously.

iii. *Copper WQBELs*. WQBELs are calculated based on water quality criteria of the CTR and the Basin Plan. Both sets of 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 (2004). The following table shows the effluent limitations for copper calculated according to SIP procedures (using a coefficient of variation of 0.26). The newly calculated limitations are based on a minimum initial dilution of 10 to 1.

Table F-17. Effluent Limitations for Copper

Effluent Limitations for Copper		
	AMEL	**MDEL**
Based on CTR Criteria	71 µg/L	100 µg/L

iv. *Immediate Compliance Feasible*. Statistical analysis of effluent data for copper, collected over the period of September 2003 through August 2006, shows that the 95th percentile (12 µg/L) is less than the AMEL (71 µg/L); the 99th percentile (14 µg/L) is less than the MDEL (100 µg/L); and the mean (8.0 µg/L) is less than the long term average of the projected lognormal distribution of the effluent data set after accounting for effluent variability (58 µg/L). The Regional Water Board concludes, therefore, that immediate compliance with final effluent limitations for copper is feasible, and final effluent limitations will become effective upon adoption of the Order.

v. *Alternate Limitations for Copper*. As described in the Clean Estuary Partnership's *North of Dumbarton Bridge Copper and Nickel Site-Specific Objective Determination* (December 2004), the Regional Water Board is proposing to develop site-specific criteria for copper in non-ocean, marine waters of the Region. Proposed site-specific objectives for copper are 2.5 and 3.9 µg/L as 4-day and 1-hour average criteria, respectively. If these site-specific objectives for copper are adopted, final effluent limitations, calculated according to Section 1.4 of the SIP, using a WER of 2.4, would be 53 µg/L (AMEL) and 76 µg/L (MDEL). If these site-specific objectives for copper are adopted, the alternate effluent limits will become effective upon the adoption date, so long as the site-specific objectives and their current justification remain unchanged. With these new alternative limits immediate compliance would still be feasible because the maximum concentration in the effluent was 16 µg/L.

vi. *Anti-backsliding/Antidegradation*. Antibacksliding and antidegradation requirements are satisfied as the previous Order did not include final effluent limitations for copper. See Section III.C.7 of this Fact Sheet for a discussion on how these limits comply with antidegradation policies.

(2) Lead

i. *Lead WQC*. The salt water acute and chronic criteria from the Basin Plan and the CTR for lead for protection of aquatic life are 221 µg/L and 8.5 µg/L, respectively.

ii. *RPA Results*. This Order establishes effluent limitations for lead, as the maximum observed effluent concentration of 14.7 µg/L exceeds the applicable chronic criterion for this pollutant, demonstrating reasonable potential by Trigger 1, as defined previously.

iii. *Lead WQBELs*. The following table compares final effluent limitations for lead from the expiring Order (Order No. R2-2002-073) with limitations calculated according to SIP procedures (using a coefficient of variation of 1.01 and assuming a minimum initial dilution of 10:1).

Table F-18. Effluent Limitations for Lead

Effluent Limitations for Lead		
	AMEL	**MDEL**
Order No. R2-2002-073	36 µg/L	89 µg/L
Based on CTR Criteria	56 µg/L	140 µg/L

Because limitations of the previous Order were final limitations, and those limitations are more stringent than the newly calculated limits for lead, final effluent limitations for lead from the expiring Order are retained in the Order.

iv. *Immediate Compliance Feasible*. Effluent data showed the maximum effluent concentration (MEC) of 15 µg/L to be below the limits set in the

previous Order [the AMEL (36 µg/L) and the MDEL (89 µg/L)]. Based on this comparison, the Regional Water Board concludes that the Discharger can comply with the effluent limits for lead.

v *Anti-backsliding/Antidegradation*. Antibacksliding and antidegradation requirements are satisfied as final effluent limitations for lead are retained from the previous Order.

(3) Mercury

i. *Mercury WQC*. The most stringent applicable water quality criteria for mercury are established by the Basin Plan for protection of salt water aquatic life – 2.1 µg/L and 0.025 µg/L, acute and chronic criteria respectively. The CTR also has a human health criterion of 0.051 µg/L.

ii. *RPA Results*. This Order establishes effluent limitations for mercury, as the maximum observed effluent concentration of 0.026 µg/L exceeds the applicable chronic criterion for this pollutant, demonstrating reasonable potential by Trigger 1, as defined previously.

iii. *Mercury WQBELs*. Final WQBELs for mercury, calculated according to SIP procedures, with a coefficient of variation of 0.49, are 0.021 µg/L and 0.039 µg/L for the AMEL and MDEL, respectively. Because San Francisco Bay is impaired by mercury bioaccumulation, final effluent limitations are calculated without credit for dilution.

iv. *Immediate Compliance Feasible*. Statistical analysis of effluent data for mercury, collected over the period of September 2003 through August 2006, shows that the 95th percentile (0.020 µg/L) is less than the AMEL (0.021 µg/L); the 99th percentile (0.023 µg/L) is less than the MDEL (0.039 µg/L); and the mean (0.011 µg/L) is less than the long term average of the projected lognormal distribution of the effluent data set after accounting for effluent variability (0.015 µg/L). Thus it is feasible for the Discharger to comply with the WQBELs.

v. *Anti-backsliding/Antidegradation*. Antibacksliding and antidegradation requirements are satisfied as the previous Order did not include final effluent limitations for mercury.

vi. TMDL and Watershed Permit for Mercury. On November 1, 2007, the Regional Water Board adopted Order No. R2-2007-0077 (Watershed permit) implementing the San Francisco Bay Mercury total maximum daily load (TMDL) waste load allocations and other provisions. The TMDL has been adopted by both the San Francisco Regional Water Board and the State Water Board. USEPA must approve the TMDL before the watershed permit is legally effective. The Watershed permit will supersede all mercury requirements in this Order, including the effluent limits described above.

(4) Silver

i. *Silver WQC*. The salt water acute criterion from the Basin Plan and the CTR for silver for protection of aquatic life is 2.2 µg/L.

ii. *RPA Results*. This Order establishes effluent limitations for silver, as the maximum observed effluent concentration of 5.81 µg/L exceeds the applicable acute criterion for this pollutant, demonstrating reasonable potential by Trigger 1, as defined previously.

iii. *Silver WQBELs*. The following table compares final effluent limitations for silver from the expiring Order (Order No. R2-2002-073) with limitations calculated according to SIP procedures (using a coefficient of variation of 2.58 and a dilution ratio of 10:1).

Table F-19. Effluent Limitations for Silver

Effluent Limitations for Silver		
	AMEL	**MDEL**
Order No. R2-2002-073	12 µg/L	22 µg/L
Based on CTR Criteria	7 µg/L	22 µg/L

Because the newly calculated limitations are equal to or more stringent than the final limitations in the previous Order, the newly calculated limits are established by this Order.

iv. *Immediate Compliance Feasible*. Statistical analysis of effluent data for silver, collected over the period of September 2003 through August 2006, shows that the 95th percentile (0.74 µg/L) is less than the AMEL (7 µg/L); the 99th percentile (1.7 µg/l) is less than the MDEL (22 µg/L); and the mean (0.27 µg/L) is less than the long term average of the projected lognormal distribution of the effluent data set after accounting for effluent variability (2.2 µg/L). The Regional Water Board concludes, therefore, that immediate compliance with final effluent limitations for silver is feasible, and final effluent limitations will become effective upon adoption of the Order.

v. *Anti-backsliding/Antidegradation*. Antibacksliding and antidegradation requirements are satisfied as the newly calculated limits are equal to or more stringent than those in the previous Order.

(5) Zinc

i. *Zinc WQC*. The salt water acute and chronic criteria from the Basin Plan and the CTR for zinc for protection of aquatic life are 95 µg/L and 86 µg/L, respectively.

ii. *RPA Results*. This Order establishes effluent limitations for zinc, as the maximum observed effluent concentration of 76 µg/L exceeds the

applicable chronic criterion for this pollutant, demonstrating reasonable potential by Trigger 1, as defined previously.

iii. *Zinc WQBELs*. The following table compares final effluent limitations for zinc from the expiring Order (Order No. R2-2002-073) with limitations calculated according to SIP procedures (using a coefficient of variation of 0.51 and a dilution ration of 10:1).

Table F-20. Effluent Limitations for Zinc

Effluent Limitations for Zinc		
	AMEL	**MDEL**
Order No. R2-2002-073	490 µg/L	720 µg/L
Based on CTR Criteria	490 µg/L	910 µg/L

Because limitations of the previous Order were final limitations, and those limitations are equal to or more stringent than the newly calculated limits for zinc, final effluent limitations for zinc from the expiring Order are retained in the Order.

iv. *Immediate Compliance Feasible*. Effluent data showed the maximum effluent concentration (MEC) of 176 µg/L to be below the limits set in the previous Order [the AMEL (490 µg/L) and the MDEL (720 µg/L)]. Based on this comparison, the Regional Water Board concludes that the Discharger can comply with the effluent limits for zinc.

v. *Anti-backsliding/Antidegradation*. Antibacksliding and antidegradation requirements are satisfied as the final effluent limitations for zinc are retained from the previous Order.

(6) Cyanide

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

ii. *RPA Results*. This Order establishes effluent limitations for cyanide as the MEC of 11 µg/L exceeds the governing WQC of 1.0 µg/L, demonstrating reasonable potential by Trigger 1, as defined previously.

iii. *Cyanide WQBELs*. Final WQBELs for cyanide, calculated according to SIP procedures, are 15 µg/L and 31 µg/L, the AMEL and MDEL, respectively. These were calculated using a dilution ratio of 36:1 and a CV of 0.65

iv. *Immediate Compliance Feasible*. The Discharger can immediately comply with final WQBELs for cyanide. Statistical analysis of effluent data for cyanide, collected over the period of September 2003 through August

2006, show that the 95th percentile (4.4 µg/L) is less than the AMEL (15 µg/L); the 99th percentile (7.9 µg/L) is less than the MDEL (31 µg/L).

v. Alternative Limit for Cyanide. As described in Regional Water Board Resolution R2-2006-0086, site-specific criteria for cyanide, the proposed site-specific criteria for marine waters are 2.9 µg/L as a 4-day average, and 9.4 µg/L as a 1-hour average. Based on these assumptions, final WQBELs for cyanide will be 20 µg/L and 43 µg/L, the AMEL and MDEL, respectively. Since the maximum effluent concentration for cyanide is 11 µg/L, immediate compliance with these limits is feasible.

vi. *Anti-backsliding/Antidegradation*. Antibacksliding and antidegradation requirements are satisfied, as the previous Order did not include final effluent limitations for cyanide. See Section III.C.7 of this Fact Sheet for a discussion on how these limits comply with antidegradation policies.

(7) Dioxin - TEQ

i. *WQC*. The Basin Plan narrative WQO for bioaccumulative substances states:

> *Many pollutants can accumulate on particulates, in sediments, or bioaccumulate in fish and other aquatic organisms. Controllable 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.*

Because it is the consensus of the scientific community that dioxins and furans associate with particulates, accumulate in sediments, and bioaccumulate in the fatty tissue of fish and other organisms, the Basin Plan's narrative water quality objective regarding bioaccumulation is applicable to these pollutants. Elevated levels of dioxins and furans in fish tissue in San Francisco Bay demonstrate that the narrative water quality objective is not being met, and therefore, USEPA has included Central San Francisco Bay as impaired by dioxin and furan compounds in the current 303 (d) listing - those receiving waters where water quality objectives are not being met after imposition of applicable technology-based requirements.

The CTR establishes a numeric water quality objective for 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD) of 1.4×10^{-8} µg/L for the protection of human health, when aquatic organisms are consumed. When the CTR was promulgated, USEPA stated its support of the regulation of other dioxin and dioxin-like compounds through the use of toxicity equivalencies (TEQs) in NPDES permits. For California waters, USEPA stated specifically, "if the discharge of dioxin or dioxin-like compounds has reasonable potential to cause or contribute to a violation of a narrative criterion, numeric water quality-based effluent limitations for

dioxin or dioxin-like compounds should be included in NPDES permits and should be expressed using a TEQ scheme" [65 Fed. Reg. 31682, 31695 (2000)]. This procedure, developed by the World Health Organization (WHO) in 1998, uses a set of toxicity equivalency factors (TEFs) to convert the concentration of any congener of dioxin or furan into an equivalent concentration of 2,3,7,8-TCDD. When the CTR was promulgated, USEPA also stated that the Agency will continue to assess the risks posed by dioxin to public health and the water quality criteria for dioxin that it had promulgated.

To determine if the discharge of dioxin or dioxin-like compounds from the Southeast Plant has reasonable potential to cause or contribute to a violation of the Basin Plan's narrative water quality objective regarding bioaccumulation, Regional Water Board staff has therefore used TEFs to express the measured concentrations of 16 dioxin congeners in effluent and background samples as 2,3,7,8-TCDD. These "equivalent" concentrations are then compared to the numeric criterion, established by the CTR for 2,3,7,8-TCDD of 1.4×10^{-8} µg/L. Although the 1998 WHO scheme includes TEFs for dioxin-like PCBs, dioxin-like PCBs are not included in this Order's version of the TEF procedure, as these pollutants are included in the analysis of total PCBs, for which the CTR has established a specific water quality standard.

ii. *RPA Results*. This Order establishes effluent limitations for dioxin-TEQ because the MEC of 4.8×10^{-7} µg/L exceeds the numeric criterion established by the CTR for 2,3,7,8-TCDD of 1.4×10^{-8} µg/L, demonstrating reasonable potential by Trigger 1, as defined previously. The maximum observed ambient background concentration of dioxin-TEQ in the Bay (7.1×10^{-8} µg/L) also exceeds the numeric criterion established by the CTR for 2,3,7,8-TCDD.

iii. WQBEL. The WQBEL for dioxin-TEQ implements the Basin Plan's narrative bioaccumulation objective. WQBELs are expressed in terms of mass discharge as required by 40CFR122.45(f)(1), derived from concentrations limits using SIP protocols as guidance and this dataset's coefficient of variation of 2.88. Mass discharge limits for dioxin-TEQ are more appropriate because dioxin-TEQ pollutants are bioaccumulative and bioaccumulation is a long-term process that is little affected by daily concentration fluctuations in the discharge. Because dioxin-TEQ pollutants are bioaccumulative and the Bay is listed as impaired, credit for dilution is not granted when calculating limits.

The design capacity of the plant, 84.5 million gallons per day (MGD), was used to calculate an annual mass limit of 1.6 mg (equivalent to 0.13 mg/month) based on a calculated concentration WQBEL of 1.4×10^{-8} µg/L.

Since the discharge is sporadic throughout the year and dependent on precipitation events, maximum loadings cannot be determined. Only an

average annual discharge can be estimated based on flow rates and calculated allowable loadings.

iv. *Immediate Compliance Infeasible*. The Discharger's Feasibility Study asserts that the Discharger cannot immediately comply with the WQBEL for dioxin-TEQ. Although analytical method detection limits are higher than calculated effluent limits for dioxin congeners, the effluent data collected over the period of September 2003 through August 2006 show that the concentrations in the effluent exceed the translated water quality objective (1.4×10^{-8} µg/L). Furthermore the Discharger's Dioxins Feasibility Assessment shows, for dry weather discharges, an annual mass loading of 2.5 mg. This converts to an average mass load of 0.21 mg/month that exceeds the limit of 0.13 mg/month. The Regional Water Board concludes, therefore, that immediate compliance with final effluent limitations for dioxin-TEQ is infeasible.

v. *Anti-backsliding/Antidegradation*. Antibacksliding and antidegradation requirements are satisfied, as the previous Order did not include a final effluent limitation for dioxin-TEQ.

(8) Tetrachloroethylene

i. *Tetrachloroethylene WQC*. The most stringent applicable water quality criterion for tetrachloroethylene is 8.9 µg/L, established by the CTR for protection of human health, when organisms are consumed from the receiving water.

ii. *RPA Results*. This Order establishes effluent limitations for tetrachloroethylene because the MEC of 9.3 µg/L exceeds the governing WQC of 8.9 µg/L, demonstrating reasonable potential by Trigger 1, as defined previously.

iii. *Tetrachloroethylene WQBELs*. Final WQBELs for tetrachloroethylene, calculated according to SIP procedures, and based on a CV of 1.36 and a 10:1 dilution, are 88 µg/L and 250 µg/L for the AMEL and MDEL, respectively.

iv. *Immediate Compliance Feasible*. Statistical analysis of effluent data for tetrachloroethylene, collected over the period of August 2003 through August 2006, shows that the 95th percentile (6.1 µg/L) is less than the AMEL (88 µg/L) and the 99th percentile (13 µg/L) is less than the MDEL (247 µg/L). The Regional Water Board concludes, therefore, that immediate compliance with final effluent limitations for tetrachloroethylene is feasible, and final effluent limitations will become effective upon adoption of the Order.

v. *Anti-backsliding/Antidegradation*. Antibacksliding and antidegradation requirements are satisfied, as the previous Order did not establish effluent limitations for tetrachloroethylene.

(9) Bis(2-ethylhexyl)phthalate

i. *WQC*. The most stringent applicable water quality criterion for bis(2-ethylhexyl)phthalate is 5.9 µg/L, established by the CTR for protection of human health, when organisms are consumed from the receiving water.

ii. *RPA Results*. This Order establishes effluent limitations for bis(2-ethylhexyl)phthalate because the MEC of 6.8 µg/L exceeds the governing WQC of 5.9 µg/L, demonstrating reasonable potential by Trigger 1, as defined previously.

iii. *WQBELs*. Final WQBELs for bis(2-ethylhexyl)phthalate, calculated according to SIP procedures, are 55 µg/L and 120 µg/L for the AMEL and MDEL, respectively. These limitations are based on a minimum initial dilution of 10 to 1 and a default CV of 0.60.

iv. *Immediate Compliance Feasible*. With insufficient effluent data to determine the distribution of the effluent data set or to calculate a mean and standard deviation, feasibility to comply with final effluent limitations is determined by comparing the MEC (6.8 µg/L) to the AMEL (55 µg/L) and the MDEL (110 µg/L). Based on this comparison, the Regional Water Board concludes that the Discharger can comply with final WQBELs for bis(2-ethylhexyl)phthalate.

v. *Anti-backsliding/Antidegradation*. Anti-backsliding and antidegradation requirements are satisfied, as the previous Order did not establish effluent limitations for bis(2-ethylhexyl)phthalate.

10) Ammonia

i. *WQC*. The Basin Plan contains WQOs for un-ionized ammonia (ammonia) of 0.025 mg/L as annual median, 0.16 mg/L as a maximum north of the Golden Gate Channel, and 0.4 mg/L as a maximum south of the Golden Gate Channel. This permit assumes a translation of ammonia to total ammonia concentrations as nitrogen because there are no sampling and laboratory analytical methods that will measure only ammonia. Because the fraction of ammonia in total ammonia depends on pH, salinity, and temperature the equivalent total ammonia concentrations that are protective of beneficial uses will vary throughout the Bay. Therefore the Regional Water Board used the closest Regional Monitoring Program (RMP) station to the outfall to determine the percentage of total ammonia in a discharge that will be converted to toxic ammonia in the receiving water.

To convert the chronic ammonia WQO to an equivalent total ammonia concentration, the median ammonia fraction is used. To convert the acute ammonia WQO to an equivalent total ammonia concentration, the 90th percentile ammonia fraction is used.

At Alameda, the closest Regional Monitoring Program station for receiving water, the observed maximum total ammonia concentration (as N) that includes both ammonia and the ammonium ion is 0.22 mg/L. The observed median concentration at this station was 0.11 mg/L. The WQO for ammonia has been calculated at 1.10 mg/L for chronic toxic effects and 11.55 mg/L for acute toxic effects.

ii. *RPA Results*. This Order establishes effluent limitations for ammonia because the MEC of 40 mg/L exceeds the governing WQC of 1.1 mg/L, demonstrating reasonable potential by Trigger 1, as defined previously.

iii. *WQBELs*. WQBELs for ammonia, calculated according to SIP procedures, are 190 mg/L and 290 mg/L, the AMEL and MDEL, respectively. These limitations are based on a dilution ratios of 51:1 (acute) and 231:1 (chronic) and and a CV of 6.6.

iv. *Immediate Compliance Feasible*. Statistical analysis of effluent data for ammonia collected over the period of January 2005 through September 2007, show that the 95th percentile (36.4 mg/L) is less than the AMEL (190 mg/L); the 99th percentile (38.6 mg/L) is less than the MDEL (290 mg/L). The Regional Water Board concludes, therefore, that immediate compliance with final effluent limitations for ammonia is feasible.

v. *Anti-backsliding/Antidegradation*. Anti-backsliding and antidegradation requirements are satisfied, as the previous Order did not establish effluent limitations for ammonia.

(11) Tributyltin

i. *WQC*. The Basin Plan contains a narrative WQO for toxicity: "All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms." This narrative WQO applies to tributyltin because it is a highly toxic biocide that is a problem in the aquatic environment. USEPA has developed water quality criteria (for freshwater and saltwater) for tributyltin through its authority under Section 304(a) of the Clean Water Act [*Ambient Aquatic Life Water Quality Criteria for Tributyltin (TBT) – Final* EPA-822-031 December 2003]. The Regional Water Board used these criteria to translate the narrative objective for purposes of completing the RPA and calculating numeric limits. The narrative toxicity objective is thereby expressed as 0.0074 µg/L for chronic toxic effects and 0.042 µg/L for acute toxic effects.

ii. *RPA Results*. This Order establishes effluent limitations for tributyltin because the MEC of 0.011 µg/L exceeds the WQC of 0.0074 µg/L, demonstrating reasonable potential by Trigger 1, as defined previously.

iii. *WQBELs*. Final WQBELs for tributyltin, calculated according to SIP procedures, are 0.032 µg/L and 0.065 µg/L for the AMEL and MDEL, respectively. These limitations are based on a minimum initial dilution of 10 to 1 and a default CV of 0.60.

iv. *Immediate Compliance Feasible*. With insufficient effluent data to determine the distribution of the effluent data set or to calculate a mean and standard deviation, feasibility to comply with final effluent limitations is determined by comparing the MEC (0.011 µg/L) to the AMEL (0.053 µg/L) and the MDEL (0.11 µg/L). Based on this comparison, the Regional Water Board concludes that the the Discharger can comply with final WQBELs for tributyltin.

v. *Anti-backsliding/Antidegradation*. Anti-backsliding and antidegradation requirements are satisfied, as the previous Order did not establish final effluent limitations for tributyltin.

e. Final Effluent Limitation Calculations

The following table summarizes the WQBELs calculated for each toxic and priority pollutant determined to have reasonable potential to cause or contribute to exceedances of the WQOs or WQC.

Table F-21. Effluent Limit Calculations

PRIORITY POLLUTANTS	Copper		Lead	Mercury	Silver	Zinc
Units	µg/L		µg/L	µg/L	µg/L	µg/L
Basis and Criteria type	BP & CTR SW Aquatic Life	Alternate limits using SSO)	BP & CTR SW Aquatic Life	BP SW Aq Life	CTR SW Aquatic Life	CTR SW Aq Life
CTR Criteria -Acute	5.5	-----	221	2.1	2.2	95
CTR Criteria -Chronic	4.2	-----	8.5	0.025	-----	86
SSO Criteria -Acute (December 2004) (Diss.)		3.9				
SSO Criteria -Chronic (December 2004) (Diss.)		2.5				
Water Effects ratio (WER)	2.4	2.4	1	1	1	1
Lowest WQO	4.2		8.5	0.025	2.2	86
Site Specific Translator - MDEL	0.88	0.88				
Site Specific Translator - AMEL	0.74	0.74				
Dilution Factor (D) (if applicable)	9	9	9	0	9	9
No. of samples per month	4	4	4	4	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y	Y	Y	Y	Y
HH criteria analysis required? (Y/N)	N	N	N	Y	N	N
Applicable Acute WQO	13.09	10.64	221	2.1	2.2	95.1
Applicable Chronic WQO	10.05	8.11	8.52	0.025		85.6
HH criteria	-----	-----	-----	0.05	-----	-----
Background (Maximum Conc for Aquatic Life calc)	2.55	2.55	0.80	0.0086	0.052	5.1
Background (Average Conc for Human Health calc)	-----	-----	-----	0.0022	-----	-----
Is the pollutant Bioaccumulative(Y/N)? (e.g., Hg)	N	N	N	Y	N	N
ECA acute	108.0	83.4	2201	2.1	21.9	905.5
ECA chronic	77.6	58.1	77.9	0.025	No Chr. WQO	810.34
ECA HH				0.05		
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	N	N	N	N	N
Avg of effluent data points	7.96	7.96	1.96	0.011	0.27	37
Std Dev of effluent data points	2.05	2.05	1.99	0.0054	0.69	19
CV calculated	0.26	0.26	1.01	0.49	2.58	0.51
CV (Selected) - Final	0.26	0.26	1.01	0.49	2.58	0.51
ECA acute mult99	0.57	0.57	0.202	0.376	0.10	0.366
ECA chronic mult99	0.75	0.75	0.369	0.585	0.16	0.575
LTA acute	61.80	47.75	444.247	0.790	2	331.314
LTA chronic	58.04	43.48	28.78	0.015		465.67
minimum of LTAs	58.04	43.48	28.78	0.015	2.19	331
AMEL mult95	1.2	1.2	2.0	1.5	3.1	1.5
MDEL mult99	1.8	1.8	5.0	2.7	10	2.7
AMEL (aq life)	71	53	56	0.02	6.8	490
MDEL(aq life)	100	76	140	0.04	22	910
MDEL/AMEL Multiplier	1.43	1.43	2.53	1.83	3.20	1.86
AMEL (human hlth)				0.051		
MDEL (human hlth)				0.094		
minimum of AMEL for Aq. life vs HH	71	53	56	0.021	7	490
minimum of MDEL for Aq. Life vs HH	100	76	143	0.039	22	910
Current limit in permit (30-day average)	------	------	36	0.087 (interim)	12	490
Current limit in permit (daily maximum)	37 (interim)	37 (interim)	89	-------	22	720
Final limit - AMEL	71	53	36	0.021	7	490
Final limit - MDEL	100	76	89	0.039	22	720
Max Effl Conc (MEC)	16	16	15	0.026	5.8	180

Table F-21. Effluent Limit Calculations (Continued)

PRIORITY POLLUTANTS	Cyanide		Dioxin TEQ	Tetrachloro ethylene	Bis(2-Ethylhexyl) Phthalate	Tributyltin
Units	µg/L		µg/L	µg/l	µg/l	µg/l
Basis and Criteria type	NTR Criterion for the Bay	Alternate Limits Using Proposed SSOs	CTR HH	CTR HH	CTR HH	BP SW Aq Life
CTR Criteria -Acute	1.0	9.4	-----	-----	-----	0.42
CTR Criteria -Chronic	1.0	2.9	-----	-----	-----	0.0074
SSO Criteria -Acute (December 2004) (Diss.)						
SSO Criteria -Chronic (December 2004) (Diss.)						
Water Effects ratio (WER)	1	1	1	1	1	1
Lowest WQO	1.0	1.0	1.4E-08	8.9	5.9	0.007
Site Specific Translator - MDEL						
Site Specific Translator - AMEL						
Dilution Factor (D) (if applicable)	50	9	0	9	9	9
No. of samples per month	4	4	4	4	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y	N	N	N	Y
HH criteria analysis required? (Y/N)	Y	Y	Y	Y	Y	N
Applicable Acute WQO	1	9.4				0.42
Applicable Chronic WQO	1	2.9				0.007
HH criteria	220,000	220,000	1.40E-08	8.85	5.9	
Background (Maximum Conc for Aquatic Life calc)	0.4	0.4	7.10E-08	0.05	0.5	0.001
Background (Average Conc for Human Health calc)	0.4	0.4	5.00E-08	0.05	0.5	
Is the pollutant Bioaccumulative(Y/N)? (e.g., Hg)	N	N	Y	N	N	N
ECA acute	31	90.4				4.19
ECA chronic	31	25.4				0.065
ECA HH	1.1E+07	2.2E+6	1.40E-08	88.05	54.5	
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	N	N	N	N	Y
Avg of effluent data points	2.43	2.43	3.9E-08	1.8	2.15	
Std Dev of effluent data points	1.57	1.57	1.1E-07	2.4	1.66	
CV calculated	0.65	0.65	2.88	1.36	0.77	N/A
CV (Selected) - Final	0.65	0.65	2.88	1.36	0.77	0.60
ECA acute mult99	0.30	0.30				0.321
ECA chronic mult99	0.50	0.50				0.527
LTA acute	9.33	27.20				1.346
LTA chronic	15.64	12.81				0.03428
minimum of LTAs	9.33	13				0.03428
AMEL mult95	1.60	1.60	3.3	2.3	1.7	1.6
MDEL mult99	3.3	3.3	10.6	6.4	3.9	3.1
AMEL (aq life)	14.91	20				0.05
MDEL(aq life)	31	43				0.11
MDEL/AMEL Multiplier	2.1	2.1	3.2	2.8	2.3	2.0
AMEL (human hlth)	1.1E+07	2.2E6	1.4E-08	88	55	
MDEL (human hlth)	2.3E+07	4.6E6	4.5E-08	250	120	
minimum of AMEL for Aq. life vs HH	15	20	1.4E-08	88	54.5	0.053
minimum of MDEL for Aq. Life vs HH	31	43	4.5E-08	250	120	0.11
Current limit in permit (30-day average)	-----	-----	------	------	------	------
Current limit in permit (daily maximum)	------	------	------	------	-------	------
Final limit - AMEL	15	20	1.4E-08	88	55	0.05
Final limit - MDEL	31	43	4.5E-08	250	120	0.11
Max Effl Conc (MEC)	11	11	4.8E-07	9.3	6.8	0.011

Table F-21. Effluent Limit Calculations (Continued)

PRIORITY POLLUTANTS	Total Ammonia, acute	Total Ammonia, chronic
Units	mg/L	mg/L
Basis and Criteria type	BP SW Aq Life	BP SW Aq Life
CTR Criteria -Acute	11.55	
CTR Criteria -Chronic		1.10
SSO Criteria -Acute (December 2004) (Diss.)		
SSO Criteria -Chronic (December 2004) (Diss.)		
Water Effects ratio (WER)	1	1
Lowest WQO	11.55	1.10
Site Specific Translator - MDEL		
Site Specific Translator - AMEL		
Dilution Factor (D) (if applicable)	50	230
No. of samples per month	4	30
Aquatic life criteria analysis required? (Y/N)	Y	Y
HH criteria analysis required? (Y/N)	N	N
Applicable Acute WQO	11.55	
Applicable Chronic WQO		1.10
HH criteria		
Background (Maximum Conc for Aquatic Life calc)	0.22	0.11
Background (Average Conc for Human Health calc)		
Is the pollutant Bioaccumulative(Y/N)? (e.g., Hg)	N	N
ECA acute	578	
ECA chronic		229
ECA HH		
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	Y	Y
Avg of effluent data points	29	29
Std Dev of effluent data points	6.9	6.9
CV calculated	0.23	0.23
CV (Selected) - Final	0.23	0.23
ECA acute mult99	0.61	
ECA chronic mult99		0.77
LTA acute	350	
LTA chronic		176
minimum of LTAs	350	176
AMEL mult95	1.2	1.07
MDEL mult99	1.65	1.65
AMEL (aq life)	420	188
MDEL(aq life)	578	290
MDEL/AMEL Multiplier	1.38	1.54
AMEL (human hlth)		
MDEL (human hlth)		
minimum of AMEL for Aq. life vs HH	420	190
minimum of MDEL for Aq. Life vs HH	58	290
Current limit in permit (30-day average)	--	--
Current limit in permit (daily maximum)	--	--
Final limit - AMEL	420	190
Final limit - MDEL	580	290
Max Effl Conc (MEC)	40	40

5. Chlorine

The instantaneous maximum limitation for chlorine of 0.0 mg/L is being retained by this Order. This limitation is required by the Basin Plan (Table 4-2).

6. Whole Effluent Acute Toxicity

a. *Permit Requirements.* This Order includes effluent limits for discharge during dry weather from the Southeast Plant for whole-effluent acute toxicity that are unchanged from the previous Order and are based on the Basin Plan Section 4.5.5. All bioassays shall be performed according to the USEPA approved method in 40 CFR Part 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. The previous Order required the Discharger to use the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 3rd Edition" from permit adoption until June 30, 2003 using 3-spined sticklebacks. From July 1, 2003 to permit expiration, the Discharger was required to use the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 4rd Edition" using fathead minnows or rainbow trout.

b. *Compliance History.* The Discharger's acute toxicity monitoring data from 2003 – 2006 show that there were no exceedances of the effluent limitations during the permit term, with fish survival rates ranging between 75 to 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 discharge is in compliance with the ammonia effluent limits, then such toxicity does not constitute a violation of this effluent limit. 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.

7. Whole Effluent Chronic Toxicity

a. *Permit Requirements.* This Order includes requirements for chronic toxicity monitoring for discharge during dry weather from the Southeast Plant based on Section 4.5.5 of the Basin Plan, and in accordance with USEPA and State Water Board Task Force guidance. This Order 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 Order requirements for chronic toxicity are also consistent with the CTR and SIP requirements.

b. *Chronic Toxicity Triggers.* This Order includes chronic toxicity triggers of 10 chronic toxicity units (TUc[1]) for a three-sample median and 20 TUc for single sample maximum, consistent with Table 4-5 of the Basin Plan for dischargers monitoring chronic toxicity quarterly.

c. *Monitoring History.* The Discharger's chronic toxicity monitoring data show that there were no exceedances of the trigger between 2003 and 2006.

d. *Screening Phase Study.* The Discharger is required to conduct a chronic toxicity screening study as described in Appendix E-1 to the Monitoring and Reporting Program (Attachment E).

e. *Permit Re-opener.* The Regional Water Board will consider amending this Order to include numeric toxicity limits if the Discharger fails to aggressively implement all reasonable control measures included in its approved TRE workplan, following detection of consistent significant non-artifactual toxicity.

D. Final Effluent Limitations

1. Following is a summary of the technology-based effluent limitations established by this Order for dry weather discharges from the Southeast Plant (Discharge Point 001).

Table F-22. Summary of Technology-Based Effluent Limitations - Discharge Point 001 (Dry Weather)

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand (5-day @ 20 Deg. C) (BOD_5)	mg/L	30	45	--	--	--
Total Suspended Solids (TSS)	mg/L	30	45	--	--	--
Oil and Grease	mg/L	10	--	20	--	--
pH	standard units	--	--	--	6.0	9.0
Chlorine, Total Residual	mg/L	--	--	--	--	0.0

The Discharger shall also comply with the following effluent limitations.

- **BOD_5 and TSS 85% Percent Removal:** The average monthly percent removal of BOD_5 and TSS shall not be less than 85 percent.

- **Fecal Coliform Bacteria:** The treated wastewater shall meet the following limits of bacteriological quality.

  - The 30-day moving median value for fecal coliform density in final effluent samples shall not exceed 500 CFU or MPN/100 mL; and

[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.

- No more than 10% of the samples in any 30-day period equal or exceed 1,100 CFU or MPN/100 mL.

- **Enterococci Bacteria**: The monthly geometric mean enterococci bacteria density shall not exceed 35 MPN/100 mL.

2. Following is a summary of the water quality-based effluent limitations established by this Order for Discharge Point 001 during dry weather.

Table F-23. Effluent Limitations - Toxic Pollutants – Discharge Point 001 (Dry Weather)

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Copper [1]	µg/L	71	--	100	--	--
Lead	µg/L	36	--	89	--	--
Mercury [2] [3][4]	µg/L	0.021	--	0.039	--	--
Silver	µg/L	7	--	22	--	--
Zinc	µg/L	490	--	720	--	--
Cyanide [5]	µg/L	15	--	31	--	--
Dioxin – TEQ [6]	mg/year	[7]	--	(7)	--	--
Tetrachloroethylene	µg/L	84	--	240	--	--
Bis(2-ethylhexyl)phthalate	µg/L	55	--	110	--	--
Ammonia	mg/L	190		290		
Tributyltin	µg/L	0.032	--	0.065	--	--

[1] If a copper SSO for the receiving water becomes legally effective, resulting in adjusted saltwater Criterion Continuous Concentration of 2.5 µg/L and Criterion Maximum Concentration (CMC) of 3.9 µg/L as documented in the *North of Dumbarton Bridge Copper and Nickel Site-Specific Objective (SSO) Derivation (Clean Estuary Partnership December 2004)*, upon its effective date, the following limitations shall supersede those copper limitations listed in Table 7. AMEL of 53 µg/L, and MDEL of 76 µg/L. If a different copper SSO for the receiving water is adopted, the alternate WQBELs based on the SSO will be determined after the SSO effective date.

[2] The Order also includes a mercury mass emission limit of 0.13 kg/month.

[3] Alternate Effluent Limitations for Mercury
a. If a mercuryTotal Maximum Daily Load (TMDL) for San Francisco Bay becomes legally effective, resulting in the issuance of wasteload allocations, upon its effective date, implementation of the mercury TMDLthrough the Mercury Watershed Permit shall bsupersede those mercury limitations listed here.
b. If a different mercury water quality objective and TMDL is adopted, the alternate WLA based on the TMDL and WQO will be determined after the water quality objective and TMDL effective date.

[4] Alternate Effluent Limitations for Mercury, If a mercury watershed permit becomes effective that includes effluent limitations that implement a San Francisco Bay Mercury TMDL, that permit shall supersede these mercury limitations.

[5] If a cyanide SSO for the receiving water becomes legally effective, resulting in adjusted saltwater Criterion Continuous Concentration of 2.9 µg/L (based on the Basin Plan Amendment, approved by the Regional Water Board,Resolution R2-2006-0086), upon its effective date, the following limitations shall supersede those cyanide limitations listed in Table 7. AMEL of 20 µg/L, and MDEL of 43 µg/L.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.

[6] The limit for this pollutant becomes effective according to the compliance schedule described in VI.C.4 of the Order. The final limitation for dioxin-TEQ shall become effective June 30, 2012. Compliance with the dioxin-TEQ effluent imitation may be demonstrated by implementation of a dioxin-TEQ mass offset program. Such a program must be approved at a hearing of the Regional Water Board through a Board Order amending this Order.

[7] The dioxin-TEQ limit is 1.6 mg/year. Compliance to be based on the product of the average concentration in samples collected and the annual dry weather flow.

- **Acute Toxicity.** The Discharger shall comply with the following limitations for whole effluent, acute toxicity.

  11 sample median: A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit, if five or more of the past 10 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.

- **Chronic Toxicity.** Basin Plan's narrative toxicity objective.

3. Following is a summary of the technology-based effluent limitations established by this Order for wet weather discharges from Discharge Point Nos. 001 (wet weather) and 002 through 006.

Table F-24. Summary of Technology-Based Effluent Limitations - Discharge Points 001 (Wet Weather) and 002 through 006

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Chlorine, Total Residual	mg/L	--	--	--	--	0.0

The Discharger shall also comply with the following effluent limitations.

- **Fecal Coliform Bacteria:** The treated wastewater shall meet the following limits of bacteriological quality.

  - The 30-day moving median value for fecal coliform density in final effluent samples shall not exceed 500 CFU or MPN/100 mL; and

  - No more than 10% of the samples equal or exceed 1,100 CFU or MPN /100 mL.

- **Enterococci Bacteria**: In samples of treated wastewater the enterococci bacteria density shall not exceed 104 MPN/100 mL.

E. Compliance Schedules

a. 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 or the NTR 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 the

infeasibility 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 has 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.

b. 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.

c. As previously described, the Discharger submitted a Dioxins Feasibility Assessment, and the Regional Water Board staff concurred with the general assertions. Based on this, a compliance schedule is appropriate for dioxin-TEQ because the Discharger has made good faith and reasonable efforts towards characterizing the sources and considering what actions would be necessary to mitigate these sources. Time, to allow additional efforts to achieve compliance, is necessary.

d. Maximum compliance schedules are reasonable and as soon as possible for dioxin-TEQ because of the considerable uncertainty in determining effective measures that should be implemented to ensure compliance with final limits. In the Regional Water Board's view, it is appropriate to allow the Discharger sufficient time to first explore source control and then plan and implement other options such as a mass offset program or treatment plant modifications. Treatment plant modifications would likely be the most costly option to adopt. This phased approach is supported by the Basin Plan (section 4.13), 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."

e. The previous Order provided a compliance schedule for compliance with the final dioxin-TEQ effluent limitations, and required compliance with the effluent limitations by June 30, 2012. This Order will carry-over the June 30, 2012 compliance date for compliance with the dioxin-TEQ effluent limitations.

F. Land Discharge Specifications

Not Applicable

G. Reclamation Specifications

Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

Receiving water limitations V.A.1 and V.A.2. (conditions to be avoided) are retained from the previous Order but edited to more closely reflect water quality objectives for the physical, chemical, and biological characteristics of receiving waters established in Chapter 3 of the Basin Plan.

B. Groundwater

Not Applicable

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

The principal purposes of a monitoring program by a discharger are to:

- Document compliance with waste discharge requirements and prohibitions established by the Regional Water Board,
- Facilitate self-policing by the discharger in the prevention and abatement of pollution arising from waste discharge,
- Develop or assist in the development of limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards, and to
- Prepare water and wastewater quality inventories.

The MRP is a standard requirement in almost all NPDES permits issued by the Regional Water Board, including this Order. It contains definitions of terms, specifies general sampling and analytical protocols, and sets 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 also 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 for future completion of RPAs for them.

A. Influent Monitoring

1. Southeast Plant

Influent monitoring requirements (sample type and monitoring frequency) are unchanged and are retained from the previous Order. Periodic monitoring for BOD_5 (once per week) and TSS (five times per week) in the influent, and continuous monitoring of the influent flow, allows determination of compliance with this Order's 85 percent removal requirement at the Southeast Plant.

The Order retains the influent monitoring location, but revises the naming convention to be consistent with recent State Water Board guidelines (Monitoring Location A-001 is renamed INF-001).

2. North Point Wet Weather Facility

Influent monitoring requirements (sample type and monitoring frequency) are essentially retained from the previous Order, including continuous monitoring of the influent flow (as indicated in Attachment E, Monitoring and Reporting Program).

The Order retains the influent monitoring location, but revises the naming convention to be consistent with recent State Water Board guidelines (Monitoring Location A-002 is renamed INF-002).

B. Effluent Monitoring

1. Southeast Plant

The previous Order established four effluent monitoring locations; two, E-001 and E-001-D, for discharges through Discharge Point 001 during dry and wet weather; and two, E-002 and E-002-D, for discharges during wet weather through Discharge Point 002 (Islais Creek).

- E-001 represented effluent from the Southeast Plant after chlorination but prior to the point of discharge into Lower San Francisco Bay. This location was used under both dry and wet weather discharge conditions. The Order retains the effluent monitoring location, but revises the naming convention to be consistent with recent State Water Board guidelines (Monitoring Location E-001 is renamed EFF-001A for discharges during dry weather and EFF-001B for discharges during wet weather).

- E-001-D represented any point in the disinfection facilities where adequate contact with the disinfectant is assured. The Order retains the effluent monitoring location, but revises the naming convention to be consistent with recent State Water Board guidelines (Monitoring Location E-001-D is renamed EFF-001D).

- E-002 represented effluent from the Southeast Plant after chlorination but prior to the point of discharge into Islais Creek. This location is used only under wet weather discharge conditions. The Order retains the effluent monitoring location, but revises the naming convention to be consistent with recent State Water Board guidelines (Monitoring Location E-002 is renamed EFF-002).

- E-002-D represented any point in the disinfection facilities where adequate contact with the disinfectant is assured. This location is used only under wet weather discharge conditions. The Order retains the effluent monitoring location, but revises the naming convention to be consistent with recent State Water Board guidelines (Monitoring Location E-002-D is renamed EFF-002D).

The previous Order required effluent monitoring for all constituents except chlorine residual and fecal coliform at location EFF-001A; monitoring for residual chlorine and fecal coliform were required at monitoring location EFF-001D.

This Order adds monitoring for enterococci at the same location and frequency as monitoring for fecal coliform. In addition the Order adds monitoring for tetrachlorethylene and ammonia. Sampling for 4,4-DDE and dieldrin are no longer required as these pollutants were not present in the effluent at concentrations with a reasonable potential to cause or contribute to exceedances of applicable water quality objectives. Sampling frequencies and locations and analytical methods are specified in Attachment E to the Order, Monitoring and Reporting Program.

2. North Point Wet Weather Facility

The previous Order established effluent monitoring during wet weather for discharges from the North Point Wet Weather Facility through Discharge Point Nos. 003 through 006 into the Central San Francisco Bay. The specific monitoring locations that are included in this Order are described below:

- Monitoring Location EFF-003 representing any point in the facility system between the points of discharge to Pier 33 (Discharge Points 003 and 004) and to Pier 35 (Discharge Points 005 and 006) and the point at which all waste tributary to these outfalls is present.

The MRP essentially retains effluent monitoring frequency (as indicated in Attachment E, Monitoring and Reporting Program) and sample type requirements from the previous Order for Monitoring Location EFF-003.

C. Whole Effluent Toxicity Testing Requirements

1. Acute Toxicity. Monthly 96-hour bioassay testing is required at Discharge Point 001 (Monitoring Location EFF-001A) during dry weather to demonstrate compliance with the effluent limitation for acute toxicity. This requirement is carried over from the previous Order.

2. Acute Toxicity. Monthly 96-hour static bioassay testing during wet weather is required at Discharge Points 002 through 006 (Monitoring Locations EFF-001B, EFF-002 and EFF-003) to monitor wet weather effluent acute toxicity. This requirement is carried over from the previous Order.

3. Chronic Toxicity. Chronic whole effluent toxicity testing is required twice annually from Monitoring Location EFF-001A to demonstrate compliance with the Basin Plan's narrative toxicity objective. This requirement is carried over from the previous Order.

D. Receiving Water Monitoring

1. Shoreline Stations

The previous Order established shoreline monitoring stations at the following locations:

- S-202.4 - Crissy Field (east of Lagoon)
- S-202.5 - Crissy Field west-beach
- S-210.1 - Aquatic Park
- S-211 - Aquatic Park Beach East End
- S-300.1 - Candlestick Point SRA (Sunnydale Cove Beach)
- S-301.1 - Candlestick Point SRA (Windsurfer Circle)
- S-301.2 - Candlestick Point SRA (Jack Rabbit Beach)

The MRP retains shoreline monitoring frequency (weekly) and sample type requirements from the previous Order for the shoreline monitoring locations for fecal coliform and enterococci. Alternatively, the Discharger may measure *E. coli* in lieu

of monitoring for fecal coliform monitoring in accordance with USEPA Beach Monitoring Program protocol. Shoreline station 202.2 is replaced with new shoreline station 202.5 at the west end of Crissy Field Beach ("Baby Beach") where water contact recreation is common.

2. Regional Monitoring Program

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 Water Quality. 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

1. Bypasses or Sanitary Sewer Overflow Monitoring

   The MRP includes monitoring requirements for selected parameters and to record observations related to dry weather treatment plant bypasses. The MRP also includes tracking requirements for sanitary sewer overflows as indicated in the State Water Board WDR for Sanitary Sewer Systems.

2. Sludge Monitoring

   The Discharger is required to adhere to sludge monitoring requirements required by 40 CFR Part 503.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions (Provision VI.A)

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR §122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR §122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under 40 CFR §122.42.

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

Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

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 Order. 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.

C. Special Provisions (Provision VI.C)

1. Re-opener 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 using methods 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 Order, this requirement may be met by participating in the collaborative BACWA study.

c. Optional Mass Offset Plan. This option is provided to encourage the Discharger to further implement aggressive reduction of mass loads to Lower San Francisco Bay. If the Discharger wishes to pursue a mass offset program, a mass offset plan for reducing 303(d) listed pollutants to the same receiving water body needs to be submitted for Regional Water Board approval. The Regional Water Board will consider any proposed mass offset plan and may amend this Order accordingly.

To a great extent, dioxin-TEQ enters the combined sewer system as stormwater or runoff flows over impervious surfaces where dioxin-TEQ exists as a result of air deposition. The influx of dioxin-TEQ to the sewer system can be mitigated by reducing the amount of stormwater that flows over impervious surfaces before

entering the combined sewer system. An offset can be achieved by using stormwater controls such as stormwater cisterns, living roofs, rain gardens, grassy swales, planter boxes, and pervious pavement. In cases of new construction this can be implemented through programs known as Low Impact Development (LID). To qualify for a mass offset, such stormwater controls will likely need to be above and beyond those required by the Nine Minimum Controls described in the Provision VI.C.7.b of this Order.

3. Best Management Practices and Pollution Minimization Program

This provision is based on Chapter 4 of the Basin Plan and Sections 2.2.1 and 2.4.5 of the SIP. This Order requires continued implementation of the Discharger's Pollution Minimization and Prevention Program.

4. Requirement to Ensure Compliance Schedules with Final Limits

This provision is based on the Basin Plan Section 4.7.6 (Compliance Schedules) and 40 CFR §122.47(a)(3). For dioxin-TEQ maximum allowable compliance schedules are granted to the Discharger because of the considerable uncertainty in determining an effective measure such as pollution prevention and stormwater management controls that should be implemented to ensure compliance with final limits. It is appropriate to allow the Discharger sufficient time to first explore source control measures before requiring it to propose further actions that are likely to be much more costly. This approach is supported by the Basin Plan Section 4.13 (Pretreatment and Pollution Prevention) 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, for dioxin-TEQ, because of the ubiquitous nature of the sources of this pollutant, the provision also allows the Discharger to address compliance with calculated WQBELs through other strategies such as mass offset.

5. Construction, Operation, and Maintenance Specifications

a. Wastewater Facilities, Review and Evaluation, Status Reports: This provision is based on the previous Order and the Basin Plan. See Section VI.C.5.a of this Order for specific requirements.

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 Order. See Section VI.C.5.b of this Order for specific requirements.

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 Order. See Section VI.C.5.c of this Order for specific requirements.

6. Special Provisions for Municipal Facilities (POTWs Only)

a. Pretreatment Program Requirements: This provision requires the Discharger to implement and enforce its approved pretreatment program in accordance with Federal pretreatment regulations (40 CFR Part 403).

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

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

   The Discharger's collection system is predominantly a combined sewer system that is not subject to the State Water Board Sanitary Sewer General WDR. Portions of the collection system are, however, separate, i.e., they are sanitary sewer systems, and these portions are subject to the General Order.

7. CSO Controls

The USEPA *Combined Sewer Overflow Control Policy* (59 FR 18688) regulates the operation of combined sewer systems. The Regional Water Board, in Order No. 79-67, determined that the combined sewer system, designed to capture 100% of the combined sewage and storm water runoff, to attain a long term average overflow frequency specified in that order, and to maximize treatment through appropriately sized facilities, would protect beneficial uses. The Discharger has successfully and adequately designed, built, and implemented control and treatment strategies that effectively address wet weather flow conditions. The requirements to implement the combined sewer system (CSS) control program in accordance with the USEPA *Combined Sewer Overflow Control Policy* are contained in this section.

a. **CSS Operation and Maintenance Plan.** The previous Order required that the Discharger submit an Operations Plan for the CSS and then modify it as necessary during the life of the permit. This Order requires the plan be updated and submitted to the Regional Water Board for approval.

b. **Nine Minimum Controls.** In the previous Order, the Discharger was required to comply with the Nine Minimum Controls required in the USEPA *Combined Sewer Overflow Control Policy*. The Nine Minimum Controls constitute the technology based minimum controls applicable to combined sewer flows. These are, in summary:

1. Proper operation and regular maintenance programs for the sewer system and the CSOs

2. Maximum use of the collection system for storage

3. Review and modification of pretreatment requirements to ensure CSO impacts are minimized

4. Maximization of flow to the publicly owned treatment works for treatment

5. Prohibition of CSOs during dry weather

6. Control of solid and floatable materials in CSOs

7. Pollution prevention

8. Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts

9. Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls

The previous Order required implementation of these controls through wet weather effluent performance criteria; this Order continues to require the wet weather performance criteria.

- Under the requirement to notify the public of overflows, the Discharger is required to update the June 19, 2006, Bayside Recreational Use Study of the bayside beaches and water use areas (Candlestick Point Recreation Area, Islais Creek and Mission Bay). This updated study will continue to provide the Regional Water Board with information necessary to assess the potential impact of CSOs on the public.

- Under the requirement to monitor to effectively characterize overflow impacts and the efficacy of CSO controls, the Discharger is required to expand on monitoring and characterization efforts initiated under the previous Order as reported by the Discharger in the June 19, 2006, Bayside Study to Effectively Characterize Overflow Impacts and the Efficacy of CSO Controls. The report submitted by the Discharger focused on the discharge of TSS as a means to evaluate the effectiveness of the wet weather treatment facilities (as compared to the treatment efficiency experienced in the primary sedimentation basins at the Southeast Plant). The results of this study showed comparable removals indicating adequate treatment for solids was occurring. However, the characterization of the potential impacts of CSOs was limited to evaluating the relationship between TSS levels and metals concentrations.

  Evaluation of the data submitted by the Discharger as part of this study indicates relatively high concentrations of most metals and ammonia in each CSO monitored when compared to Basin Plan and CTR water quality

objectives. Although under the presumption approach to controlling CSOs, it is assumed that the capture and treatment of combined sewage to reduce the frequency of CSOs will be sufficient to achieve water quality objectives, the evaluation performed by the Discharger does not provide the Regional Water Board with adequate data and information to evaluate the overall effect of CSOs on the Bay. The evaluation also does not provide the Regional Water Board with data to assess the potential impacts from the wet weather discharges that occur through Discharge Point Nos. 001 through 006. Therefore this Order requires expansion of the previous monitoring study plan to incorporate the following additional requirements:

- Monitoring of wet weather discharges from select Discharge Points 009 through 043. Representative discharge points are 010, 029, and 033. Additional or other Discharge Points may be monitored depending on the discharge frequency and feasibility of sample collection.

- Expansion of the list of pollutants of concern to be monitored to include all CTR criteria appropriate for the protection of marine aquatic life.

- Develop an assessment of the environmental benefits provided by the existing stormwater treatment controls.

c. **Long-Term Control Plan.** In conformance with the USEPA *Combined Sewer Overflow Control Policy*, the Discharger developed a long-term control plan to select CSO controls to comply with water quality standards, based on consideration of the Discharger's financial capability. The purpose of this long-term control plan is to comply with the water quality requirements of the Clean Water Act. The Discharger's program exceeds the specifications of the USEPA *Combined Sewer Overflow Control Policy* Presumption Approach. The Discharger captures and provides treatment to 100% of the combined sewer flows rather than the 85% identified in option ii in the USEPA *Combined Sewer Overflow Control Policy*. As defined in the USEPA *Combined Sewer Overflow Control Policy*, the Discharger has no remaining untreated overflow events; the overflows that occur in San Francisco receive treatment (within the storage/transports) consisting of removal of floatables and settleable solids. The provisions in this Order require continued implementation of the long-term plan such that pollutant removal is maximized. This section specifies performance criteria for operating the CSS as was required in the previous Order.

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, 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 City and County of San Francisco, San Francisco Public Utilities Commission, Southeast Water Pollution Control Plant, North Point Wet Weather Facility, and Bayside Wet Weather Facilities. 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 of the Board hearing will be provided through a legal notice in The Recorder, San Francisco.

B. Written Comments

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

To be fully responded to by staff and considered by the Regional Water Board, written comments were to be received at the Regional Water Board offices by 5:00 p.m. on December 19, 2007**.**

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: Wednesday, January 30, 2008
Time: 9:00 a.m.
Location: Elihu Harris State Office Building
1515 Clay Street, 1st Floor Auditorium
Oakland, CA 94612

Contact: Derek Whitworth**,** 510-622-2349, email DWhitworth@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 http://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 Resources Control 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., 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 Derek Whitworth at 510-622-2349, or email dwhitworth@waterboards.ca.gov .

FACT SHEET APPENDIX A

RPA CALCULATIONS – SOUTH EAST WATER QUALITY CONTROL PLANT

Table 1 **Criteria** **(Table 1 in RPA spreadsheet)**
Table 2 **Data Input for RPA** **(Table 2 in RPA spreadsheet)**
Table 3 **Reasonable Potential Analysis Results** **(Table 8 in RPA spreadsheet)**
Table 4 **Water Quality Based Effluent Limits** **(Table 9 in RPA spreadsheet)**
Table 5 **Feasibility Evaluation** **(Table 10 in RPA spreadsheet)**

San Francisco SE Plant
Applicable Water Quality Objectives/Criteria

Is it a RB2 facility (Y/N)?	Y
Hardness (mg/L CaCO3)	400
pH (s.u.)	7.7

For Cd, Cr(III), Cu, Pb, Ni, Ag, Zn in freshwater

Note: DO NOT enter any value for the column that is NOT applicable

Note: Numbers in blue have formula in the cells - calculates values automatically

Note: Criteria for metals are expressed as total recoverable metal

			Most Stringent Criteria			Basin Plan Criteria										CTR Water Quality Criteria (ug/L)						Factors for Metals Freshwater Criteria				Conversion Factor (CF)				Site-Specific Translators	
						from Table 4-3		Freshwater (from Table 3-4)				Saltwater (from Table 3-3)				Freshwater		Saltwater		Human Health for consumption of:												
# in CTR	PRIORITY POLLUTANTS	Lowest (most stringent) Criteria	Human Health Criterion	Lowest Chronic Criterion	Lowest Acute Criterion	Shallow Water	Deep Water (24-hr)	4-day	1-hr	24-hr	Inst. Max	4-day	1-hr	24-hr	Inst. Max	CMC (acute)	CCC (chronic)	CMC (acute)	CCC (chronic)	Water & organisms	Organisms only	ma	ba	mc	bc	freshwater acute criteria (MDEL)	freshwater chronic criteria (AMEL)	saltwater acute criteria (MDEL)	saltwater chronic criteria (AMEL)	Acute	Chronic
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L										
1	Antimony	4300	4,300																		4,300										
2	Arsenic	36		36	69							36	69					69	36							1	1	1	1		
3	Beryllium	No Criteria																													
4	Cadmium	9.36		9.4	42							9.4	42					42	9.4			1.128	-3.6867	0.7852	-2.715	0.886	0.851	0.994	0.994		
5a	Chromium (III)	No Criteria																				0.8190	3.6880	0.8190	1.5610	0.316	0.86				
5b	Chromium (VI)	50		50	1108							50	1,108					1,108	50							0.982	0.962	0.993	0.993		
6	Copper	4.2		4.2	5.5							4.2	5.5					5.5	4.2			0.9422	-1.7000	0.8545	-1.7020	0.96	0.96	0.83	0.83	0.88	0.74
7	Lead	8.5		8.5	221							8.5	221					221	8.5			1.2730	-1.4600	1.2730	-4.7050	0.589	0.589	0.951	0.951		
8	Mercury (303d listed)	0.025	0.05	0.025	2.1							0.025	2.1								0.051										
9	Nickel	13	4,600	13	87							13	87					87	13		4,600	0.8460	2.2550	0.8460	0.0584	0.998	0.997	0.99	0.99	0.85	0.65
10	Selenium (303d listed)	5		5.0	20													20	5									0.998	0.88		
11	Silver	2.2			2.2								2.2					2.2				1.7200	-6.5200			0.85		0.85			
12	Thallium	6.3	6.3																		6.3										
13	Zinc	86		86	95							86	95					95	86			0.8473	0.8840	0.8473	0.8840	0.978	0.986	0.946	0.946		
14	Cyanide	1	220,000	1.0	1.0													1.0	1.0		220,000										
15	Asbestos	No Criteria																													
16	2,3,7,8-TCDD (Dioxin) (303d listed)	0.000000014	0.000000014																		0.000000014										
16-TEQ	Dioxin TEQ (303d listed)	0.000000014	0.000000014																		0.000000014										
17	Acrolein	780	780																		780										
18	Acrylonitrile	0.66	0.66																		0.66										
19	Benzene	71	71																		71										
20	Bromoform	360	360																		360										
21	Carbon Tetrachloride	4.4	4.40000																		4.4										
22	Chlorobenzene	21000	21,000																		21,000										
23	Chlorodibromomethane	34	34																		34										
24	Chloroethane	No Criteria																													
25	2-Chloroethylvinyl Ether	No Criteria																													
26	Chloroform	No Criteria																													
27	Dichlorobromomethane	46	46																		46										
28	1,1-Dichloroethane	No Criteria																													
29	1,2-Dichloroethane	99	99																		99										
30	1,1-Dichloroethylene	3.2	3.20000																		3.2										
31	1,2-Dichloropropane	39	39																		39										
32	1,3-Dichloropropylene	1700	1,700																		1,700										
33	Ethylbenzene	29000	29,000																		29,000										
34	Methyl Bromide	4000	4,000																		4,000										
35	Methyl Chloride	No Criteria																													
36	Methylene Chloride	1600	1,600																		1,600										
37	1,1,2,2-Tetrachloroethane	11	11																		11										
38	Tetrachloroethylene	8.85	8.85000																		8.85										
39	Toluene	200000	200,000																		200,000										
40	1,2-Trans-Dichloroethylene	140000	140,000																		140,000										
41	1,1,1-Trichloroethane	No Criteria																													
42	1,1,2-Trichloroethane	42	42																		42										
43	Trichloroethylene	81	81																		81										
44	Vinyl Chloride	525	525																		525										
45	Chlorophenol	400	400																		400										
46	2,4-Dichlorophenol	790	790																		790										
47	2,4-Dimethylphenol	2300	2,300																		2,300										
48	2-Methyl-4,6-Dinitrophenol	765	765																		765										
49	2,4-Dinitrophenol	14000	14,000																		14,000										
50	2-Nitrophenol	No Criteria																													

San Francisco SE Plant
Applicable Water Quality Objectives/Criteria

# in CTR	PRIORITY POLLUTANTS	Lowest (most stringent) Criteria	Most Stringent Criteria: Human Health Criterion	Most Stringent Criteria: Lowest Chronic Criterion	Most Stringent Criteria: Lowest Acute Criterion	Basin Plan Criteria (from Table 4-3): Shallow Water	Basin Plan Criteria (from Table 4-3): Deep Water (24-hr)	Basin Plan Criteria: Freshwater (from Table 3-4): 4-day	Freshwater: 1-hr	Freshwater: 24-hr	Freshwater: Inst. Max	Basin Plan Criteria: Saltwater (from Table 3-3): 4-day	Saltwater: 1-hr	Saltwater: 24-hr	Saltwater: Inst. Max	CTR Water Quality Criteria (ug/L): Freshwater: CMC (acute)	Freshwater: CCC (chronic)	Saltwater: CMC (acute)	Saltwater: CCC (chronic)	Human Health for consumption of: Water & organisms	Human Health for consumption of: Organisms only	Factors for Metals Freshwater Criteria: ma	ba	mc	bc	Conversion Factor (CF): freshwater acute criteria (MDEL)	freshwater chronic criteria (AMEL)	saltwater acute criteria (MDEL)	saltwater chronic criteria (AMEL)	Site-Specific Translators: Acute	Chronic
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L										
51	4-Nitrophenol	No Criteria																													
52	3-Methyl-4-Chlorophenol	No Criteria																													
53	Pentachlorophenol	7.9	8.20000	7.9	13													13	7.9		8.2										
54	Phenol	4600000	4,600,000																		4,600,000										
55	2,4,6-Trichlorophenol	6.5	6.50000																		6.5										
56	Acenaphthene	2700	2,700																		2,700										
57	Acenephthylene	No Criteria																													
58	Anthracene	110000	110,000																		110,000										
59	Benzidine	0.00054	0.00054																		0.00054										
60	Benzo(a)Anthracene	0.049	0.04900																		0.049										
61	Benzo(a)Pyrene	0.049	0.04900																		0.049										
62	Benzo(b)Fluoranthene	0.049	0.04900																		0.049										
63	Benzo(ghi)Perylene	No Criteria																													
64	Benzo(k)Fluoranthene	0.049	0.04900																		0.049										
65	Bis(2-Chloroethoxy)Methane	No Criteria																													
66	Bis(2-Chloroethyl)Ether	1.4	1.40000																		1.4										
67	Bis(2-Chloroisopropyl)Ether	170000	170,000																		170,000										
68	Bis(2-Ethylhexyl)Phthalate	5.9	5.90000																		5.9										
69	4-Bromophenyl Phenyl Ether	No Criteria																													
70	Butylbenzyl Phthalate	5200	5,200																		5,200										
71	2-Chloronaphthalene	4300	4,300																		4,300										
72	4-Chlorophenyl Phenyl Ether	No Criteria																													
73	Chrysene	0.049	0.04900																		0.049										
74	Dibenzo(a,h)Anthracene	0.049	0.04900																		0.049										
75	1,2-Dichlorobenzene	17000	17,000																		17,000										
76	1,3-Dichlorobenzene	2600	2,600																		2,600										
77	1,4-Dichlorobenzene	2600	2,600																		2,600										
78	3,3-Dichlorobenzidine	0.077	0.07700																		0.077										
79	Diethyl Phthalate	120000	120,000																		120,000										
80	Dimethyl Phthalate	2900000	2,900,000																		2,900,000										
81	Di-n-Butyl Phthalate	12000	12,000																		12,000										
82	2,4-Dinitrotoluene	9.1	9.10000																		9.1										
83	2,6-Dinitrotoluene	No Criteria																													
84	Di-n-Octyl Phthalate	No Criteria																													
85	1,2-Diphenylhydrazine	0.54	0.54000																		0.54										
86	Fluoranthene	370	370																		370										
87	Fluorene	14000	14,000																		14,000										
88	Hexachlorobenzene	0.00077	0.00077																		0.00077										
89	Hexachlorobutadiene	50	50																		50										
90	Hexachlorocyclopentadiene	17000	17,000																		17,000										
91	Hexachloroethane	8.9	8.90000																		8.9										
92	Indeno(1,2,3-cd) Pyrene	0.049	0.04900																		0.049										
93	Isophorone	600	600																		600										
94	naphthalene	No Criteria																													
95	Nitrobenzene	1900	1,900																		1,900										
96	N-Nitrosodimethylamine	8.1	8.10000																		8.1										
97	N-Nitrosodi-n-Propylamine	1.4	1.40000																		1.4										
98	N-Nitrosodiphenylamine	16	16																		16										
99	Phenanthrene	No Criteria																													
100	Pyrene	11000	11,000																		11,000										
101	1,2,4-Trichlorobenzene	No Criteria																													
102	Aldrin	0.00014	0.00014		1.3													1.3			0.00014										
103	alpha-BHC	0.013	0.01300																		0.013										
104	beta-BHC	0.046	0.04600																		0.046										
105	gamma-BHC	0.063	0.06300		0.16													0.16			0.063										
106	delta-BHC	No Criteria																													
107	Chlordane (303d listed)	0.00059	0.00059	0.0040	0.090													0.09	0.004		0.00059										
108	4,4-DDT (303d listed)	0.00059	0.00059	0.0010	0.13													0.13	0.001		0.00059										

San Francisco SE Plant
Applicable Water Quality Objectives/Criteria

			Most Stringent Criteria			Basin Plan Criteria										CTR Water Quality Criteria (ug/L)						Factors for Metals Freshwater Criteria				Conversion Factor (CF)				Site-Specific Translators	
						from Table 4-3		Freshwater (from Table 3-4)				Saltwater (from Table 3-3)				Freshwater		Saltwater		Human Health for consumption of:											
# in CTR	PRIORITY POLLUTANTS	*Lowest (most stringent) Criteria*	Human Health Criterion	Lowest Chronic Criterion	Lowest Acute Criterion	Shallow Water	Deep Water (24-hr)	4-day	1-hr	24-hr	Inst. Max	4-day	1-hr	24-hr	Inst. Max	CMC (acute)	CCC (chronic)	CMC (acute)	CCC (chronic)	Water & organisms	Organisms only	ma	ba	mc	bc	freshwater acute criteria (MDEL)	freshwater chronic criteria (AMEL)	saltwater acute criteria (MDEL)	saltwater chronic criteria (AMEL)	Acute	Chronic
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L										
109	4,4-DDE	0.00059	0.00059																		0.00059										
110	4,4-DDD	0.00084	0.00084																		0.00084										
111	Dieldrin (303d listed)	0.00014	0.00014	0.00190	0.71000													0.71	0.0019		0.00014										
112	alpha-Endosulfan	0.0087	240	0.00870	0.03400													0.034	0.0087		240										
113	beta-Endosulfan	0.0087	240	0.00870	0.03400													0.034	0.0087		240										
114	Endosulfan Sulfate	240	240																		240										
115	Endrin	0.0023	0.81000	0.00230	0.03700													0.037	0.0023		0.81										
116	Endrin Aldehyde	0.81	0.81000																		0.81										
117	Heptachlor	0.00021	0.00021	0.00360	0.05300													0.053	0.0036		0.00021										
118	Heptachlor Epoxide	0.00011	0.00011	0.00360	0.05300													0.053	0.0036		0.00011										
119-125	PCBs sum (303d listed)	0.00017	0.00017	0.03000															0.03		0.00017										
126	Toxaphene	0.0002	0.00075	0.00020	0.21000													0.21	0.0002		0.00075										
	Ammonia	1500		1500	15000							1,500	15,000																		
	Tributyltin	0.0074		0.00740	0.42000							0.007	0.42																		
	Total PAHs	15		15.00000										15																	

San Francisco SE Plant
NPDES Permit Reissuance
Data Input for RPA

		EFFLUENT DATA					BACKGROUND DATA (B)					
CTR No.	Constituent name	Effluent Data Available (Y/N)?	Are all data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)	Enter the pollutant effluent detected max conc (ug/L)	Input Check	B Available (Y/N)?	Are all B non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)	Enter the Detected Maximum Background Conc	Input Check	7) Review other information in the SIP page 4. If information is unavailable or insufficient: 8) the RWQCB shall establish interim monitoring requirements.
1	Antimony	Y	N		0.78		Y	N		1.8		
2	Arsenic	Y	N		5.03		Y	N		2.46		
3	Beryllium	Y	Y	0.5			Y	N		0.215		No Criteria
4	Cadmium	Y	N		3.89		Y	N		0.1268		
5a	Chromium (III)	Y	N		5.24		N					
5b	Chromium (VI)	N					Y	N		4.4		
6	Copper	Y	N		16.4		Y	N		2.55		
7	Lead	Y	N		14.7		Y	N		0.8040		
8	Mercury (303d listed)	Y	N		0.026		Y	N		0.0086		
9	Nickel	Y	N		7.95		Y	N		3.73		
10	Selenium (303d listed)	Y	N		1.94		Y	N		0.39		
11	Silver	Y	N		5.81		Y	N		0.052		
12	Thallium	Y	Y	0.5			Y	N		0.21		
13	Zinc	Y	N		176		Y	N		5.1		
14	Cyanide	Y	N		11.48		Y	Y	0.4			
15	Asbestos	N					N					No Criteria
16	2,3,7,8-TCDD (Dioxin) (303d listed)	Y	N		3.46E-07		N					
16-TEQ	Dioxin TEQ (303d listed)	Y	N		4.82E-07		Y	N		7.10E-08		
17	Acrolein	Y	Y	0.8			Y	Y	0.5			
18	Acrylonitrile	Y	Y	0.8			Y	N		0.03		
19	Benzene	Y	N		2		Y	Y	0.05			
20	Bromoform	Y	Y	0.053			Y	Y	0.5			
21	Carbon Tetrachloride	Y	Y	0.061			Y	N		0.06		
22	Chlorobenzene	Y	Y	0.053			Y	Y	0.5			
23	Chlorodibromomethane	Y	N		0.354		Y	Y	0.05			
24	Chloroethane	Y	Y	0.036			Y	Y	0.5			No Criteria
25	2-Chloroethylvinyl Ether	Y	Y	0.156			Y	Y	0.5			No Criteria
26	Chloroform	Y	N		10.293		Y	Y	0.5			No Criteria
27	Dichlorobromomethane	Y	N		0.943		Y	Y	0.05			
28	1,1-Dichloroethane	Y	Y	0.135			Y	Y	0.05			No Criteria
29	1,2-Dichloroethane	Y	Y	0.067			Y	N		0.04		
30	1,1-Dichloroethylene	Y	Y	0.074			Y	Y	0.5			
31	1,2-Dichloropropane	Y	Y	0.149			Y	Y	0.05			
32	1,3-Dichloropropylene	Y	Y	0.162			N					
33	Ethylbenzene	Y	Y	0.099			Y	Y	0.5			
34	Methyl Bromide	Y	N		0.169		Y	Y	0.5			
35	Methyl Chloride	Y	N		1.281		Y	Y	0.5			No Criteria
36	Methylene Chloride	Y	N		8.107		Y	N		0.5		
37	1,1,2,2-Tetrachloroethane	Y	Y	0.094			Y	Y	0.05			
38	Tetrachloroethylene	Y	N		9.3		Y	Y	0.5			
39	Toluene	Y	N		2.171		Y	Y	0.3			
40	1,2-Trans-Dichloroethylene	Y	Y	0.111			Y	Y	0.5			
41	1,1,1-Trichloroethane	Y	N		0.375		Y	Y	0.5			No Criteria
42	1,1,2-Trichloroethane	Y	Y	0.111			Y	Y	0.05			
43	Trichloroethylene	Y	N		0.798		Y	Y	0.5			
44	Vinyl Chloride	Y	N		1.369		Y	Y	0.5			
45	Chlorophenol	Y	Y	1.05			Y	Y	1.2			

San Francisco SE Plant
NPDES Permit Reissuance
Data Input for RPA

		EFFLUENT DATA					BACKGROUND DATA (B)					
CTR No.	*Constituent name*	*Effluent Data Available (Y/N)?*	*Are all data points non-detects (Y/N)?*	*If all data points ND Enter the min detection limit (MDL) (ug/L)*	*Enter the pollutant effluent detected max conc (ug/L)*	Input Check	*B Available (Y/N)?*	*Are all B non-detects (Y/N)?*	*If all data points ND Enter the min detection limit (MDL) (ug/L)*	*Enter the Detected Maximum Background Conc*	Input Check	*7) Review other information in the SIP page 4. If information is unavailable or insufficient: 8) the RWQCB shall establish interim monitoring requirements.*
46	2,4-Dichlorophenol	Y	Y	1.2			Y	Y	1.3			
47	2,4-Dimethylphenol	Y	Y	1.15			Y	Y	1.3			
48	2-Methyl-4,6-Dinitrophenol	Y	Y	1.08			Y	Y	1.2			
49	2,4-Dinitrophenol	Y	Y	1.48			Y	Y	0.7			
50	2-Nitrophenol	Y	Y	0.41			Y	Y	1.3			No Criteria
51	4-Nitrophenol	Y	Y	1.96			Y	Y	1.6			No Criteria
52	3-Methyl-4-Chlorophenol	Y	Y	0.73			Y	Y	1.1			No Criteria
53	Pentachlorophenol	Y	Y	0.64			Y	Y	1			
54	Phenol	Y	Y	0.13			Y	Y	1.3			
55	2,4,6-Trichlorophenol	Y	Y	1.62			Y	Y	1.3			
56	Acenaphthene	Y	Y	0.11			Y	N		0.0015		
57	Acenephthylene	Y	Y	0.07			Y	N		0.00053		No Criteria
58	Anthracene	Y	Y	0.01			Y	N		0.0005		
59	Benzidine	Y	Y	1.49			Y	Y	0.0015			
60	Benzo(a)Anthracene	Y	Y	0.02			Y	N		0.0053		
61	Benzo(a)Pyrene	Y	Y	0.02			Y	N		0.00029		
62	Benzo(b)Fluoranthene	Y	Y	0.02			Y	N		0.0046		
63	Benzo(ghi)Perylene	Y	Y	0.02			Y	N		0.0027		No Criteria
64	Benzo(k)Fluoranthene	Y	Y	0.03			Y	N		0.0015		
65	Bis(2-Chloroethoxy)Methane	Y	Y	0.81			Y	Y	0.3			No Criteria
66	Bis(2-Chloroethyl)Ether	Y	Y	0.81			Y	Y	0.3			
67	Bis(2-Chloroisopropyl)Ether	Y	Y	0.73			N					
68	Bis(2-Ethylhexyl)Phthalate	Y	N		6.82		Y	Y	0.5			
69	4-Bromophenyl Phenyl Ether	Y	Y	0.69			Y	Y	0.23			No Criteria
70	Butylbenzyl Phthalate	Y	Y	0.26			Y	Y	0.52			
71	2-Chloronaphthalene	Y	Y	1			Y	Y	0.3			
72	4-Chlorophenyl Phenyl Ether	Y	Y	0.89			Y	Y	0.3			No Criteria
73	Chrysene	Y	Y	0.03			Y	N		0.0024		
74	Dibenzo(a,h)Anthracene	Y	Y	0.02			Y	N		0.00064		
75	1,2-Dichlorobenzene	Y	N		0.9		Y	Y	0.8			
76	1,3-Dichlorobenzene	Y	Y	0.178			Y	Y	0.8			
77	1,4-Dichlorobenzene	Y	N		1.2		Y	Y	0.8			
78	3,3-Dichlorobenzidine	Y	Y	0.9			Y	Y	0.001			
79	Diethyl Phthalate	Y	Y	0.44			Y	Y	0.24			
80	Dimethyl Phthalate	Y	Y	0.45			Y	Y	0.24			
81	Di-n-Butyl Phthalate	Y	N		0.91		Y	Y	0.5			
82	2,4-Dinitrotoluene	Y	Y	0.58			Y	Y	0.27			
83	2,6-Dinitrotoluene	Y	Y	0.56			Y	Y	0.29			No Criteria
84	Di-n-Octyl Phthalate	Y	Y	0.56			Y	Y	0.38			No Criteria
85	1,2-Diphenylhydrazine	Y	Y	0.74			Y	N		0.0037		
86	Fluoranthene	Y	Y	0.06			Y	N		0.011		
87	Fluorene	Y	Y	0.03			Y	N		0.00208		
88	Hexachlorobenzene	Y	Y	0.71			Y	N		0.0000202		
89	Hexachlorobutadiene	Y	Y	0.76			Y	Y	0.3			
90	Hexachlorocyclopentadiene	Y	Y	0.58			Y	Y	0.31			
91	Hexachloroethane	Y	Y	0.74			Y	Y	0.2			
92	Indeno(1,2,3-cd) Pyrene	Y	Y	0.03			Y	N		0.004		

San Francisco SE Plant
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Data Input for RPA

		EFFLUENT DATA					BACKGROUND DATA (B)					
CTR No.	*Constituent name*	*Effluent Data Available (Y/N)?*	*Are all data points non-detects (Y/N)?*	*If all data points ND Enter the min detection limit (MDL) (ug/L)*	*Enter the pollutant effluent detected max conc (ug/L)*	Input Check	*B Available (Y/N)?*	*Are all B non-detects (Y/N)?*	*If all data points ND Enter the min detection limit (MDL) (ug/L)*	*Enter the Detected Maximum Background Conc*	Input Check	*7) Review other information in the SIP page 4. If information is unavailable or insufficient: 8) the RWQCB shall establish interim monitoring requirements.*
93	Isophorone	Y	Y	0.75			Y	Y	0.3			
94	naphthalene	Y	Y	0.08			Y	N		0.0023		No Criteria
95	Nitrobenzene	Y	Y	0.71			Y	Y	0.25			
96	N-Nitrosodimethylamine	Y	Y	0.1			Y	Y	0.3			
97	N-Nitrosodi-n-Propylamine	Y	Y	0.84			Y	Y	0.001			
98	N-Nitrosodiphenylamine	Y	Y	0.55			Y	Y	0.001			
99	Phenanthrene	Y	Y	0.03			Y	N		0.0061		No Criteria
100	Pyrene	Y	Y	0.06			Y	N		0.0051		
101	1,2,4-Trichlorobenzene	Y	Y	0.91			Y	Y	0.3			No Criteria
102	Aldrin	Y	Y	0.002			N					
103	alpha-BHC	Y	Y	0.001			Y	N		0.000496		
104	beta-BHC	Y	Y	0.002			Y	N		0.000413		
105	gamma-BHC	Y	Y	0.001			Y	N		0.0007034		
106	delta-BHC	Y	Y	0.002			Y	N		0.000042		No Criteria
107	Chlordane (303d listed)	Y	Y	0.003			Y	N		0.00018		
108	4,4-DDT (303d listed)	Y	Y	0.006			Y	N		0.000167		
109	4,4-DDE	Y	Y	0.004			Y	N		0.000693		
110	4,4-DDD	Y	Y	0.006			Y	N		0.000313		
111	Dieldrin (303d listed)	Y	Y	0.002			Y	N		0.000264		
112	alpha-Endosulfan	Y	Y	0.003			Y	N		0.000031		
113	beta-Endosulfan	Y	Y	0.002			Y	N		0.000069		
114	Endosulfan Sulfate	Y	Y	0.006			Y	N		0.0000819		
115	Endrin	Y	Y	0.002			Y	N		0.000036		
116	Endrin Aldehyde	Y	Y	0.007			N					
117	Heptachlor	Y	Y	0.001			Y	N		0.000019		
118	Heptachlor Epoxide	Y	Y	0.001			Y	N		0.00002458		
119-125	PCBs sum (303d listed)	Y	Y	0.01			N					
126	Toxaphene	Y	Y	0.035			N					
	Ammonia	Y	N		40,000			Y		210		
	Tributyltin	Y	N		0.011		Y	Y	0.001			
	Total PAHs	N					Y	N		0.26		

Notes:

1) Background data used for toxics is from monitoring location BC10.

San Francisco SE Plant
Reasonable Potential Analysis Results

Beginning			Step 2	Step 3					Step 4		Step 2	Step 3		Step 4.	Step 5.	Step 6.	Step 7 & 8.		
		C (µg/L)						Maximum Pollutant Concentration (MEC) (ug/L)	MEC vs. C							B vs. C	7) Review other information in the SIP page 4. Y if other information indicates limits are required. If information is unavailable or insufficient: 8) the RWQCB shall establish interim monitoring requirements.	RPA Result	Reason
	Constituent name	Lowest (most stringent) Criteria [a] (Enter "No Criteria" for no criteria)	Effluent Data Available?	Are all data points non-detects?	Minimum MDL (ug/L) if all data ND.	Enter the pollutant effluent detected max conc (ug/L)	If all data points are ND and MinDL>C, interim monitoring is required	(MEC= deteted max value; if all ND & MDL<C then MEC = MDL)	Y if If MEC >= C, effluent limitation is required. 2. If MEC<C, go to Step 5		Background Data Available?	Are all background data points non-detects?	If all background data points ND Enter the min detection limit (MDL) (ug/L)	Enter the pollutant background detected max conc (ug/L)	If all B is ND, is MDL>C? (If Y, Go To Step 7)	If B>C, effluent limitation is required			
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	r	S	T
1	Antimony	4300	Y	N		0.78		0.78	MEC<C, go to Step 5		Y	N		1.8		B<C, Step 7			
2	Arsenic	36	Y	N		5.03		5.03	MEC<C, go to Step 5		Y	N		2.46		B<C, Step 7			
3	Beryllium	No Criteria	Y	Y	0.5		No Criteria	0.5	No Criteria		Y	N		0.215		No Criteria	No Criteria		Uo - No Criteria
4	Cadmium	9.4	Y			3.89		3.89	MEC<C, go to Step 5		Y	N		0.1268		B<C, Step 7			
5a	Chromium (III)	No Criteria	Y	N		5.24		5.24	MEC<C, go to Step 5							No detected value of B, Step 7			
5b	Chromium (VI)	50	N			0	No Effluent Data				Y	N		4.4		B<C, Step 7			
6	Copper	4.2	Y	N		16.4		16.4	Y		Y	N		2.55		B<C, Step 7		Y	MEC => C [16 ug/l vs 4.2 ug/l]
7	Lead	8.5	Y	N		14.7		14.7	Y		Y	N		0.804		B<C, Step 7		Y	MEC => C [15 ug/l vs 8.5 ug/l]
8	Mercury (303d listed)	0.025	Y	N		0.026		0.026	Y		Y	N		0.0086		B<C, Step 7		Y	MEC => C [0.026 ug/l vs 0.025 ug/l]
9	Nickel	13	Y	N		7.95		7.95	MEC<C, go to Step 5		Y	N		3.73		B<C, Step 7			
10	Selenium (303d listed)	5.0	Y	N		1.94		1.94	MEC<C, go to Step 5		Y	N		0.39		B<C, Step 7			
11	Silver	2.2	Y	N		5.81		5.81	Y		Y	N		0.052		B<C, Step 7		Y	MEC => C [5.8 ug/l vs 2.2 ug/l]
12	Thallium	6.3	Y	Y	0.5		MDL<=C, MDL=MEC	0.5	MEC<C, go to Step 5		Y	N		0.21		B<C, Step 7			
13	Zinc	86	Y	N		176		176	Y		Y	N		5.1		B<C, Step 7		Y	MEC => C [176 ug/l vs 86 ug/l]
14	Cyanide	1.0	Y	N		11.48		11.48	Y		Y	Y	0.4		N	No detected value of B, Step 7		Y	MEC => C [11 ug/l vs 1.0 ug/l]
15	Asbestos	No Criteria	N			0	No Criteria		No Criteria							No Criteria	No Criteria		Uo - No Criteria
16	2,3,7,8-TCDD (Dioxin) (303d list	0.000000014	Y	N		0.000000346		0.000000346	Y							No detected value of B, Step 7			
16-TEQ	Dioxin TEQ (303d listed)	0.000000014	Y	N		0.000000482		0.000000482	Y		Y	N		7.10E-08		Y		Y	MEC => C [4.8E-07 ug/l vs 1.4E-08 ug/l]
17	Acrolein	780	Y	Y	0.8		MDL<=C, MDL=MEC	0.8	MEC<C, go to Step 5		Y	Y	0.5		N	No detected value of B, Step 7			
18	Acrylonitrile	0.66	Y	Y	0.8		MDL > C, Interim Monitor, Go To S				Y	N		0.03		B<C, Step 7			Effluent MDL > C, Interim Monitor
19	Benzene	71	Y	N		2		2	MEC<C, go to Step 5		Y	Y	0.05		N	No detected value of B, Step 7			
20	Bromoform	360	Y	Y	0.053		MDL<=C, MDL=MEC	0.053	MEC<C, go to Step 5		Y	Y	0.5		N	No detected value of B, Step 7			
21	Carbon Tetrachloride	4.4	Y	Y	0.061		MDL<=C, MDL=MEC	0.061	MEC<C, go to Step 5		Y	N		0.06		B<C, Step 7			
22	Chlorobenzene	21000	Y	Y	0.053		MDL<=C, MDL=MEC	0.053	MEC<C, go to Step 5		Y	Y	0.5		N	No detected value of B, Step 7			
23	Chlorodibromomethane	34	Y	N		0.354		0.354	MEC<C, go to Step 5		Y	Y	0.05		N	No detected value of B, Step 7			
24	Chloroethane	No Criteria	Y	Y	0.036		No Criteria	0.036	No Criteria		Y	Y	0.5		N	No Criteria	No Criteria		Uo - No Criteria
25	2-Chloroethylvinyl Ether	No Criteria	Y	Y	0.156		No Criteria	0.156	No Criteria		Y	Y	0.5		N	No Criteria	No Criteria		Uo - No Criteria
26	Chloroform	No Criteria	Y	N		10.293	No Criteria	10.293	No Criteria		Y	Y	0.5		N	No Criteria	No Criteria		Uo - No Criteria
27	Dichlorobromomethane	46	Y	N		0.943		0.943	MEC<C, go to Step 5		Y	Y	0.05		N	No detected value of B, Step 7			
28	1,1-Dichloroethane	No Criteria	Y	Y	0.135		No Criteria	0.135	No Criteria		Y	Y	0.05		N	No Criteria	No Criteria		Uo - No Criteria
29	1,2-Dichloroethane	99	Y	Y	0.067		MDL<=C, MDL=MEC	0.067	MEC<C, go to Step 5		Y	N		0.04		B<C, Step 7			
30	1,1-Dichloroethylene	3.2	Y	Y	0.074		MDL<=C, MDL=MEC	0.074	MEC<C, go to Step 5		Y	Y	0.5		N	No detected value of B, Step 7			
31	1,2-Dichloropropane	39	Y	Y	0.149		MDL<=C, MDL=MEC	0.149	MEC<C, go to Step 5		Y	Y	0.05		N	No detected value of B, Step 7			
32	1,3-Dichloropropylene	1700	Y	Y	0.162		MDL<=C, MDL=MEC	0.162	MEC<C, go to Step 5							No detected value of B, Step 7			
33	Ethylbenzene	29000	Y	Y	0.099		MDL<=C, MDL=MEC	0.099	MEC<C, go to Step 5		Y	Y	0.5		N	No detected value of B, Step 7			
34	Methyl Bromide	4000	Y	N		0.169		0.169	MEC<C, go to Step 5		Y	Y	0.5		N	No detected value of B, Step 7			
35	Methyl Chloride	No Criteria	Y	N		1.281	No Criteria	1.281	No Criteria		Y	Y	0.5		N	No Criteria	No Criteria		Uo - No Criteria
36	Methylene Chloride	1600	Y	N		8.107		8.107	MEC<C, go to Step 5		Y	N		0.5		B<C, Step 7			
37	1,1,2,2-Tetrachloroethane	11	Y	Y	0.094		MDL<=C, MDL=MEC	0.094	MEC<C, go to Step 5		Y	Y	0.05		N	No detected value of B, Step 7			
38	Tetrachloroethylene	8.9	Y	N		9.3		9.3	Y		Y	Y	0.5		N	No detected value of B, Step 7		Y	MEC => C [9.3 ug/l vs 8.9 ug/l]
39	Toluene	200000	Y	N		2.171		2.171	MEC<C, go to Step 5		Y	Y	0.3		N	No detected value of B, Step 7			
40	1,2-Trans-Dichloroethylene	140000	Y	Y	0.111		MDL<=C, MDL=MEC	0.111	MEC<C, go to Step 5		Y	Y	0.5		N	No detected value of B, Step 7			
41	1,1,1-Trichloroethane	No Criteria	Y	N		0.375	No Criteria	0.375	No Criteria		Y	Y	0.5		N	No Criteria	No Criteria		Uo - No Criteria
42	1,1,2-Trichloroethane	42	Y	Y	0.111		MDL<=C, MDL=MEC	0.111	MEC<C, go to Step 5		Y	Y	0.05		N	No detected value of B, Step 7			
43	Trichloroethylene	81	Y	N		0.798		0.798	MEC<C, go to Step 5		Y	Y	0.5		N	No detected value of B, Step 7			
44	Vinyl Chloride	525	Y	N		1.369		1.369	MEC<C, go to Step 5		Y	Y	0.5		N	No detected value of B, Step 7			
45	Chlorophenol	400	Y	Y	1.05		MDL<=C, MDL=MEC	1.05	MEC<C, go to Step 5		Y	Y	1.2		N	No detected value of B, Step 7			
46	2,4-Dichlorophenol	790	Y	Y	1.2		MDL<=C, MDL=MEC	1.2	MEC<C, go to Step 5		Y	Y	1.3		N	No detected value of B, Step 7			
47	2,4-Dimethylphenol	2300	Y	Y	1.15		MDL<=C, MDL=MEC	1.15	MEC<C, go to Step 5		Y	Y	1.3		N	No detected value of B, Step 7			
48	2-Methyl-4,6-Dinitrophenol	765	Y	Y	1.08		MDL<=C, MDL=MEC	1.08	MEC<C, go to Step 5		Y	Y	1.2		N	No detected value of B, Step 7			
49	2,4-Dinitrophenol	14000	Y	Y	1.48		MDL<=C, MDL=MEC	1.48	MEC<C, go to Step 5		Y	Y	0.7		N	No detected value of B, Step 7			
50	2-Nitrophenol	No Criteria	Y	Y	0.41		No Criteria	0.41	No Criteria		Y	Y	1.3		N	No Criteria	No Criteria		Uo - No Criteria
51	4-Nitrophenol	No Criteria	Y	Y	1.96		No Criteria	1.96	No Criteria		Y	Y	1.6		N	No Criteria	No Criteria		Uo - No Criteria
52	3-Methyl-4-Chlorophenol	No Criteria	Y	Y	0.73		No Criteria	0.73	No Criteria		Y	Y	1.1		N	No Criteria	No Criteria		Uo - No Criteria
53	Pentachlorophenol	7.9	Y	Y	0.64		MDL<=C, MDL=MEC	0.64	MEC<C, go to Step 5		Y	Y	1		N	No detected value of B, Step 7			
54	Phenol	4600000	Y	Y	0.13		MDL<=C, MDL=MEC	0.13	MEC<C, go to Step 5		Y	Y	1.3		N	No detected value of B, Step 7			
55	2,4,6-Trichlorophenol	6.5	Y	Y	1.62		All ND MDL<=C, MDL=MEC	1.62	MEC<C, go to Step 5		Y	Y	1.3		N	No detected value of B, Step 7			
56	Acenaphthene	2700	Y	Y	0.11		All ND MDL<=C, MDL=MEC	0.11	MEC<C, go to Step 5		Y	N		0.0015		B<C, Step 7			
57	Acenephthylene	No Criteria	Y	Y	0.07		No Criteria	0.07	No Criteria		Y	N		0.00053		No Criteria	No Criteria		Uo - No Criteria
58	Anthracene	110000	Y	Y	0.01		All ND MDL<=C, MDL=MEC	0.01	MEC<C, go to Step 5		Y	N		0.0005		B<C, Step 7			
59	Benzidine	0.00054	Y	Y	1.49		MDL > C, Go to Step 5				Y	Y	0.0015		Y	No detected value of B, Step 7			
60	Benzo(a)Anthracene	0.049	Y	Y	0.02		MDL > C, Go to Step 5	0.02	MEC<C, go to Step 5		Y	N		0.0053		B<C, Step 7			
61	Benzo(a)Pyrene	0.049	Y	Y	0.02		MDL > C, Go to Step 5	0.02	MEC<C, go to Step 5		Y	N		0.00029		B<C, Step 7			
62	Benzo(b)Fluoranthene	0.049	Y	Y	0.02		MDL > C, Go to Step 5	0.02	MEC<C, go to Step 5		Y	N		0.0046		B<C, Step 7			

San Francisco SE Plant
Reasonable Potential Analysis Results

Beginning			Step 2	Step 3					Step 4		Step 2	Step 3		Step 4.	Step 5.	Step 6.	Step 7 & 8.		
		C (µg/L)						Maximum Pollutant Concentration (MEC) (ug/L)	MEC vs. C							B vs. C	7) Review other information in the SIP page 4. Y if other information indicates limits are required. If information is unavailable or insufficient: 8) the RWQCB shall establish interim monitoring requirements.		
	Constituent name	Lowest (most stringent) Criteria (a) (Enter "No Criteria" for no criteria)	Effluent Data Available?	Are all data points non-detects?	Minimum MDL (ug/L) if all data ND.	Enter the pollutant effluent detected max conc (ug/L)	If all data points are ND and MinDL>C, interim monitoring is required	(MEC= deteted max value; if all ND & MDL<C then MEC = MDL)	Y if MEC >= C, effluent limitation is required. 2. If MEC<C, go to Step 5		Background Data Available?	Are all background data points non-detects?	If all background data points ND Enter the min detection limit (MDL) (ug/L)	Enter the pollutant background detected max conc (ug/L)	If all B is ND, is MDL>C? (If Y, Go To Step 7)	If B>C, effluent limitation is required	RPA Result	Reason
63	Benzo(ghi)Perylene	No Criteria	Y	Y	0.02		No Criteria	0.02	No Criteria		Y	N		0.0027		No Criteria	No Criteria		**Uo - No Criteria**
64	Benzo(k)Fluoranthene	0.049	Y	Y	0.03		MDL > C, Go to Step 5	0.03	MEC<C, go to Step 5		Y	N		0.0015		B<C, Step 7			
65	Bis(2-Chloroethoxy)Methane	No Criteria	Y	Y	0.81		No Criteria	0.81	No Criteria		Y	Y	0.3		N	No Criteria	No Criteria		**Uo - No Criteria**
66	Bis(2-Chloroethyl)Ether	1.4	Y	Y	0.81		All ND MDL<=C, MDL=MEC	0.81	MEC<C, go to Step 5		Y	Y	0.3		N	No detected value of B, Step 7			
67	Bis(2-Chloroisopropyl)Ether	170000	Y	Y	0.73		All ND MDL<=C, MDL=MEC	0.73	MEC<C, go to Step 5							No detected value of B, Step 7			
68	**Bis(2-Ethylhexyl)Phthalate**	5.9	Y	N		6.82		6.82	Y		Y	Y	0.5		N	No detected value of B, Step 7		Y	**MEC => C [6.8 ug/l vs 5.9 ug/l]**
69	4-Bromophenyl Phenyl Ether	No Criteria	Y	Y	0.69		No Criteria	0.69	No Criteria		Y	Y	0.23		N	No Criteria	No Criteria		**Uo - No Criteria**
70	Butylbenzyl Phthalate	5200	Y	Y	0.26		All ND MDL<=C, MDL=MEC	0.26	MEC<C, go to Step 5		Y	Y	0.52		N	No detected value of B, Step 7			
71	2-Chloronaphthalene	4300	Y	Y	1		All ND MDL<=C, MDL=MEC	1	MEC<C, go to Step 5		Y	Y	0.3		N	No detected value of B, Step 7			
72	4-Chlorophenyl Phenyl Ether	No Criteria	Y	Y	0.89		No Criteria	0.89	No Criteria		Y	Y	0.3		N	No Criteria	No Criteria		**Uo - No Criteria**
73	Chrysene	0.049	Y	Y	0.03		MDL > C, Go to Step 5	0.03	MEC<C, go to Step 5		Y	N		0.0024		B<C, Step 7			
74	Dibenzo(a,h)Anthracene	0.049	Y	Y	0.02		MDL > C, Go to Step 5	0.02	MEC<C, go to Step 5		Y	N		0.00064		B<C, Step 7			
75	1,2-Dichlorobenzene	17000	Y	N		0.9		0.9	MEC<C, go to Step 5		Y	Y	0.8		N	No detected value of B, Step 7			
76	1,3-Dichlorobenzene	2600	Y	Y	0.178		All ND MDL<=C, MDL=MEC	0.178	MEC<C, go to Step 5		Y	Y	0.8		N	No detected value of B, Step 7			
77	1,4-Dichlorobenzene	2600	Y	N		1.2		1.2	MEC<C, go to Step 5		Y	Y	0.8		N	No detected value of B, Step 7			
78	3,3-Dichlorobenzidine	0.077	Y	Y	0.9		MDL > C, Go to Step 5				Y	Y	0.001		N	No detected value of B, Step 7			
79	Diethyl Phthalate	120000	Y	Y	0.44		All ND MDL<=C, MDL=MEC	0.44	MEC<C, go to Step 5		Y	Y	0.24		N	No detected value of B, Step 7			
80	Dimethyl Phthalate	2900000	Y	Y	0.45		All ND MDL<=C, MDL=MEC	0.45	MEC<C, go to Step 5		Y	Y	0.24		N	No detected value of B, Step 7			
81	Di-n-Butyl Phthalate	12000	Y	N		0.91		0.91	MEC<C, go to Step 5		Y	Y	0.5		N	No detected value of B, Step 7			
82	2,4-Dinitrotoluene	9.1	Y	Y	0.58		All ND MDL<=C, MDL=MEC	0.58	MEC<C, go to Step 5		Y	Y	0.27		N	No detected value of B, Step 7			
83	2,6-Dinitrotoluene	No Criteria	Y	Y	0.56		No Criteria	0.56	No Criteria		Y	Y	0.29		N	No Criteria	No Criteria		**Uo - No Criteria**
84	Di-n-Octyl Phthalate	No Criteria	Y	Y	0.56		No Criteria	0.56	No Criteria		Y	Y	0.38		N	No Criteria	No Criteria		**Uo - No Criteria**
85	1,2-Diphenylhydrazine	0.54	Y	Y	0.74		MDL > C, Interim Monitor, Go To S				Y	N		0.0037		B<C, Step 7			**Effluent MDL > C, Interim Monitor**
86	Fluoranthene	370	Y	Y	0.06		All ND MDL<=C, MDL=MEC	0.06	MEC<C, go to Step 5		Y	N		0.011		B<C, Step 7			
87	Fluorene	14000	Y	Y	0.03		All ND MDL<=C, MDL=MEC	0.03	MEC<C, go to Step 5		Y	N		0.00208		B<C, Step 7			
88	Hexachlorobenzene	0.00077	Y	Y	0.71		MDL > C, Go to Step 5				Y	N		0.0000202		B<C, Step 7			
89	Hexachlorobutadiene	50	Y	Y	0.76		All ND MDL<=C, MDL=MEC	0.76	MEC<C, go to Step 5		Y	Y	0.3		N	No detected value of B, Step 7			
90	Hexachlorocyclopentadiene	17000	Y	Y	0.58		All ND MDL<=C, MDL=MEC	0.58	MEC<C, go to Step 5		Y	Y	0.31		N	No detected value of B, Step 7			
91	Hexachloroethane	8.9	Y	Y	0.74		All ND MDL<=C, MDL=MEC	0.74	MEC<C, go to Step 5		Y	Y	0.2		N	No detected value of B, Step 7			
92	Indeno(1,2,3-cd) Pyrene	0.049	Y	Y	0.03		MDL > C, Go to Step 5	0.03	MEC<C, go to Step 5		Y	N		0.004		B<C, Step 7			
93	Isophorone	600	Y	Y	0.75		All ND MDL<=C, MDL=MEC	0.75	MEC<C, go to Step 5		Y	Y	0.3		N	No detected value of B, Step 7			
94	naphthalene	No Criteria	Y	Y	0.08		No Criteria	0.08	No Criteria		Y	N		0.0023		No Criteria	No Criteria		**Uo - No Criteria**
95	Nitrobenzene	1900	Y	Y	0.71		All ND MDL<=C, MDL=MEC	0.71	MEC<C, go to Step 5		Y	Y	0.25		N	No detected value of B, Step 7			
96	N-Nitrosodimethylamine	8.1	Y	Y	0.1		All ND MDL<=C, MDL=MEC	0.1	MEC<C, go to Step 5		Y	Y	0.3		N	No detected value of B, Step 7			
97	N-Nitrosodi-n-Propylamine	1.4	Y	Y	0.84		All ND MDL<=C, MDL=MEC	0.84	MEC<C, go to Step 5		Y	Y	0.001		N	No detected value of B, Step 7			
98	N-Nitrosodiphenylamine	16	Y	Y	0.55		All ND MDL<=C, MDL=MEC	0.55	MEC<C, go to Step 5		Y	Y	0.001		N	No detected value of B, Step 7			
99	Phenanthrene	No Criteria	Y	Y	0.03		No Criteria	0.03	No Criteria		Y	N		0.0061		No Criteria	No Criteria		**Uo - No Criteria**
100	Pyrene	11000	Y	Y	0.06		All ND MDL<=C, MDL=MEC	0.06	MEC<C, go to Step 5		Y	N		0.0051		B<C, Step 7			
101	1,2,4-Trichlorobenzene	No Criteria	Y	Y	0.91		No Criteria	0.91	No Criteria		Y	Y	0.3		N	No Criteria	No Criteria		**Uo - No Criteria**
102	Aldrin	0.00014	Y	Y	0.002		MDL > C, Go to Step 5									No detected value of B, Step 7			
103	alpha-BHC	0.013	Y	Y	0.001		All ND MDL<=C, MDL=MEC	0.001	MEC<C, go to Step 5		Y	N		0.000496		B<C, Step 7			
104	beta-BHC	0.046	Y	Y	0.002		All ND MDL<=C, MDL=MEC	0.002	MEC<C, go to Step 5		Y	N		0.000413		B<C, Step 7			
105	gamma-BHC	0.063	Y	Y	0.001		All ND MDL<=C, MDL=MEC	0.001	MEC<C, go to Step 5		Y	N		0.0007034		B<C, Step 7			
106	delta-BHC	No Criteria	Y	Y	0.002		No Criteria	0.002	No Criteria		Y	N		0.000042		No Criteria	No Criteria		**Uo - No Criteria**
107	Chlordane (303d listed)	0.00059	Y	Y	0.003		MDL > C, Go to Step 5				Y	N		0.00018		B<C, Step 7			
108	4,4-DDT (303d listed)	0.00059	Y	Y	0.006		MDL > C, Go to Step 5				Y	N		0.000167		B<C, Step 7			
109	4,4-DDE	0.00059	Y	Y	0.004		MDL > C, Go to Step 5				Y	N		0.000693					
110	4,4-DDD	0.00084	Y	Y	0.006		MDL > C, Go to Step 5				Y	N		0.000313		B<C, Step 7			
111	Dieldrin (303d listed)	0.00014	Y	Y	0.002		MDL > C, Go to Step 5				Y	N		0.000264					
112	alpha-Endosulfan	0.0087	Y	Y	0.003		All ND MDL<=C, MDL=MEC	0.003	MEC<C, go to Step 5		Y	N		0.000031		B<C, Step 7			
113	beta-Endosulfan	0.0087	Y	Y	0.002		All ND MDL<=C, MDL=MEC	0.002	MEC<C, go to Step 5		Y	N		0.000069		B<C, Step 7			
114	Endosulfan Sulfate	240	Y	Y	0.006		All ND MDL<=C, MDL=MEC	0.006	MEC<C, go to Step 5		Y	N		0.0000819		B<C, Step 7			
115	Endrin	0.0023	Y	Y	0.002		All ND MDL<=C, MDL=MEC	0.002	MEC<C, go to Step 5		Y	N		0.000036		B<C, Step 7			
116	Endrin Aldehyde	0.81	Y	Y	0.007		All ND MDL<=C, MDL=MEC	0.007	MEC<C, go to Step 5							No detected value of B, Step 7			
117	Heptachlor	0.00021	Y	Y	0.001		MDL > C, Go to Step 5				Y	N		0.000019		B<C, Step 7			
118	Heptachlor Epoxide	0.00011	Y	Y	0.001		MDL > C, Go to Step 5				Y	N		0.00002458		B<C, Step 7			
119-125	PCBs sum (303d listed)	0.00017	Y	Y	0.01		MDL > C, Go to Step 5									No detected value of B, Step 7			
126	Toxaphene	0.0002	Y	Y	0.035		MDL > C, Go to Step 5									No detected value of B, Step 7			
	Ammonia	1,100	Y	N		40000			Y		Y	N		210		B<C, Step 7		Y	**MEC => C (40,000 ug/L vs 220 ug/L)**
	Tributyltin	0.0074	Y	N		0.011		0.011	Y		Y	Y	0.0010		N	No detected value of B, Step 7		Y	**MEC => C [0.011 ug/l vs 0.007 ug/l]**
	Total PAHs	15	N			0	No Effluent Data				Y	N		0.26		B<C, Step 7			

a. The most stringent of salt and fresh water criteria were selected for this analysis.

b. Acronyms in the "Final Result" column:

Ud: Cannot determine reasonable potential due to the absence of data, or because Minimum DL is greater than water quality objective or CTR criteria

Uo: No criteria available

IM: Interim monitoring is required

San Francisco SE Plant
WQBEL Calculations

PRIORITY POLLUTANTS	**Copper**		**Lead**	**Mercury**	**Silver**	**Zinc**	**Cyanide**		**Dioxin TEQ**	**Tetrachloroethylene**	**Bis(2-Ethylhexyl) Phthalate**	**Tributyltin**	**Total Ammonia, acute**	**Total Ammonia, chronic**
Units	**ug/L**		**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**		**ug/L**	**ug/L**	**ug/L**	**ug/L**	**mg/L**	**mg/L**
Basis and Criteria type	BP & CTR SW Aq Life	Alternate limits using SSOs (December 2004)	BP & CTR SW Aquatic Life	BP SW Aq Life	CTR SW Aquatic Life	CTR SW Aq Life	NTR Criterion for the Bay	Alternate Limits Using Proposed SSOs	CTR HH	CTR HH	CTR HH	BP SW Aq Life	BP SW Aq Life	BP SW Aq Life
CTR Criteria -Acute	5.5	-----	221	2.1	2.2	95	1.0	9.4	-----	-----	-----	0.0074	11.55	
CTR Criteria -Chronic	4.2	-----	8.5	0.025	-----	86	1.0	2.9	-----	-----	-----	0.42		1.10
SSO Criteria -Acute (December 2004) (Diss.)		3.9												
SSO Criteria -Chronic (December 2004) (Diss.)		2.5												
Water Effects ratio (WER)	2.4	2.4	1	1	1	1	1	1	1	1	1	1	1	1
Lowest WQO	4.2		8.5	0.025	2.2	86	1.0	1.0	1.4E-08	8.9	5.9	0.0074	11.55	1.10
Site Specific Translator - MDEL	0.88	0.88												
Site Specific Translator - AMEL	0.74	0.74												
Dilution Factor (D) (if applicable)	9	9	9	0	9	9	50	9	0	9	9	9	50	230
No. of samples per month	4	4	4	4	4	4	4	4	4	4	4	4	4	30
Aquatic life criteria analysis required? (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	Y
HH criteria analysis required? (Y/N)	N	N	N	Y	N	N	Y	Y	Y	Y	Y	N	N	N
Applicable Acute WQO	13.09	10.64	221	2.1	2.2	95.1	1	9.4				0.0074	11.55	0.00
Applicable Chronic WQO	10.05	8.11	8.52	0.025		85.6	1	2.9				0.42	0.00	1.10
HH criteria	-----	-----	-----	0.05	-----	-----	220,000	220,000	1.40E-08	8.85	5.9			
Background (Maximum Conc for Aquatic Life calc)	2.55	2.55	0.80	0.0086	0.052	5.1	0.4	0.4	7.10E-08	0.5	0.5	0.001	0.22	0.11
Background (Average Conc for Human Health calc)	-----	-----	-----	0.0022	-----	-----	0.4	0.4	5.00E-08	0.5	0.5			
Is the pollutant Bioaccumulative(Y/N)? (e.g., Hg)	N	N	N	Y	N	N	N	N	Y	N	N	N	N	N
ECA acute	108.0	83.4	2201	2.1	21.9	905.5	31.0	90.4				0.07	578	0
ECA chronic	77.6	58.1	77.9	0.025	No Chr. WQO	810.34	31.0	25.4				4.191	0	229
ECA HH				0.05			11219980	2199996	1.40E-08	84.00	54.5			
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y
Avg of effluent data points	7.96	7.96	1.96	0.011	0.27	37	2.43	2.43	3.9E-08	1.8			28	28
Std Dev of effluent data points	2.05	2.05	1.99	0.0054	0.69	19	1.57	1.57	1.1E-07	2.4			6.6	6.6
CV calculated	0.26	0.26	1.01	0.49	2.58	0.51	0.65	0.65	2.88	1.36	N/A	N/A	0.23	0.23
CV (Selected) - Final	0.26	0.26	1.01	0.49	2.58	0.51	0.65	0.65	2.88	1.36	0.60	0.60	0.23	0.23
ECA acute mult99	0.57	0.57	0.202	0.376	0.10	0.366	0.30	0.30				0.321	0.61	
ECA chronic mult99	0.75	0.75	0.369	0.585	0.16	0.575	0.50	0.50				0.527		0.77
LTA acute	61.80	47.75	444.247	0.790	2	331.314	9.33	27.20				0.021	350	
LTA chronic	58.04	43.48	28.78	0.015		465.67	15.64	12.81				2.210		176.4
minimum of LTAs	58.04	43.48	28.78	0.015	2.19	331	9.3	13				0.021	350.00	176.00
AMEL mult95	1.22	1.22	1.96	1.45	3.12	1.47	1.60	1.60	3.26	2.28	1.55	1.55	1.20	1.07
MDEL mult99	1.75	1.75	4.95	2.66	9.98	2.73	3.32	3.32	10.58	6.41	3.11	3.11	1.65	1.65
AMEL (aq life)	71.10	53.27	56.31	0.02	6.84	485.69	14.91	20.49				0.03	419.9	188.4
MDEL(aq life)	101.38	75.96	142.58	0.04	21.9	905.47	31.00	42.58				0.07	578.4	290.9
MDEL/AMEL Multiplier	1.43	1.43	2.53	1.83	3.20	1.86	2.08	2.08	3.24	2.81	2.01	2.01	1.38	1.54
AMEL (human hlth)				0.051			1.1E+07	2.2E+06	1.4E-08	84	54.5			
MDEL (human hlth)				0.094			2.3E+07	4.6E+06	4.5E-08	236.044	109.337			
minimum of AMEL for Aq. life vs HH	71	53	56	0.021	7	486	15	20	1.4E-08	84	54.5	0.032	420	188
minimum of MDEL for Aq. Life vs HH	101	76	143	0.039	22	905	31	43	4.5E-08	236	109.3	0.065	578	291
Current limit in permit (30-day average)	------	------	36	0.087 (interim)	12	490	-----	-----	------	------	------	------	------	------
Current limit in permit (daily)	37 (interim)	37 (interim)	89	-------	22	720	------	------	------	------	-------	------	------	------
Final limit - AMEL	71	53	36	0.021	7	490	15	20	1.4E-08	84	55	0.032	420	188
Final limit - MDEL	101	76	89	0.039	22	720	31	43	4.5E-08	236	109	0.065	578	291
Max Effl Conc (MEC)	16	16	14.7	0.026	5.81	176	11	11	4.8E-07	9.3	6.8	0.011	40	40

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 135 et seq.), as amended. The Discharger shall implement and enforce their respective Approved Pretreatment Programs or modified Pretreatment Programs as directed by the Board's Executive Officer or the U.S. Environmental Protection Agency (USEPA). The USEPA 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 Part 403 and amendments or modifications thereto including, but not limited to:

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

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

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

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

   e. 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 USEPA Region 9, the State Board and the Regional Water Board describing the Discharger's respective pretreatment program activities over the previous twelve months. In the event that the Discharger is not in compliance with any conditions or requirements of this permit, 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 USEPA Region 9, the State Board and the Board describing the status of their respective significant industrial users (SIUs). The report shall contain, but not is limited to, the information specified in

Appendix B entitled, "Requirements for Semiannual Pretreatment Reports," which is made part of this Order. The semi annual 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 Board and USEPA'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 System (NPDES) permit number(s) of those POTW's 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 City/District/Agency, the POTW and/or the Industrial 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 USEPA. 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 POTW 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 POTW. The specific category shall be listed including the subpart and 40 CFR section that applies. The maximum and average limits for 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 the reason why the SIU is

classified as "Significant." 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 USEPA, the State Water Resources Control 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 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 (SRS). The Discharger shall contact the Regional Water Board's ERS Project Manager for specific details in submitting the monitoring data.

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 USEPA, 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

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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 their respective treatment plant's influent, effluent and sludge at the frequency as shown in the Monitoring and Reporting Program (Attachment E).

The monitoring and reporting requirements of the POTW's Pretreatment Program are in addition to those specified in the individual POTW's NPDES permit. Any subsequent

modifications of the NPDES requirements 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 in both the Discharger's NPDES permit and Pretreatment Program. Monitoring reports required by this Order shall be sent to the Pretreatment Coordinator.

1. Influent and Effluent Monitoring

The Discharger shall monitor for the parameters using the required test methods listed in the Monitoring and Reporting Program (Attachment E). Any test method substitutions must have received prior written Regional Water Board approval. In addition, unless instructed otherwise in writing, the Discharger shall continue to monitor for those parameters at the frequency stated in the Monitoring and Reporting Program (Attachment E). Influent and effluent sampling locations shall be the same as those sites specified Table E-2 in the Monitoring and Reporting Program (Attachment E).

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 hydrocarbon 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 Part 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* (2005) [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 Report.

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 descriptions 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 USEPA 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 USEPA manual *Analytical Methods of the National Sewage Sludge Survey*, September 1990, containing detailed analytical protocols specific to sludge, is recommended as 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, Section 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 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 nonpriority pollutants that the permittee believes may be causing or contributing to Interference, Pass Through, or adversely impacting sludge quality.

B. Comments Letters

SAN FRANCISCO PUBLIC UTILITIES COMMISSION

1155 Market St., 11th Floor, San Francisco, CA 94103 • Tel. (415) 554-3155 • Fax (415) 554-3161 • TTY (415) 554.3488

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RICHARD SKLAR
DAVID HOCHSCHILD

SUSAN LEAL
GENERAL MANAGER

December 19, 2007

Mr. Bruce Wolfe
Executive Officer
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612
ATTN: Derek Whitworth

Comments and Attachments Via email: dwhitworth@waterboards.ca.gov &
Comments Only via Fax: (510) 622-2460

RE: Comments on the Tentative Order Reissuing the City and County of San Francisco Southeast Water Pollution Control Plant, North Point Wet Weather Facility, and Bayside Wet Weather Facilities NPDES Permit (CA0037664)

Dear Mr. Wolfe:

The City and County of San Francisco Public Utilities Commission (San Francisco) has prepared the enclosed comments on the Tentative Order for the Southeast Water Pollution Control Plant, North Point Wet Weather Facility, and Bayside Wet Weather Facilities (Bayside Wastewater Facilities) NPDES Permit. We recognize that because San Francisco is served predominantly by a combined sewer system, this permit is different and more complex than other San Francisco Bay Region permits, and we appreciate the effort that your staff, Lila Tang, Bill Johnson, and Derek Whitworth, took to meet with us and to clarify a number of issues with respect to this permit.

We continue to have particular concern with the proposed dioxin effluent limits included in the Tentative Order. San Francisco's combined sewer system is unique in the San Francisco Bay Area in that large volumes of stormwater and urban runoff are captured and treated, thereby greatly reducing dioxin loadings to the San Francisco Bay. While all stormwater in San Francisco receives treatment, fully 60 to 65% receives secondary treatment. This existing significant treatment of stormwater pollutants should be acknowledged with respect to applying effluent limits for any pollutant, including dioxin, which are present almost exclusively due to collection and treatment of urban and stormwater runoff.

We seek confirmation that our updated dilution study has been accepted and that the results will be incorporated into the final effluent limit calculations. In addition, we are requesting a number of other modifications or clarifications that are identified in the attached comments.

Thank you for the opportunity to comment; we appreciate your consideration of our comments and hope that they will be incorporated into San Francisco's Bayside Wastewater Facilities NPDES permit before the permit is presented to the Water Board for adoption. If you have any questions regarding these comments or any other issue related to this permit, please contact Arleen Navarret of my staff at 415 934-5731 or via email at anavarret@sfwater.org.

Very truly yours,

Tommy Moala, Assistant General Manager
Wastewater Enterprise, San Francisco Public Utilities Commission

cc: Michele Plá, Bay Area Clean Water Agencies (BACWA), Executive Director
Robert Cole, BACWA Permit Committee Chair

Enclosure: *as noted*

Comments by the City and County of San Francisco on the Tentative Order Reissuing the San Francisco Southeast Water Pollution Control Plant, North Point Wet Weather Facility, and Bayside Wet Weather NPDES Permit (CA0037664)

Submitted December 19, 2007

San Francisco presents the following comments on the Tentative Order (Order) released for public review November 19, 2007. Our comments are organized as follows:

1. Critical Compliance Issues/Dioxin
2. Other Effluent Limits
3. Monitoring Requirements
4. Clarifying Issues
5. Program Implementation Comments

1 Critical Compliance Issues

1.1 Dioxin

The City and County of San Francisco is unique as a wastewater municipality in that our citizens funded a *1.6 billion dollar* combined collection and treatment system that treats stormwater pollutants. Fully *one billion dollars* of this long-term project was spent on the storage, transport and treatment of predominantly stormwater flows. Unlike any other system in California, all stormwater flows receive treatment, and approximately 60% of the stormwater flows receives secondary treatment.

San Francisco's sewerage system is estimated to remove approximately 800 mg per year of dioxins (Attachment 1 – Mass Balance Analysis), which is significantly greater than the approximate 2.5 mg per year discharged during dry weather. Further, this compares to the estimated Bay-wide dioxin discharges from stormwater of just over 5,000 mg a year.[1] Thus San Francisco's wet weather treatment facilities prevent perhaps as much as 15% additional dioxin discharge from Bay Area stormwater. More detailed analysis is provided in the dioxin mass balance report attached to these comments.

Although San Francisco's wastewater control program uniquely and effectively addresses dioxin, the draft permit proposes a numeric dry-weather effluent limit with which San Francisco cannot currently comply. Complying with this limit would require advanced tertiary treatment since more than 90% removal would be required to address the remaining 2 mg of dry-weather dioxin. Given San Francisco's success in preventing the discharge of substantial amounts of dioxin to the Bay, requiring extremely expensive, yet marginally effective treatment improvements would be not only manifestly unjust to the residents of San Francisco, but also would contradict the Water Board's stated intentions to pursue and promote watershed approaches to pollutant controls. San Francisco's system operates as an effective and innovative watershed-based control strategy. Indeed, failure to adjust the Water Board's approach to the dioxin

[1] California Regional Water Quality Control Board, San Francisco Bay Region, 1998.

numeric limit will seriously undermine the Water Board's creative efforts to expand the treatment of stormwater in other Bay Area systems by utilizing watershed planning and operations strategies.

This Order suggests the possibility of using offsets to meet the proposed final dioxin effluent limit based on a program to be developed later. San Francisco is indeed interested in developing a watershed-based program for source control and treatment efforts, and requests that more definitive language be included in the permit that ensures a watershed-based program could be developed, proposed, and adopted in time to assure San Francisco that investment in advanced tertiary treatment will not be necessary, merely to remove 1 to 2 mg of dry weather dioxin mass.

In furtherance of this approach, San Francisco requests that the concentration-based daily maximum and monthly average dioxin limits be changed to an annual mass based limit. A mass based limit is appropriate for a bioaccumulative toxin and would facilitate the development of a credit program. The mass based limit should be based on maximum design dry-weather capacity[2] (84.5 MGD) and the concentration limit of 1.4×10^{-8} µg/L. Since dioxin criteria are based on long-term exposure, an average annual limit is most appropriate; a maximum daily limit is not required and neither is an average weekly nor an average monthly limit appropriate.

Finally, San Francisco requests that Footnote 12 to Table E-5 (page E-8 of the Monitoring and Reporting Program (MRP) Section) referencing the use of "½USEPA specified MLs" be deleted. We request that the Permit Section table of Minimum Levels (MLs) of Pollutants with Effluent Limitations (page 18) containing individual MLs for each dioxin congener either be included in the MRP or referenced. This strategy was used in the City of San Mateo permit.

2 Other Effluent Limits

2.1 Dilution Model Update

The ammonia and cyanide effluent limits in this Order should be based upon the dilution model submitted by San Francisco to the Water Board on December 6, 2007, that more accurately depicts the hydrodynamics at the Southeast outfall. Therefore, San Francisco requests that all calculations and references to the ammonia and cyanide effluent limits be recalculated to conform to the updated dilution study.

2.2 Mercury Effluent Limit

The mercury effluent limits contained in this Order are based on an inappropriate water quality objective (0.025 µg/L) that will be vacated from the San Francisco Bay Basin Plan once the San Francisco Bay Mercury Total Maximum Daily Load (TMDL) becomes legally effective. The Fact Sheet of this Order (page F-43) includes language stating that the Mercury Watershed Permit that was adopted by the San Francisco Bay Regional Water Board on November 1, 2007 will supersede all mercury requirements including effluent limits in this Order once the mercury TMDL becomes legally effective. The mercury TMDL has already been adopted by the San Francisco Bay Water Board, the State Water Board, and approved by the Office of Administrative Law. The mercury TMDL is awaiting final approval by the USEPA, which we understand should occur by the end of January 2008. Because the mercury effluent limits in this Order are based on a water quality objective that will soon be vacated, San Francisco requests language in the body of the permit similar to what is included for copper and cyanide as a

[2] Per 40 CFR 122.45 (b), effluent limitations for POTWs are based on design flow.

footnote to Table 7. Effluent Limitations (page 17) and Table F-23. Effluent Limitations (page F-56). An example of such language is shown below.

> (6) Alternate Effluent Limitations for Mercury
>
> a. If a mercury Total Maximum Daily Load (TMDL) for San Francisco Bay becomes legally effective, resulting in the issuance of wasteload allocations, upon its effective date, implementation of the mercury TMDL through the Mercury Watershed Permit shall supersede those mercury limitations listed in Table 7 (and Table F-23).
>
> b. If a different mercury water quality objective and TMDL is adopted, the alternate WLA based on the TMDL and WQO will be determined after the water quality objective and TMDL effective date.

2.3 Enterococci Bacteria Limit Wet-Weather

This Order establishes a monthly enterococcus bacteria limit as a geometric mean of 35 MPN/100 mL for the Southeast dry weather discharge to protect for water contact recreation. However this Order also erroneously includes this same geometric mean limit for wet weather discharges from the Southeast and North Point facilities. Enterococci bacteria water quality criteria were established by USEPA and include the above 30-day geometric mean as well as a single sample maximum of 104 MPN/100 mL. The Order states that USEPA expected that the single sample maximum criterion would only be used for beach notification and closures and therefore determines that the geometric mean is more relevant to wastewater discharges. The geometric mean is relevant to evaluate longer term trends and accurately highlights persistent bacteria problems where actions should be taken to protect and improve water quality. However, wet weather discharges are sudden and intermittent, and the evaluation of their impact on water quality should be addressed based on a single event and not as a geometric mean of several events. The use of a geometric mean over multiple samples represents measures from a continuous discharge and is therefore not appropriate for intermittent wet weather discharges. San Francisco therefore, requests that the wet weather enterococci bacteria limit for Southeast wet weather discharge site EFF-001B (page 20 and F-57), Islais Creek wet weather discharge site EFF-002 and North Point wet weather discharge site EFF-003 (page 21 and F-57) be based on the single sample maximum criterion (104 MPN/100 mL), and that justification for use of the criteria on page F-27 be modified as necessary.

2.4 Bis (2-ethylhexyl) phthalate Does Not Need Maximum Daily Limit

The water quality criteria for bis (2-ethylhexyl) phthalate are based on the protection of human health, which are determined over long time exposure. A maximum daily limit is unnecessary and inappropriate. San Francisco requests that the bis (2-ethylhexyl) phthalate maximum daily effluent limit be deleted (page 17, F-48, F-56).

2.5 Metals Translators

The Fact Sheet (page F-30) indicates that site specific translators were used for copper and nickel in the reasonable potential analysis (RPA). San Francisco believes that Water Board staff has the discretion to use site specific translators based on Regional Monitoring Program data for other metals as well. San Francisco requests that the Water Board use site specific translators based on for all metals in the RPA. We are pleased to assist staff with translator calculations and RP analysis.

3 Monitoring Requirements

This Order includes a few monitoring requirements for which there are no rationale.

3.1 Sanitary Sewer Overflows and Sewer System Management Plan

This Order incorrectly states that San Francisco's combined sewer system is subject to the State's General Waste Discharge Requirement for Collection System Agencies (Order No. 2006-0003 DWQ) (page 32). According to the State Water Board, the General WDR for sanitary sewers does not apply to combined sewer systems. San Francisco requests that any references to the combined sewer system in this section of the permit be removed since the inclusion is both inappropriate and confusing. Although San Francisco is served predominantly by a combined sewer system, we recognize that separate sanitary sewers within San Francisco are subject to the State's WDR for sanitary sewers.

Section VI.C.6.c. should read as follows with ~~strike-through~~ deleted text and underlined added text:

> **c. Sanitary Sewer Overflows and Sewer System Management Plan**
> ~~The Discharger's collection system is predominantly a combined sewer system with some limited separate sanitary sewers. The Discharger must properly operate and maintain its entire sanitary sewer collection system (Attachment D, Standard Provisions – Permit Compliance, Section I.D). The Discharger must report any noncompliance (Attachment D, Standard Provision – Reporting, Sections V.E.1 and V.E.2) and mitigate any discharge from the Discharger's combined sewer collection system in violation of this Order (Attachment D, Standard Provisions – Permit Compliance, Section I.C).~~ The ~~Discharger's~~ separate sanitary sewer system portions of the Discharger's sewer system ~~combined sewer collection system is~~are subject to the General Waste Discharge Requirements for Collection System Agencies (Order No. 2006-0003 DWQ), which has requirements for operation and maintenance of separate sanitary sewer collection systems and for reporting and mitigating sanitary sewer overflows. While the Discharger must comply with both the General Waste Discharge Requirements for Collection System Agencies (General Collection System WDR) and this Order, the General Collection System WDR more clearly and specifically stipulates requirements for operation and maintenance and for reporting and mitigating sanitary sewer overflows. Implementation of the General Collection System WDR requirements for proper operation and maintenance and mitigation of spills will satisfy the corresponding federal NPDES requirements ~~specified in this Order~~ for the control of separate sanitary system overflows. Following reporting requirements in the General Collection System WDR will satisfy NPDES reporting requirements for sanitary sewage spills. Furthermore, the Discharger shall comply with the schedule for development of sewer system management plans as indicated in the letter issued by the Regional Water Board on July 7, 2005, pursuant to Water Code Section 13267. This section does not apply to operations of the combined sewer system.

Additionally, San Francisco requests that Section A (page E-15) be deleted from MRP Item X. Section A (Monitoring Locations – Sanitary Sewer Overflows and Bypasses (OV-1 thru OV-n)) includes sanitary sewer overflow monitoring requirements. These requirements appear to be in conflict with the State WDR for sanitary sewer overflow (SSO) requirements. The Permit already includes Provision VI.C.6.c. (page 32) as indicated above that addresses SSO requirements, therefore the reference in the MRP should be deleted.

3.2 Southeast Influent Chemical Oxygen Demand (COD) – Table E-3

There is no rationale for monitoring COD in the Southeast *influent* INF-001. Although COD is also an effluent monitoring requirement, there is no removal requirement for COD in this permit. San Francisco requests that COD be removed from Table E-3 Influent Monitoring – Dry Weather requirements (page E-5).

3.3 North Point Influent Oil and Grease (O&G) – Table E-4

There is no rationale for monitoring O&G in the North Point *influent* INF-002. There are no limits for O&G under wet weather conditions and there is no removal requirement for O&G in this permit. San Francisco requests that O&G be removed from Table E-4 Influent Monitoring – Wet Weather requirements (page E-6).

3.4 Wet Weather Effluent O&G – Table E-6

This Order requires O&G effluent monitoring for wet weather events (Table E-6, page E-8). Data collected through the last permit cycle from North Point, Southeast and Islais Creek discharge points indicate that O&G measurements (Attachment 2) are typically at or near the method detection limit and generally less than secondary effluent daily maximum effluent limits. One of 38 wet weather measurements from the North Point Wet Weather Facility, which provides primary treatment, exceeded secondary daily maximum effluent limits; three of 47 wet weather measurements from the Southeast Pier 80 discharge site, which is also predominantly primary treatment, exceeded secondary daily maximum effluent limits; and none of the 23 wet weather measurements from the Southeast Islais Creek discharge site, which provides secondary treatment to wet weather flow, exceeded secondary daily maximum effluent limits. Since there are no numeric effluent limits associated with this monitoring, there is little rationale to continue monitoring for this technology based effluent pollutant. San Francisco requests that O&G monitoring be removed from the wet weather effluent monitoring requirements in Table E-6.

This Order includes a footnote (#4) for O&G wet weather effluent monitoring (page E-9) that requires flow-based grab samples. Given that storm events are sporadic and of unknown duration, such a methodology is not practical. If O&G sampling is retained in the permit, San Francisco requests a time-based methodology footnote for wet weather effluent O&G grab samples taken at appropriate intervals during the wet weather event.

3.5 Wet Weather Monitoring Frequency – Table E-6

Table E-6. Effluent Monitoring – Wet Weather Monitoring Locations (page E-8), of this Order, requires monthly effluent monitoring for certain pollutants during wet weather (footnote 2). Wet weather discharges for San Francisco's combined sewer system are regulated under the federal Combined Sewer Overflow Control Policy, which requires maximizing flow to the facilities to minimize the number of overflows to receiving waters, and therefore numerical effluent limitations do not apply to wet weather discharges. The frequency of this monitoring for pollutants without numerical limits is excessive and San Francisco requests that the frequency be reduced to "twice per season when wet weather facilities are operational".

4 Other Clarifying Issues

4.1 Defined Separation of Wet Weather Discharge Events

San Francisco's combined sewer system was designed to provide adequate overall protection of beneficial uses. The wet weather facilities were designed, based on historic rainfall conditions, to provide storage and treatment capacity for wet weather flows such that on average a designated number of combined sewer discharges to receiving waters will occur, depending on drainage basin characteristics. Treated combined sewer discharges to shoreline receiving waters occur only when storm flows exceed the capacity of the storage/transport structures and facilities. The system was designed such that any one or combination of wet weather induced shoreline discharges from the Bayside Wastewater Facilities system within a six-hour period is considered a single discharge event. This language is included in San Francisco's Oceanside Water Pollution Control Plant and Westside Wet Weather Combined Sewer System NPDES Permit (No. CA0037681) but has been inadvertently omitted from this Order for the Bayside Wastewater Facilities. San Francisco requests that the Water Board include this design language under Permit section VI.C.7.c – Combined Sewer Overflow Controls, Long-Term Control Plan, pages 36 and 37. This definition does not affect operations or compliance status.

4.2 Consideration of Wet Weather Influenced Day

Directing stormwater runoff to treatment systems – when treatment can be provided – is clearly environmentally superior to discharging runoff directly to the San Francisco Bay with no treatment. Stormwater discharges from separate storm drain systems are not subject to any numeric limitations for storm pollutants (e.g., dioxin), even though they are the major source of such pollutants discharged to the Bay. Although treatment of stormwater pollutants achieves a significant environmental benefit by reducing pollutant loading to the Bay, the capture of urban runoff and stormwater flows also results in increased concentrations of stormwater-generated pollutants in wastewater treatment plant effluents. These increased concentrations have a high potential to exceed water quality based effluent limits.

We request that the Water Board define "wet weather-influenced days" for monitoring purposes for POTWs that capture and provide treatment for urban runoff and stormwater flows. The definition would at a minimum pertain to any day that has measurable precipitation. These days would be excluded from monitoring for assessing compliance with dry weather effluent limits for parameters that are primarily wet weather induced (e.g. dioxin). This approach conforms to the proposed PCB TMDL related to stormwater flows and would ensure that POTWs that accept stormwater runoff into their systems do so without the likelihood of incurring instantaneous exceedances of enforceable discharge standards. The policy of excluding wet weather-influenced days from compliance monitoring would allow POTWs accepting such flows to remain in compliance, while providing a significant reduction to pollutant impacts on the Bay.

5 Program Implementation

These comments generally impact all POTW wastewater effluent discharges and are included on behalf of San Francisco and all other Bay Area Dischargers.

5.1 Bacteria Limits Should Incorporate Dilution

This Order does not apply dilution to calculate San Francisco's dry or wet weather enterococci bacteria limits. Dilution should be considered when calculating enterococci bacteria limits for San Francisco Bay discharges, as it has been used in calculating enterococci bacteria limits for the North San Mateo

Sanitation District Wastewater Treatment Plant (NPDES Permit No. CA0037737). The City of San Mateo Wastewater Treatment Plant permit (NPDES No. CA 0037541) states that the enterococci limit does not account for dilution because "dilution cannot be calculated because the background enterococci levels are unknown." San Francisco has collected enterococci bacteria data around the shoreline of the county of San Francisco since 2002. These data (Attachment 3) represent the shoreline bacteria quality, which is likely more impacted than offshore waters. The use of these data as background data to determine the appropriate dilution when calculating effluent limits would result in enterococci bacteria limits that are conservative in terms of protecting beneficial uses, and therefore consistent with Basin Plan Table 4-2, footnote d. San Francisco requests that existing enterococci data from San Francisco Bay (attached) be used to determine the appropriate dilution factor for enterococci bacteria limits in this Order. These data or other local data could be used for determining enterococcus limits for other Publicly Owned Treatment Works (POTWs).

5.2 SIP Allows Dilution for All Pollutants

The current policy of Water Board staff is to cap the dilution ratio at 10:1 for non-bioaccumulative pollutants with the exception, under the most recently reissued NPDES permits, of ammonia and cyanide where all or some portion of actual dilution was used to calculate effluent limits. However, modeling by San Francisco and other Bay Area POTWs show that dilution is typically much higher.

The *State Implementation Policy* (SIP) specifically allows for the use of dilution credits and also explicitly takes precedence over prior Basin Plan policies.[3] San Francisco Bay is not a closed system. The volume of water moving in and out of San Francisco Bay estuary in each tidal cycle represents approximately 24 percent of its total volume[4], therefore the lack of tidal mixing is not an issue, except perhaps for the most inner reaches of the Bay. Also, the use of measured background values already accounts for these concerns. The ambient background concentration is used in the calculation of effluent limits following the SIP procedures and therefore any increased concentration due to previous or other discharges is taken into account.

In addition, EPA guidance also assumes that dilution will be available for bioaccumulative pollutants. U.S. EPA's *Technical Support Document for Water Quality-based Toxics Control*[5] identifies three possible mixing zones and notes that independently established mixing zone specifications may apply to each. The smallest is the acute mixing zone where the EPA Criteria Maximum Concentration (CMC; 1-hr) would apply at the boundary of the mixing zone. The goal of these criteria is to prevent lethality to passing organisms. The Criteria Continuous Concentration (CCC; 4-day) would apply in a larger zone, with the goal of protecting the chronic effects on the ecology of the waterbody as a whole. A third zone, using long-term average conditions, would apply to the human health criteria.

Water quality objectives/criteria for bioaccumulative pollutants are based on EPA's recommended criteria that use the maximum bioaccumulation factors for the pollutant (or similar pollutant). Criteria based on human health risk are derived typically from EPA's IRIS database that uses very conservative

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3 *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, SWRCB, 2005. Dilution is addressed in Section 1.4.2. On page 2, the SIP states: "...th e Policy supersedes basin plan mixing zone provisions to the extent that they apply to implementation of water quality standards for priority pollutants."

4 A.N. Cohen, An Introduction to the San Francisco Estuary (2000)

5 EPA/505/2-90-001, March 1991.

approaches when converting animal risk data to human risk assumptions and when extrapolating risks to very low exposures. Standards for bioaccumulative pollutants are based on very conservative and protective assumptions and are already much lower than they would otherwise be, if not for the inclusion of protective bioaccumulation factors. Dilution should be allowed for bioaccumulative pollutants, as is expected by USEPA.

Actual dilution is more accurate relative to the current science of mixing zones and dilution modeling and should be used as allowed by the SIP in calculating effluent limits for all pollutants.

5.3 Reasonable Potential Analysis (RPA) - Background Data Calculations

The Water Board continues to use outdated background data from the San Francisco Bay Regional Monitoring Program (RMP) in determining the reasonable potential of discharges to exceed water quality objectives. Some of these data points date back to 1992 or 1993, depending on the pollutant. Because the highest background concentration is used to calculate water quality based effluent limitations, a single elevated valued from an early monitoring period could skew calculations even if Bay water quality is generally improved in more recent years. The highest recorded values over a fifteen-year period often represent extreme situations of high Delta runoff, are not necessarily representative of current conditions, and can yield more restrictive than necessary permit limits. Generally, the Water Board uses three to five years of Discharger effluent data to determine RPA. San Francisco recommends that the same period of receiving water background data be used for this analysis. In addition, San Francisco recommends that the San Francisco Bay Water Board incorporate into the Basin Plan during the next review, the State Water Board methodology for determining reasonable potential that has been included in the California Ocean Plan.

5.4 Replace Maximum Daily Limits with Weekly Average Limits

The NPDES regulations at 40 CFR 122.45(d) require that all permit limits be expressed, unless impracticable, as both average monthly limits and maximum daily limits for all discharges other than publicly owned treatment works (POTWs), and as average weekly limits and average monthly limits for POTWs.

Several years ago, the Los Angeles and Burbank POTW permits were appealed on a number of issues, including the inclusion of maximum daily limits. The 2001 Superior Court decision concluded that the Regional Water Board improperly imposed daily maximum limits in the permit. The State Water Board successfully appealed certain aspects of the Superior Court decision, but did not appeal the court's disapproval of daily maximum limits.[6]

[6] From the decision of the Appeals Court (J. Kitchen): "The trial court also sustained the petitions on the grounds that the Regional Board failed to adequately show how numerical permit effluent limitations were derived from the narrative criteria; the effluent limitations are not supported by adequate findings and evidence in the administrative record; the permits improperly impose daily maximum limits rather than average weekly and average monthly limits; and the permits improperly specify the manner of compliance. Water Boards do not challenge this latter group of rulings on appeal and acknowledge that they must issue new permits in compliance with these rulings." [*emphasis added*] (2002 WL 31867863 (Cal.App. 2 Dist.))

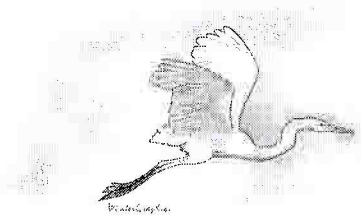
Those items not appealed, including the overruling of daily maximum permit limits for POTWs, are now "the law of the case" and bind the Regional Board's reissuance of Los Angeles and Burbank permits. Given that Regional Boards must apply NPDES and Water Code requirements equitably, consistently, and non-selectively, daily maximum permit limitations are not permissible. The Water Board should eliminate daily maximum permit limits (Page 17, F-56 and elsewhere through the document).

ATTACHMENT 1 – MASS BALANCE REPORT

Dioxin
Mass Balance

City and County of San Francisco

Bayside Wastewater Treatment Facilities



December, 2007

Dioxin Mass Balance ***Bayside Wastewater Treatment Facilities***

NPDES Permit No. CA 0037664 covers wastewater discharges from San Francisco's Bayside wastewater treatment facilities. These discharges include wastewater treated at the Southeast Treatment Plant and the North Point wet weather facility, as well as combined sewer discharges from the storage/transports. This report provides a mass balance analysis of the pollutant dioxin (TCDD equivalents or TEQ) using system-wide data collected from 1998 to 2000.

San Francisco is unique in that it operates a combined wastewater and stormwater collection and treatment system. Therefore, unlike other Bay Area dischargers, the majority of rainfall that lands in San Francisco is treated before discharge to the Bay. This report concludes the following:

- San Francisco's treatment of stormwater runoff removes as much as 800 mg/year of dioxins that would otherwise be discharged to the Bay, significantly greater than the approximate total of 2.5 mg per year discharged during dry weather.

- San Francisco's treatment system reduces wet weather dioxin inputs from the service area by more than 80%.

- Given that Bay Area stormwater sources are estimated to discharge 5.1 g/year of dioxins to the Bay, the removal of about 0.8 g/year represents perhaps as much as 15% avoided contribution from regional stormwater.

- The existing facility permit states "The root cause of the dioxin detections in the Discharger's effluent are not within the Discharger's control, and the next step of treatment will be overly burdensome and not cost effective relative to the benefits."

- The existing facility permit further notes "Based on preliminary data, the Discharger's mass contribution is minor compared to other inputs to the Bay. This cost for further reduction seems overly burdensome and not cost effective at this time."

Given the significance of the avoided dioxins contribution and the past acknowledgement that additional dry weather treatment would not be cost effective, we request that the Regional Water Board consider a proactive mass offset for dioxin in lieu of an effluent limit for dioxin. Since this offset is likely many times greater than any that would be required by an offset policy, San Francisco could be considered in compliance as long as it maintains its current practices of treating wet weather flows.

Dioxin Mass Balance

We have identified the relative loadings of dioxin in the wastewater system and discharges. This mass balance includes a comparison of the dioxin removed from wet weather flow with the dioxin discharged during dry weather.

Sources of dioxins - The major source of dioxin in the San Francisco wastewater system is aerial fallout of particulates (dry or wet precipitation). Dioxin emitted from diesel engines and other combustion sources enters the City's combined sewer system during wet weather by two mechanisms. Previously deposited dioxin (dry deposition) washes off surfaces and into the combined sewer system. During rainfall additional dioxin is scoured from the air – dioxin in particulates and possibly vapor phase dioxin. The two modes are the aerial and terrestrial, but both sources impact the treatment plants because all storm water enters the collection and transport system.

Data for mass balance – From 1998 to 2000, San Francisco implemented a study of dioxin in the sewer system and treatment facilities. The study was required by the Oceanside NPDES permit; however, San Francisco elected to carry it out city-wide. A total of 161 samples were tested for dioxin. These data are used in this report. This mass balance provides an estimate of the disposal outcome of dioxins entering the San Francisco wastewater system on the Bayside drainage.

Summary of mass balance: Dry and wet weather loadings to the wastewater system – Table 1 summarizes the dry and wet weather loadings to the Bayside facilities.

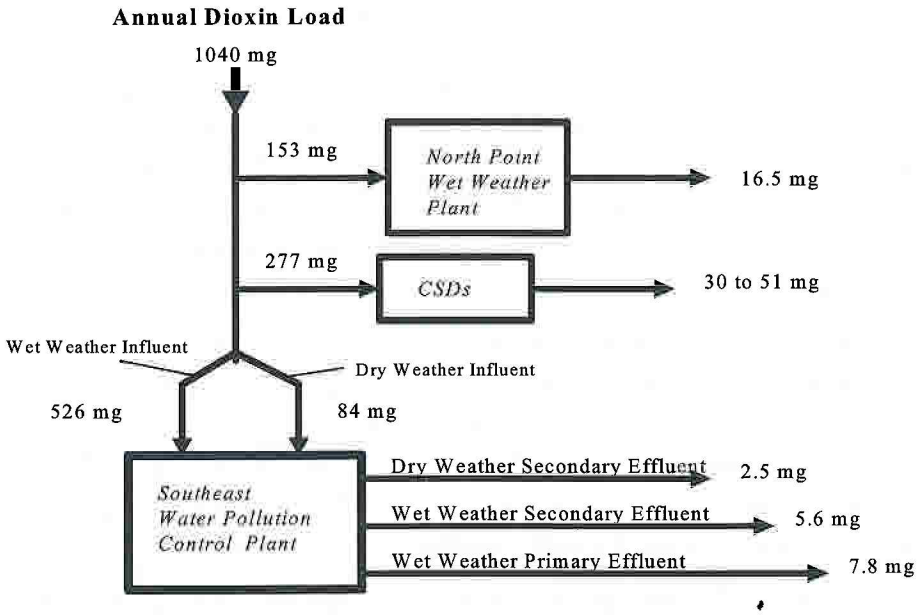
Table 1
Comparison of Wet and Dry Weather Loadings

Sample Location	Wet Weather Mass Loadings (mg/yr)		Dry Weather Mass Loadings (mg/yr)	
	Influent	Effluent (1)	Influent	Effluent
Southeast WPCP	526	13.4	84	2.5
North Point	153	16.5	0	0
Storage/transports & CSDs	277	30 - 51	0	0
Totals	**956**	**60 - 81**	**84**	**2.5**
Amount removed	***875 - 896***		***81.5***	

(1) The wet weather effluent value for the SE WPCP includes 7.8 mg/yr for the primary effluent and 5.6 for the secondary effluent.

The dioxin removed because of the treatment provided to wet weather flows – roughly **880 mg/yr** – is much greater than the total dioxin discharged during dry weather – **2.5 mg/yr**. Figure 1 illustrates the estimated mass balance for the Bayside system.

Figure 1
Bayside Annual Dioxin Loadings



The "CSD" discharge in Figure 1 represents shoreline discharges from the storage/ transport facilities. These discharges have received treatment consisting of solids settling and baffling to prevent the release of floatables.

Since dioxin sources are primarily from surface runoff in wet weather, the preponderance of dioxin removal results from treatment provided to wet weather flows. The San Francisco facilities capture and treat nearly all storm water. Approximately 60% of San Francisco's storm water is treated to secondary levels at the treatment plants. Most of the remainder receives either primary treatment or flow-through treatment in the storage/transports. This preliminary mass balance indicates that San Francisco removes more than 90% of dioxin contained in captured storm water runoff.

Assumptions and Calculations

The following assumptions were made for in the preliminary mass balance in the 2000 report.

Dry and wet weather assumptions - Assume 365 days for the dry weather mass calculations; the estimated flow values for the wet weather year excludes the dry weather portion. Include dry weather portion of the concentration in the wet weather concentration.

MG = million gallons; MGD = million gallons per day

Average Dry Weather Flow = 64 MG per day

Wet Weather Flow (1998-99, entire Bayside) = 7178.1 MG *consisting of*:

- SEWPCP wet weather influent = 3949 MG
- North Point wet weather influent = 1147.1 MG
- CSO discharge = 2082 MG

SEWPCP Dry Weather Mass Loading (influent and effluent)

SEWPCP Dry Weather Influent

(64 MGD)(0.95 Exp (–9) mg/l)(8.345 lb/gal)(453600)mg/lb) = **0.23 mg/day**

(0.23 mg/day)(365 days/year) = **84 mg/year**

(3.78 Exp(-3) L mg)/(MG pg) Converts from units of MGD times pg/l to mg/day.
(64 MG)(0.95 pg/L)(3.78 Exp(-3) L mg/MG pg)

SEWPCP Dry Weather Effluent

(64 MG/day)(0.028 Exp (–9) mg/l)(8.345 lb/gal)(453600)mg/lb) = **0.0068 mg/day**

(0.0058 mg/day)(365 days/year) = **2.48 mg/year**

Bayside Wet Weather Mass Loading (influent)

SEWPCP Wet Weather Influent

(3949 MG)(35.16 Exp (–9)mg/l)(8.345 lb/ gal)(453600)mg/lb) = **525.6 mg/yr**

North Point Wet Weather Influent *(Estimated)*

(1147.1 MG)(35.16 Exp (–9)mg/l)(8.345 lb/ gal)(453600)mg/lb) = **152.7 mg/yr**

CSO Wet Weather Influent *(Estimated)*

(2082 MG)(35.16 Exp (–9)mg/l)(8.345 lb/ gal)(453600)mg/lb) = **277.1[f] mg/yr**

Note: The concentration used to determine the mass of the three wet weather flows is the average of 4 values measured at the head-works of the SEWPCP during wet weather. It is not known if there is a difference in the actual composition of the three wet weather flows, however, they all travel through storage treatment boxes before they exit the combined sewer collection system. This value was used to estimate the removal rate. Also note that while the volume of the combined flows were divided into wet weather and dry weather portions for the mass calculations, the concentration value was not. This may overestimate the annual wet weather loading at the treatment plants by 4.5 mg on the Westside and 25.8 mg on the Bayside.

Bayside Wet Weather Mass Loading (effluent)

SEWPCP Wet Weather Effluent (Primary 1°)

(547 MG)(3.79 Exp (–9) mg/l)(8.345 lb/ gal)(453600)mg/lb) = **7.84 mg/yr**

SEWPCP Wet Weather Effluent (Secondary 2°)

(3402 MG)(0.43 Exp (–9) mg/l)(8.345 lb/ gal)(453600)mg/lb) = **5.55 mg/yr**

Note: The two concentration values used to determine the mass loading during wet weather from primary and secondary treatment trains are averages from actual values.

North Point Wet Weather Effluent

(1147.1 MG)(3.79 Exp (–9) mg/l)(8.345 lb/ gal)(453600)mg/lb) = **16.5 mg/yr**

Note: During this study, the North Point effluent was not sampled for dioxin. The concentration value used in this calculation was borrowed from the SEWPCP primary wet weather average.

CSO Wet Weather Effluent (Range)

(2082 MG)(6.51 Exp (–9) mg/l)(8.345 lb/ gal)(453600)mg/lb) = **51.3 mg/yr**

(2082 MG)(3.79 Exp (–9) mg/l)(8.345 lb/ gal)(453600)mg/lb) = **29.7 mg/yr**

Note: The ranges used above are estimated, the first number reflects one value from the West-side Treatment/Storage Box (6.51 pg/l) while the second concentration value used was borrowed from the SEWPCP primary wet weather average (3.79 pg/l)

The data used in the above calculations is provided at the end of this report.

Background information on the wastewater system

San Francisco's combined sewers - San Francisco is unique among California municipalities in that its wastewater collection system consists almost exclusively of combined sewers. This means that the same pipes collect both urban sewage (residential and industrial wastewater) and storm water. Most other cities have a separate storm water system for street runoff. A disadvantage of combined sewers is that flows in the system increase abruptly during rainstorms; controlling and treating these greatly increased flows is difficult. The benefit of a combined system is that if the system does manage to control and treat the storm flows, as in San Francisco, then it prevents the discharge of much of the pollutant load carried by stormwater runoff. San Francisco completed a 20 year program to upgrade its wastewater facilities. As a result, San Francisco's facilities remove, on a yearly basis, approximately 60% of the pollutants measured as suspended solids carried by storm water. Communities with separate storm sewers typically provide no treatment to their storm water runoff and all pollutants are discharged directly to receiving waters.

Dry Weather Flow – The Southeast Water Pollution Control Plant is located in the southeast portion of the City. The plant receives flows from the Northshore and Southeast areas of the City, along with relatively small flows from the Bayshore Sanitary District and a limited area in the North San Mateo County Sanitation District. Average dry weather flow to the Southeast treatment plant is 64 mgd. Approximately 4.6% of the dry weather flow is classified as industrial; the remainder is residential and commercial. During dry weather the plant's effluent is discharged to San Francisco Bay through a deep-water outfall off of Pier 80.

Bayside System Wet Weather Operations - During wet weather, the Southeast plant operates in one of the following four modes depending on the current flow volume:

1. *Combined flow of sanitary and storm water less than 100 mgd* - All influent receives secondary treatment and is discharged through the Pier 80 deep water outfall.
2. *Combined flow between 100 and 150 mgd* - All influent flow receives secondary treatment, 100 mgd is discharged through the Pier 80 outfall and 50 mgd is discharged to Islais Creek.
3. *Combined flow between 150 and 250 mgd* - 150 mgd receives secondary treatment and is discharged into Islais Creek. The remaining flow receives primary treatment only and is discharged to Pier 80 outfall.

4. *Combined flow exceeds 250 mgd* - Same as # 3, except the excess flow (> 250 MGD) receives flow-through treatment only, in the City's wet weather storage/treatment facilities and is discharged along the Bay shoreline.

In addition, the North Point plant provides primary-level treatment during wet weather. A wet weather day is defined as the day rain occurs and the following day, if influent flow to the Southeast Plant remains greater than 80 mgd. During 1998-99, there were 52 wet days with a total wastewater flow of 6,977 million gallons. The distribution of flow through the Bayside system during the 1998-99 wet weather year used for the mass balance was as follows:

Facility	***Volume*** (million gallons)
Southeast Water Pollution Control Plant	3,649
North Point wet weather plant (primary)	1,150
Storage/transport flow-through treatment	2,080

During the 1998-99 wet weather season, approximately 85% of the Southeast plant annual wet weather influent flow was treated to the secondary level; 15% was treated to the primary level only. The following sections describe primary and secondary effluent quality in terms of dioxin removal.

Background information on dioxin

Dioxins - Dioxins are persistent and bioaccumulative pollutants. More than one hundred dibenzodioxins and related compounds known as dibenzofurans have been identified. This mass balance addresses the 17 chlorinated dibenzodioxin and furan compounds which are considered to be the most toxic and which are subject to environmental regulations. The dioxin group is one of the 12 pollutant categories targeted by U.S. EPA's cross-office Persistent, Bioaccumulative and Toxic (PBT) Chemical Initiative. Dioxin compounds are also one of the pollutants listed by the U.S. EPA as causing water quality impairment throughout San Francisco Bay. (The listing is pursuant to section 303(d) of the federal Clean Water Act.) The California Office of Environmental Health Hazard Assessment has issued an interim advisory[1] regarding consumption of San Francisco Bay fish because fish tissue samples show elevated levels of several pollutants, including dioxin.

Sources of Dioxin in the Bay - The San Francisco Regional Board has estimated the amount of dioxins contributed to San Francisco Bay from Bay Area sources.[2] Excluded

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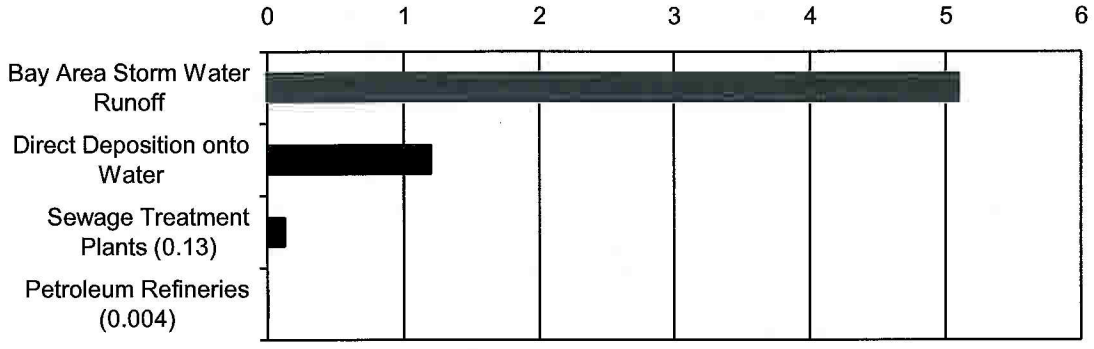
1 OEHHA issued the interim advisory "due to health concerns based on exposure to sport fish from the bay contaminated with methylmercury, polychlorinated biphenyls (PCBs), dioxins, and pesticides like DDT. The principal effects of concern ...[are] mainly associated with excessive methylmercury or PCBs exposure, and potential increased risks for cancer due to exposure to PCBs, dioxins, and the pesticides. Posted at the OEHHA website.

2 CRWQCB-SF, 1998. *Dioxin in the Bay Environment – A Review of the Environmental Concerns, Regulatory History, Current Status, and Possible Regulatory Options.* California Regional Water

are contributions from the Central Valley and Delta arriving via the Sacramento River and Delta inflows to the Bay.

Figure 2
Estimated Dioxin Discharges to San Francisco Bay (grams/year)

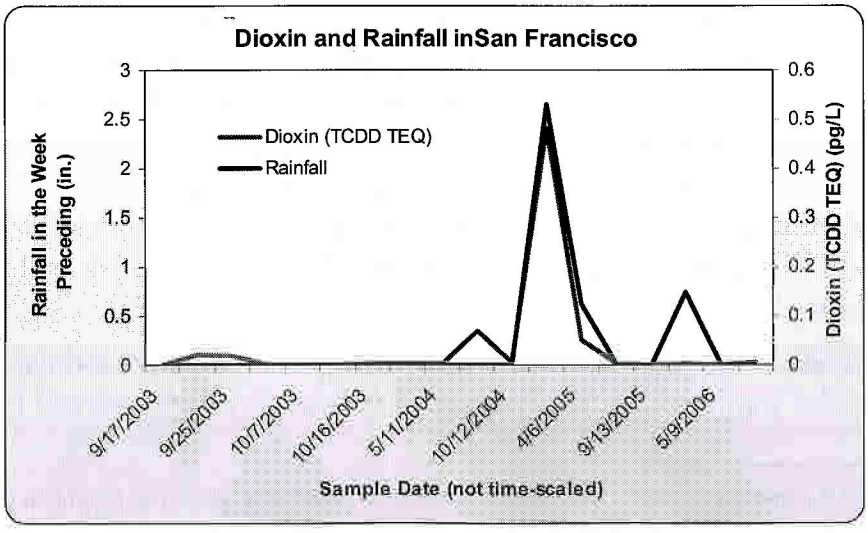


Source: California Regional Water Quality Control Board, San Francisco Bay Region, 1998

Excluding inflow from the Delta, 98% of the dioxin entering San Francisco Bay is from air emissions and subsequent deposition, either directly to the Bay or carried by storm water runoff. (In the case of San Francisco, nearly all storm water runoff receives some treatment, which significantly reduces dioxin levels).

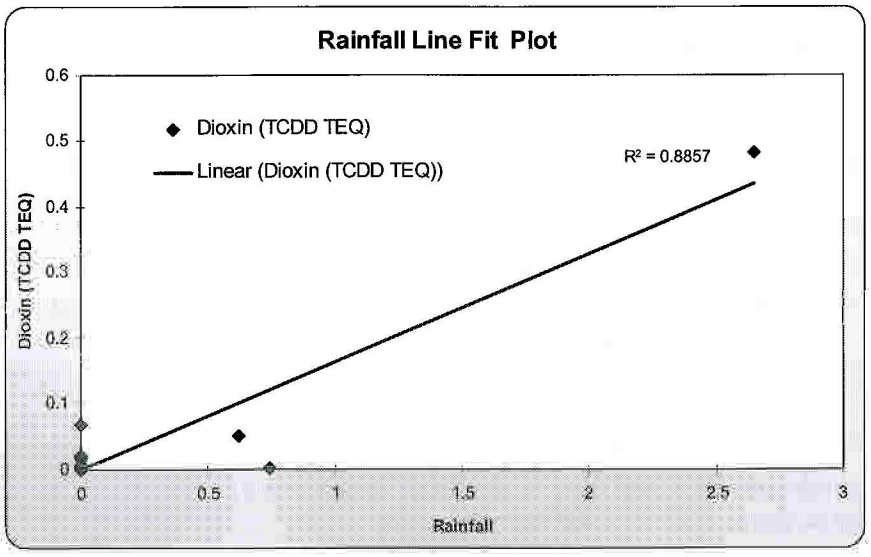
Correlation of Dioxin Readings with Previous Wet Weather (7 preceding days)

As expected, the dioxin detections correlate closely with rainy days.



Quality Control Board, San Francisco Bay Region (Ron Gervason and Lila Tang). Oakland, California. February 1998.

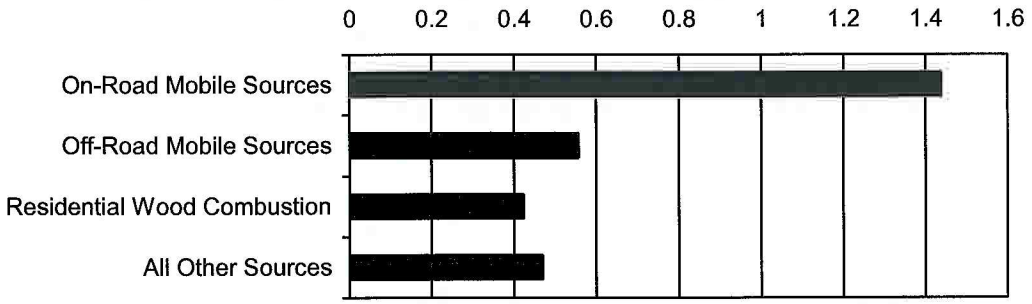
Although data is limited, most detection appear to result from previous rainy periods – specifically those from the preceding week: $R^2 = 0.8857$



See data at end of report.

Air Emission Sources of Dioxins – As noted above, the original source of dioxins in Bay area surface water is almost exclusively air emissions. The Bay Area Air Quality Management District has developed the following estimates of dioxin emissions from various sources (BAAQMD, 1996).[3]

Figure 3
Bay Area Dioxin Air Emission Inventory (TEQ/yr)



In the Bay Area, diesel exhaust from cars, trucks, buses, trains, diesel generators, and other equipment contributes 69% of total dioxin loading to the air. Wood burning

[3] *Air Emissions of Dioxins in the Bay Area,* March 27, 1996, Bay Area Air Quality Management District. Note: TEQs are based on the International toxicity equivalency factors (1989)

contributes 15% of this total, and other industrial sources contribute 16%. On a nation-wide basis, municipal waste combustion, medical waste incineration, and Portland cement manufacture contribute 84% of dioxin emissions (USEPA, 1989). The absence of these sources in the Bay Area likely results in lower dioxin emissions than in areas of the country that have more waste incinerators and other similar sources of dioxin emissions.

Dioxins from combustion processes are generally associated with small particles and tend to precipitate out of the air, however, it has been estimated that 20 to 60% of the TCDD in the air is in the vapor phase (ATSDR, 1998). Air transport of vapor-phase dioxins and the smaller particulates means that dioxins can move worldwide.

Dioxin in Domestic and Industrial Sewage – Although storm water runoff is the predominant source of dioxin in Bay Area wastewater, some dioxins are also present in domestic sewage. The Palo Alto regional wastewater treatment agency completed a study on dioxin sources and estimated dioxin loads from various sources to the treatment plant.[4]

The sources of dioxin in sewage in order of estimated contribution are:

- Laundry waste water (due to chemical treatment of cotton)
- Storm water inflow to the sewer system
- Human wastes
- Shower water
- Toilet paper
- Food waste

Toxic organics

In addition to heavy metals, San Francisco has undertaken various measures over the years to identify the sources of toxic organics in the wastewater system. This work has included dioxins among its targeted constituents.

Beginning with Phase I of the Toxic Organic Pollutant (TOP) Management Study in 1995, San Francisco implemented a multi-year study with a scope including TOP source identification, control measure implementation, and public education. Source identification included dry and wet-weather sampling throughout the collection system and at selected industrial discharges in order to identify TOP sources. Related work included surveying residents regarding pesticide use and disposal.

Dioxins study

Analysis for dioxins is very expensive and sampling and analysis of municipal wastewaters has been very limited. However, San Francisco completed what is probably the most comprehensive study of dioxin in municipal wastewater in the country: *Dioxin in San Francisco Wastewater – Identification and Treatment* (March 2000). PUC staff collected 161 wastewater samples for dioxin analysis over a two-year period. A total of

4 *Dioxins Source Identification*, September 24, 1997, Palo Alto Regional Water Quality Control Plant, Palo Alto, California, Prepared by EIP Associates, San Francisco. The Palo Alto study notes that the degree of uncertainty in its estimates could be more than a factor of 10

96 samples were from wastewater treatment plant influent or effluent, while the remaining samples came from trunk lines, catch basins, an industrial site, and other locations. The results showed conclusively that the majority of dioxins in San Francisco wastewater result from storm water inflow to the combined sewer system. As expected, dioxin loading is heavier on the eastern side of the City. (As reported by other researchers, the primary source is dioxins emitted from diesel engines and other combustion sources and precipitated onto streets, roofs and other surfaces.) Conventional treatment at the City's two secondary-level treatment plants achieves removal of an estimated 80-95% or more of the dioxin present in the water before such treatment (dry and wet weather flows). The mass balance shown above indicates that San Francisco's wastewater control facilities (secondary facilities, plus the primary and storage/transports operating in wet weather) removes more than 90 percent of dioxin contained in all storm water runoff from the City. San Francisco's source identification efforts with respect to dioxins have been very comprehensive and are possibly the most thorough in the nation.

Treatment of Storm Flows by Wet Weather Facilities (Treatment Plants, Storage/Transports)

Approximately 60% of San Francisco's storm water is treated to secondary levels at the treatment plants. The remaining 40% receives either primary treatment at the wet weather facilities (including North Point) or flow-through treatment in the storage/transports. In terms of performance, the three treatment modes provided to stormwater (secondary, primary, or flow-through) remove an estimated 60% of the suspended solids carried by runoff. Thus, San Francisco provides significant control for those constituents of concern for which stormwater is a significant source, including dioxin. This level of treatment control is unique in the Bay area. Communities with separate storm sewers are not required to provide treatment and therefore remove no pollutants from their storm water runoff.

Mass Balance Data (excerpted from 2000 Report)

Southeast Plant - ***Dry Weather Effluent Quality*** - Thirteen dry weather effluent samples were collected from the Southeast plant. None of the thirteen samples had detections for any of the seventeen dioxin congeners. The TEQs for these non-detect samples were assumed to be equal to the minimum detection levels (MDL) for OCDD (or OCDF as noted).

Southeast WPCP Dry Weather Effluent Quality

Sample ID	Sample Date	TEQ (pg/l)	Data Qualifiers
095462-0001	10/6/97	<0.012*	j, b
69012	4/11/98	<0.012	b, g, j
69061	4/14/98	<0.048	none
69160	4/15/98	<0.054	b, g
69353	4/16/98	<0.028	b, g
69258	4/17/98	<0.026	none
69537	4/18/98	<0.019	none
69545	4/19/98	<0.032	b, g, j
69553	4/20/98	<0.014	none
301656-0001	9/18/98	<0.018	none
78604	10/1/98	<0.024	none
303546-0001	1/5/99	<0.028	none
85617	1/28/99	<0.033	none
	Average	**<0.028**	

* This assumed value is based on the MDL for OCDF rather than OCDD because OCDD was detected in the method blank (a sample of pure water used for quality control) and therefore has no MDL. Sample volumes ranged from 0.7 to 1.03 liters.

Discussion: As with the effluent result for the Oceanside plant, the average shown above should be considered speculative, because it is based completely on assumed TEQs calculated from MDLs; no dioxin was detected in any sample.

Southeast Plant Dry Weather Treatment Performance - During April 1998, City staff collected same-day paired samples from Southeast Water Pollution Control Plant influent and effluent to estimate dioxin removal effectiveness. With the exception of one day (4/11/98), all of the influent samples contained dioxin; only the highly chlorinated congeners, OCDD and 1,2,3,4,6,7,8, HpCDD, were detected. Dioxin was not detected in any of the effluent samples. The TEQs for these non-detect samples are based on the MDL for OCDD. The table below also includes the average of all influent and effluent samples (in addition to the paired samples) collected in the period between October 1997 and January 1999.

Southeast WPCP Dry Weather Treatment Performance

Sample Date	Influent TEQ (pg/l)	Effluent TEQ (pg/l)	% Removal
4/11/98	<0.011	<0.012	-
4/14/98	0.83	<0.048	94
4/15/98	0.46	<0.054	88
4/16/98	1.31	<0.028	98
4/17/98	1.76	<0.03	98
4/18/98	0.88	<0.019	98
4/19/98	1.5	<0.032	98
4/20/98	0.29	<0.014	95
10/1/98	1.54	<0.024	98
Average of paired samples	-	-	**96+** (excluding 4/11)*
Average of all influent, effluent samples	0.95	<0.028	**97+**

* 4/11 excluded because both influent and effluent values are based on assumed values taken from the MDL: no dioxin was detected in either sample.

Discussion: As with the Oceanside plant, dry weather secondary-level treatment removes significant amounts of detectable dioxins.

Southeast Plant Dry Weather Mass Loading – The following table presents the dioxin loading based on dry weather average daily flow of 64 mgd and average influent TEQ; the annual loading assumes 313 dry weather days during the 1998-99 study year.

Southeast WPCP Dry Weather Loading

Dry Weather	Flow mgd (1)	TEQ (pg/l)	Mass Loading mg/d	Mass Loading mg/yr (2)
Influent	64	0.95	0.24	76
Effluent	64	<0.028	<0.0068	<2.5

1) Average of daily dry weather flow from July 1995 to June 1999

2) Daily mass loading multiplied by the number of dry weather days (313) during the 1998-99 study years.

Southeast Plant - *Wet Weather Primary Effluent Quality* - Depending on the volume, the Southeast Plant may discharge primary-level-treated effluent to the Pier 80 deep water outfall or secondary-level effluent to Islais Creek. City staff collected ten wet weather primary effluent samples between November 14, 1997 and April 5, 1999. One of the ten samples had no detections for any of the seventeen dioxin congeners and was reported equal to the MDL for the OCDD congener.

Southeast Plant Wet Weather Primary Effluent Quality

Sample ID	Sample Date	TEQ (pg/l)	Data Qualifiers	Rainfall (in.)
096211-0002	11/14/97	2.2	g, v	0.24
097116-0002	1/3/98	4.2	v	0.54
Sepfe-003	4/3/98	0.034	b, g, j	0.82
79963	10/26/98	0.72	j	0.91
303251-0001	11/29/98	13.7	j, v	0.85
82601	12/1/98	0.77	j	1.19
303251-0004	12/6/98	8.4	j	0.43
303855-0002	1/21/99	2.5	j	0.12
304150-0002	2/7/99	3.4	none	0.92
g9d230266-004	4/5/99	2	j	0.63
	Average	**3.8**		

Samples sizes ranged from 0.92 to 1.04 liters

The most prevalent congener was OCDD (9 detections), followed by 1,2,3,4,6,7,8-HpCDD (8 detections).

Southeast WPCP - *Wet Weather Secondary Effluent Quality* – The City collected eighteen wet weather effluent samples from October 9, 1997 and April 4, 1999. Three of the eighteen samples had no detections for any of the seventeen dioxin congeners and were reported equal to the MDL for OCDD.

Southeast WPCP Wet Weather Secondary Effluent Quality

Sample ID	Sample Date	TEQ (pg/l)	Data Qualifiers	Rainfall (in.)
55551	10/09/97	< 0.054	none	0.78
9710892-9	10/09/97	< 0.03	none	0.78
096211-0001	11/14/97	1.07	g, j	0.24
096614-0001	12/05/97	0.08	g, j	0.37
097116-0001	01/03/98	0.21	none	0.54
098146-0001	03/07/98	< 0.05	none	0.20
Sepfe-002	04/06/98	0.05	b, g, j	0.20
81246	11/09/98	0.15	none	0.02
82610	12/01/98	0.20	none	1.19
303251-0003	12/06/98	0.13	none	0.43
84836-40*	01/19/99	0.78	j	0.71
84841-5*	01/19/99	0.23	j	0.71
303855-0001	01/21/99	0.08	j	0.12
85515	01/27/99	0.08	none	0.25
Sepfe002	02/07/99	0.17	none	0.92
86511	02/09/99	0.53	g, j	0.64
87093	02/19/99	3.84	j	0.15
g9d230266-003	04/05/99	0.07	j	0.63
	Average	**0.43**		

*Samples 84836-40 and 84841-5 were approx. 4.7 liters; the remainder varied from 0.6 to 1.0 liters

OCDD was the most prevalent congener (15 detections), followed by 1,2,3,4,6,7,8-HpCDD (4 detections).

Southeast Plant Wet Weather Treatment Performance - Between October 1998 and January 1999, City staff collected several paired influent and effluent samples during storm events. The results are presented in Table VI-12. The last line of this table shows the same comparison using the averages of all influent and effluent data (including paired samples).

Southeast Plant Wet Weather Treatment Performance – *Paired Samples* (Primary and Secondary)

Sample Date	Influent TEQ (pg/l)	Primary Effluent TEQ (pg/l)	% Removal	Secondary* Effluent TEQ (pg/l)	% Removal
10/26/98	22	0.72	97	No Sample	NA
11/9/98	93	No sample	NA	0.15	NA
1/19/99	24	No sample	NA	0.51**	98
1/27/99	2.7	No Sample	NA	0.08	97
Average of all samples	35	3.8	**89**	0.25	**99**

* Note: the secondary treatment is preceded by primary treatment; thus the secondary effluent data indicates the treatment performance of combined primary and secondary-level treatment. (During wet weather some primary effluent is discharged through the outfall to the Bay.) ** Average of two samples.

Discussion: In general, the average of all samples, rather than just the paired samples, is likely to be more representative of treatment plant performance. It is difficult for the paired samples to target accurately the same "batch" of wastewater both before and after treatment.

Southeast Treatment Plant Wet Weather Dioxin Mass Loading – Table VI-13 shows the wet weather mass loading into the Southeast treatment plant and the loading from the treatment plant to the Bay for wet weather year 1998-99. Approximately 85% of the wet weather annual flow was treated to secondary level, while 15% received primary treatment only.

Southeast Treatment Plant Wet Weather Mass Loading

Southeast WPCP Wet Weather 1998-9	Flow (mill. gal.)	TEQ (pg/l)	Mass Loading (mg/yr)
Influent	3,649	35	**486**
Primary Effluent (15% of flow)	547	3.8	**7.8**
Secondary Effluent (85% of flow)	3,102	0.25?	**3?**

North Point Wet Weather Treatment Plant

During the rainy season the City's North Point Wet Weather Treatment Plant receives flows which cannot be managed at the Southeast plant. Treatment processes at North

Point include primary sedimentation and clarification, disinfection, and dechlorination. The treated wastewater is discharged through four forty eight-inch diameter outfalls that terminate eight hundred feet offshore, two at the end of Pier 33 and two at Pier 35. The discharges are submerged at a depth of 17-26 feet below mean low water. Samples were not taken of the influent or effluent from the North Point plant. The following calculation of mass loading uses TEQ averages from the Southeast plant.

North Point WWTP TEQ Mass Loading
(*Estimated using Southeast Plant TEQs and North Point Flow Volume*)

North Point Wet Weather 1998-9	Flow (mill. gal.)	TEQ (pg/l)	Mass Loading (mg/yr)
Influent	1,150	35	**147 est.**
Primary Effluent	1,150	3.8	**16 est.**

Storage/Transport Facilities

Westside Storage/Transport Structures - During the 1998-99 wet weather season, approximately 1,100 million gallons of combined sanitary and storm water was treated in the Westside storage/transport structures prior to discharge. "Decant" is the term for stored stormwater/sewage in the Westside Storage/Transport that is discharged directly to the Ocean Outfall when the Oceanside treatment plant is at maximum capacity, storage capacity is used up, and rainfall is continuing. One sample of this decant was collected on November 9, 1998. The decant episode resulted from cumulative runoff from 0.07 inches of rain on November 7 and 0.49 inches on November 6, 1998.

Westside Storage/Transport (Decant to Outfall) – Wet Weather Effluent Quality

Sample ID	Sample Date	Sample Location	TEQ (pg/l)	Data Qual.
81217	11/9/98	Westside PS decant	**6.5**	-

Westside Storage/Transport Facilities – ***Treatment Performance*** – The TEQ for the one decant sample and the average Oceanside WPCP wet weather influent (14.2 pg/l) can be used to calculate an estimated removal for the Westside storage/transport facilities.

Westside Storage/Transport Facilities Treatment Performance
(Estimated from one data point)

Sample Date	Influent TEQ (pg/l)	Effluent TEQ (pg/l)	% Removal
11/9/98	14.2 (est.)	6.5	**54 (est.)**

Bayside Storage/Transport Mass Loading – When the Southeast and North Point treatment plants are at capacity, the Bayside storage/transport facilities discharge directly to the shoreline. The following table estimates the mass loading of the shoreline discharge using two alternative values: Southeast plant primary effluent and Westside decant.

Bayside Storage/Transport Mass Loading (*Estimated*)

1998-99	**Flow** (mill. gal.)	**TEQ** (pg/l)	**Mass Loading** (mg/yr)
Influent	2,080	35	**266 est.**
"Primary" Effluent	2,080	6.5 (Westside decant)	**49 est.**
"Primary" Effluent	2,080	3.8 (Southeast primary)	**27 est.**

Dioxin Data Compared with Rainfall from Preceding Week

Sample Date	Dioxin (TCDD TEQ)	Units	Rainfall (in)	Rainfall Sample Day 0	Rainfall Sample Day -1	Rainfall Sample Day -2	Rainfall Sample Day -3	Rainfall Sample Day -4	Rainfall Sample Day -5	Rainfall Sample Day -6	Rainfall Sample Day -7
9/17/2003	0.00139	PG/L	0	0							
9/17/2003	0.0209	PG/L	0	0							
9/25/2003	0.0173	PG/L	0	0							
9/25/2003	0.00139	PG/L	0	0							
10/7/2003	0	PG/L	0	0							
10/7/2003	0.000949	PG/L	0	0							
10/16/2003	0.00173	PG/L	0	0							
10/16/2003	0.00171	PG/L	0	0							
5/11/2004	0.00369	PG/L	0	0							
7/7/2004	0.0688	PG/L	0	0							
10/12/2004	0.00626	PG/L	0	0							
1/14/2005	0.482	PG/L	2.65	0	0	0	0.31	0.5	0.01	1.13	0.7
4/6/2005	0.0512	PG/L	0.62	0	0	0.01	0.61				
7/5/2005	0.0026	PG/L	0	0							
9/13/2005	0.00139	PG/L	0	0							
1/23/2006	0.00196	PG/L	0.74	0	0	0.24	0	0.01	0.14	0.35	0
5/9/2006	0.000682	PG/L	0	0							
8/15/2006	0.00744	PG/L	0	0							

ATTACHMENT 2 - GREASE AND OIL DATA

Wet Weather Effluent Grease and Oil Analyses
2003 - 2007

Source

North Point Wet Weather Facility - Discharge Site EFF-003

Sample_Date	Value	Units	MDL
9-Jan-03	11	mg/L	5
12-Feb-03	5	mg/L	5
15-Mar-03	5	mg/L	5
4-Apr-03	5	mg/L	5
2-May-03	5	mg/L	5
10-Nov-03	11	mg/L	5
30-Nov-03	11	mg/L	5
1-Dec-03	10	mg/L	5
1-Jan-04	14	mg/L	5
2-Feb-04	7	mg/L	5
2-Mar-04	14	mg/L	5
19-Oct-04	5	mg/L	5
20-Oct-04	12	mg/L	5
26-Oct-04	5	mg/L	5
11-Nov-04	11	mg/L	5
8-Dec-04	17	mg/L	5
2-Jan-05	16	mg/L	5
15-Feb-05	11	mg/L	5
1-Mar-05	6	mg/L	5
3-Apr-05	22	mg/L	5
5-May-05	6	mg/L	5
9-Jun-05	6	mg/L	5
8-Nov-05	5	mg/L	5
1-Dec-05	8	mg/L	5
1-Jan-06	8	mg/L	5
1-Feb-06	6	mg/L	5
5-Mar-06	5	mg/L	5
2-Apr-06	7	mg/L	5
21-May-06	11	mg/L	5
2-Nov-06	8	mg/L	5
11-Nov-06	8	mg/L	5
9-Dec-06	9	mg/L	5
8-Feb-07	11	mg/L	5
26-Mar-07	13	mg/L	5
20-Apr-07	6	mg/L	5
10-Oct-07	12	mg/L	5
12-Oct-07	20	mg/L	5
10-Nov-07	10	mg/L	5
Max	22		

Southeast Wet Weather Facility - Discharge Site EFF-001B

Sample_Date	Value	Units	MDL
9-Jan-03	6	mg/L	5
19-Oct-04	5	mg/L	5
11-Nov-04	7	mg/L	5
7-Dec-04	17	mg/L	5
2-Jan-05	10	mg/L	5
15-Feb-05	5	mg/L	5
1-Mar-05	7	mg/L	5
3-Apr-05	17	mg/L	5
9-Jun-05	6	mg/L	5
8-Nov-05	5	mg/L	5
1-Dec-05	8	mg/L	5
14-Jan-06	5	mg/L	5
1-Feb-06	6	mg/L	5
5-Mar-06	5	mg/L	5
2-Apr-06	5	mg/L	5
21-May-06	8	mg/L	5
11-Nov-06	5	mg/L	5
9-Dec-06	5	mg/L	5
8-Feb-07	11	mg/L	5
26-Mar-07	8	mg/L	5
20-Apr-07	5	mg/L	5
12-Oct-07	18	mg/L	5
10-Nov-07	8	mg/L	5
Max	18		

Wet Weather Effluent Grease and Oil Analyses
2003 - 2007

Source

Southeast Wet Weather Facility/Islais Creek - Discharge Site EFF-002

Sample_Date	Value	Units	MDL	Sample_Date	Value	Units	MDL
9-Jan-03	5	Mg/L	5	29-Oct-05	17	Mg/L	5
27-Feb-03	5	Mg/L	5	8-Nov-05	10	Mg/L	5
15-Mar-03	44	Mg/L	5	1-Dec-05	5	Mg/L	5
4-Apr-03	5	Mg/L	5	3-Jan-06	9	Mg/L	5
24-Apr-03	9	Mg/L	5	1-Feb-06	5	Mg/L	5
3-May-03	5	Mg/L	5	3-Mar-06	5	Mg/L	5
9-Nov-03	7	Mg/L	5	2-Apr-06	5	Mg/L	5
30-Nov-03	5	Mg/L	5	17-Apr-06	5	Mg/L	5
1-Dec-03	5	Mg/L	5	21-May-06	5	Mg/L	5
9-Dec-03	5	Mg/L	5	5-Oct-06	6	Mg/L	5
1-Jan-04	24	Mg/L	5	2-Nov-06	5	Mg/L	5
2-Feb-04	7	Mg/L	5	11-Nov-06	5	Mg/L	5
1-Mar-04	5	Mg/L	5	9-Dec-06	5	Mg/L	5
19-Oct-04	5	Mg/L	5	4-Jan-07	5	Mg/L	5
26-Oct-04	5	Mg/L	5	7-Feb-07	5	Mg/L	5
11-Nov-04	6	Mg/L	5	8-Feb-07	6	Mg/L	5
7-Dec-04	26	Mg/L	5	20-Mar-07	5	Mg/L	5
2-Jan-05	13	Mg/L	5	26-Mar-07	9	Mg/L	5
15-Feb-05	8	Mg/L	5	14-Apr-07	5	Mg/L	5
1-Mar-05	5	Mg/L	5	20-Apr-07	5	Mg/L	5
3-Apr-05	13	Mg/L	5	10-Oct-07	6	Mg/L	5
4-May-05	5	Mg/L	5	12-Oct-07	5	Mg/L	5
5-May-05	5	Mg/L	5	10-Nov-07	5	Mg/L	5
9-Jun-05	5	Mg/L	5				

Max 44

ATTACHMENT 3 - ENTEROCOCCUS DATA

San Francisco Bayside Shoreline Enterococcus Bacteria Data from 2002 to 2007

Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value
202.2	1-Jul-02		10	202.2	18-Mar-03	<	10	202.2	25-Dec-03		122
202.2	8-Jul-02	<	10	202.2	27-Mar-03		10	202.2	26-Dec-03		97
202.2	18-Jul-02	<	10	202.2	31-Mar-03	<	10	202.2	27-Dec-03		20
202.2	22-Jul-02		10	202.2	11-Apr-03		10	202.2	30-Dec-03		63
202.2	1-Aug-02	<	10	202.2	14-Apr-03	<	10	202.2	31-Dec-03		31
202.2	5-Aug-02	<	10	202.2	24-Apr-03		10	202.2	5-Jan-04		10
202.2	15-Aug-02	<	10	202.2	28-Apr-03	<	10	202.2	12-Jan-04	<	10
202.2	19-Aug-02		10	202.2	8-May-03		10	202.2	21-Jan-04		63
202.2	29-Aug-02	<	10	202.2	12-May-03	<	10	202.2	22-Jan-04	<	10
202.2	5-Sep-02	<	10	202.2	19-May-03	<	10	202.2	4-Feb-04		20
202.2	12-Sep-02	<	10	202.2	27-May-03	<	10	202.2	18-Feb-04		84
202.2	19-Sep-02	<	10	202.2	2-Jun-03		10	202.2	1-Mar-04		30
202.2	26-Sep-02	<	10	202.2	12-Jun-03	<	10	202.2	15-Mar-04	<	10
202.2	30-Sep-02	<	10	202.2	18-Jun-03		10	202.2	29-Mar-04	<	10
202.2	10-Oct-02		10	202.2	26-Jun-03		10	202.2	6-Apr-04	<	10
202.2	15-Oct-02	<	10	202.2	30-Jun-03	<	10	202.2	12-Apr-04	<	10
202.2	24-Oct-02	<	10	202.2	7-Jul-03	<	10	202.2	20-Apr-04	<	10
202.2	1-Nov-02		10	202.2	14-Jul-03		20	202.2	27-Apr-04	<	10
202.2	4-Nov-02		201	202.2	24-Jul-03	<	10	202.2	4-May-04	<	10
202.2	5-Nov-02		41	202.2	28-Jul-03	<	10	202.2	12-May-04	<	10
202.2	6-Nov-02		1793	202.2	7-Aug-03	<	10	202.2	17-May-04		10
202.2	7-Nov-02		184	202.2	11-Aug-03	<	10	202.2	26-May-04	<	10
202.2	8-Nov-02		933	202.2	21-Aug-03	<	10	202.2	1-Jun-04	<	10
202.2	9-Nov-02		41	202.2	25-Aug-03	<	10	202.2	9-Jun-04	<	10
202.2	14-Nov-02	<	10	202.2	5-Sep-03		20	202.2	15-Jun-04	<	10
202.2	18-Nov-02	<	10	202.2	8-Sep-03	<	10	202.2	23-Jun-04	<	10
202.2	26-Nov-02	<	10	202.2	16-Sep-03	<	10	202.2	29-Jun-04		426
202.2	2-Dec-02		393	202.2	22-Sep-03	<	10	202.2	30-Jun-04	<	10
202.2	3-Dec-02		98	202.2	1-Oct-03	<	10	202.2	7-Jul-04	<	10
202.2	4-Dec-02		20	202.2	6-Oct-03		10	202.2	13-Jul-04	<	10
202.2	12-Dec-02	<	10	202.2	14-Oct-03	<	10	202.2	21-Jul-04	<	10
202.2	16-Dec-02		959	202.2	20-Oct-03	<	10	202.2	27-Jul-04	<	10
202.2	19-Dec-02		10	202.2	27-Oct-03		143	202.2	4-Aug-04		10
202.2	20-Dec-02		122	202.2	28-Oct-03		479	202.2	10-Aug-04	<	10
202.2	23-Dec-02		31	202.2	29-Oct-03		131	202.2	18-Aug-04	<	10
202.2	30-Dec-02		30	202.2	30-Oct-03	<	10	202.2	24-Aug-04	<	10
202.2	6-Jan-03		10	202.2	3-Nov-03	<	10	202.2	1-Sep-04	<	10
202.2	16-Jan-03		10	202.2	10-Nov-03	<	10	202.2	7-Sep-04	<	10
202.2	21-Jan-03		10	202.2	17-Nov-03	<	10	202.2	15-Sep-04	<	10
202.2	30-Jan-03		20	202.2	24-Nov-03		86	202.2	21-Sep-04		97
202.2	3-Feb-03	<	10	202.2	25-Nov-03		789	202.2	29-Sep-04	<	10
202.2	13-Feb-03		201	202.2	26-Nov-03	<	10	202.2	5-Oct-04		10
202.2	14-Feb-03		10	202.2	1-Dec-03		30	202.2	13-Oct-04		763
202.2	18-Feb-03	<	10	202.2	8-Dec-03		10	202.2	14-Oct-04		10
202.2	27-Feb-03	<	10	202.2	15-Dec-03		20	202.2	19-Oct-04	<	10
202.2	3-Mar-03		20	202.2	22-Dec-03		179	202.2	27-Oct-04		52
202.2	13-Mar-03	<	10	202.2	23-Dec-03		345	202.2	29-Oct-04	<	10
202.2	17-Mar-03		63	202.2	24-Dec-03		256	202.2	2-Nov-04	<	10

City and County of San Francisco, Southeast Water Pollution Control Plant, North Point Wet Weather Facility, and Bayside Wet Weather Facilities and Wastewater Collection System

Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value
202.2	10-Nov-04		31	202.2	6-Sep-05	<	10	202.2	11-Jul-06	<	10
202.2	16-Nov-04	<	10	202.2	14-Sep-05	<	10	202.2	12-Jul-06	<	10
202.2	22-Nov-04	<	10	202.2	20-Sep-05	<	10	202.2	19-Jul-06	<	10
202.2	30-Nov-04	<	10	202.2	28-Sep-05	<	10	202.2	25-Jul-06	<	10
202.2	8-Dec-04		120	202.2	4-Oct-05		20	202.2	2-Aug-06	<	10
202.2	10-Dec-04		41	202.2	12-Oct-05	<	10	202.2	8-Aug-06		10
202.2	14-Dec-04	<	10	202.2	18-Oct-05		10	202.2	16-Aug-06	<	10
202.2	22-Dec-04		10	202.2	26-Oct-05	<	10	202.2	22-Aug-06		41
202.2	28-Dec-04		169	202.2	1-Nov-05		10	202.2	30-Aug-06	<	10
202.2	29-Dec-04	<	10	202.2	9-Nov-05	<	10	202.2	5-Sep-06	<	10
202.2	5-Jan-05	<	10	202.2	15-Nov-05		31	202.2	13-Sep-06	<	10
202.2	11-Jan-05		439	202.2	21-Nov-05	<	10	202.2	19-Sep-06	<	10
202.2	12-Jan-05	<	10	202.2	29-Nov-05		20	202.2	27-Sep-06	<	10
202.2	19-Jan-05		10	202.2	7-Dec-05	<	10	202.2	4-Oct-06	<	10
202.2	25-Jan-05	<	10	202.2	13-Dec-05		20	202.2	11-Oct-06	<	10
202.2	2-Feb-05	<	10	202.2	21-Dec-05		63	202.2	17-Oct-06	<	10
202.2	8-Feb-05	<	10	202.2	27-Dec-05		74	202.2	25-Oct-06		20
202.2	16-Feb-05		20	202.2	31-Dec-05		4611	202.2	31-Oct-06	<	10
202.2	22-Feb-05		86	202.2	1-Jan-06		52	202.2	8-Nov-06		776
202.2	23-Feb-05	<	10	202.2	4-Jan-06		218	202.2	9-Nov-06		10
202.2	2-Mar-05	<	10	202.2	5-Jan-06		388	202.2	14-Nov-06	<	10
202.2	8-Mar-05		63	202.2	6-Jan-06		63	202.2	20-Nov-06		160
202.2	16-Mar-05	<	10	202.2	10-Jan-06		85	202.2	21-Nov-06		148
202.2	22-Mar-05	<	10	202.2	18-Jan-06	<	10	202.2	22-Nov-06		85
202.2	30-Mar-05	<	10	202.2	24-Jan-06		20	202.2	28-Nov-06		10
202.2	5-Apr-05		52	202.2	1-Feb-06		10	202.2	6-Dec-06	<	10
202.2	13-Apr-05	<	10	202.2	7-Feb-06		10	202.2	12-Dec-06		63
202.2	19-Apr-05	<	10	202.2	15-Feb-06	<	10	202.2	20-Dec-06	<	10
202.2	27-Apr-05		10	202.2	21-Feb-06	<	10	202.2	26-Dec-06	<	10
202.2	3-May-05		10	202.2	1-Mar-06	<	10	202.2	3-Jan-07	<	10
202.2	4-May-05	<	10	202.2	7-Mar-06		98	202.2	9-Jan-07	<	10
202.2	11-May-05		10	202.2	15-Mar-06	<	10	202.2	17-Jan-07	<	10
202.2	17-May-05		41	202.2	21-Mar-06	<	10	202.2	23-Jan-07	<	10
202.2	25-May-05	<	10	202.2	29-Mar-06	<	10	202.2	31-Jan-07	<	10
202.2	31-May-05	<	10	202.2	4-Apr-06		1145	202.2	6-Feb-07	<	10
202.2	8-Jun-05	<	10	202.2	5-Apr-06		10	202.2	14-Feb-07	<	10
202.2	14-Jun-05	<	10	202.2	12-Apr-06	<	10	202.2	21-Feb-07	<	10
202.2	22-Jun-05		275	202.2	18-Apr-06		218	202.2	28-Feb-07		10
202.2	23-Jun-05		41	202.2	19-Apr-06		10	202.2	6-Mar-07	<	10
202.2	24-Jun-05	<	10	202.2	26-Apr-06		10	202.2	14-Mar-07		10
202.2	28-Jun-05	<	10	202.2	2-May-06	<	10	202.2	20-Mar-07		20
202.2	6-Jul-05	<	10	202.2	10-May-06	<	10	202.2	28-Mar-07	<	10
202.2	12-Jul-05		10	202.2	16-May-06		20	202.2	3-Apr-07		10
202.2	20-Jul-05	<	10	202.2	24-May-06		20	202.2	11-Apr-07		74
202.2	26-Jul-05	<	10	202.2	30-May-06	<	10	202.2	17-Apr-07		31
202.2	3-Aug-05	<	10	202.2	7-Jun-06		10	202.2	25-Apr-07	<	10
202.2	9-Aug-05	<	10	202.2	13-Jun-06	<	10	202.2	1-May-07		10
202.2	17-Aug-05	<	10	202.2	21-Jun-06	<	10	202.2	9-May-07	<	10
202.2	23-Aug-05	<	10	202.2	27-Jun-06	<	10	202.2	15-May-07		10
202.2	31-Aug-05		10	202.2	5-Jul-06	<	10	202.2	23-May-07		10

City and County of San Francisco, Southeast Water Pollution Control Plant, North Point Wet Weather Facility, and Bayside Wet Weather Facilities and Wastewater Collection System

Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value
202.2	29-May-07	<	10	202.4	14-Nov-02	<	10	202.4	7-Jul-03		74
202.2	6-Jun-07	<	10	202.4	18-Nov-02	<	10	202.4	8-Jul-03	<	10
202.2	12-Jun-07	<	10	202.4	26-Nov-02		10	202.4	14-Jul-03		20
202.2	20-Jun-07	<	10	202.4	27-Nov-02	<	10	202.4	24-Jul-03		31
202.2	26-Jun-07	<	10	202.4	2-Dec-02		512	202.4	28-Jul-03		20
202.2	2-Jul-07	<	10	202.4	3-Dec-02	<	10	202.4	7-Aug-03		86
202.2	10-Jul-07	<	10	202.4	12-Dec-02		41	202.4	8-Aug-03		20
202.2	18-Jul-07	<	10	202.4	16-Dec-02		8664	202.4	11-Aug-03		135
202.2	24-Jul-07	<	10	202.4	19-Dec-02		52	202.4	12-Aug-03		30
202.2	1-Aug-07	<	10	202.4	20-Dec-02		419	202.4	13-Aug-03	<	10
202.2	7-Aug-07	<	10	202.4	21-Dec-02		594	202.4	21-Aug-03		197
202.2	15-Aug-07	<	10	202.4	22-Dec-02		41	202.4	22-Aug-03		20
202.2	21-Aug-07	<	10	202.4	23-Dec-02		31	202.4	25-Aug-03		20
202.2	29-Aug-07		20	202.4	30-Dec-02		2187	202.4	5-Sep-03	<	10
202.2	4-Sep-07		20	202.4	31-Dec-02		233	202.4	8-Sep-03		10
202.2	12-Sep-07	<	10	202.4	1-Jan-03	<	10	202.4	16-Sep-03	<	10
202.2	18-Sep-07		10	202.4	6-Jan-03	<	10	202.4	22-Sep-03		74
202.2	26-Sep-07		10	202.4	16-Jan-03	<	10	202.4	23-Sep-03		10
202.2	3-Oct-07	<	10	202.4	21-Jan-03		10	202.4	1-Oct-03	<	10
202.2	10-Oct-07		20	202.4	30-Jan-03		2143	202.4	6-Oct-03		10
202.2	16-Oct-07	<	10	202.4	31-Jan-03		1354	202.4	14-Oct-03	<	10
202.2	24-Oct-07		10	202.4	1-Feb-03		160	202.4	20-Oct-03	<	10
202.2	30-Oct-07	<	10	202.4	2-Feb-03		20	202.4	27-Oct-03		218
202.2	7-Nov-07	<	10	202.4	3-Feb-03	<	10	202.4	28-Oct-03		259
202.2	13-Nov-07	<	10	202.4	13-Feb-03	<	10	202.4	29-Oct-03		74
202.2	21-Nov-07	<	10	202.4	18-Feb-03		20	202.4	30-Oct-03	<	10
202.2	27-Nov-07		20	202.4	27-Feb-03		86	202.4	3-Nov-03	<	10
202.4	1-Jul-02	<	10	202.4	28-Feb-03		10	202.4	10-Nov-03		20
202.4	8-Jul-02		98	202.4	3-Mar-03		10	202.4	17-Nov-03		10
202.4	18-Jul-02		40	202.4	13-Mar-03		41	202.4	24-Nov-03		223
202.4	22-Jul-02		41	202.4	14-Mar-03		20	202.4	25-Nov-03		161
202.4	1-Aug-02		10	202.4	17-Mar-03		10	202.4	26-Nov-03	>	24192
202.4	5-Aug-02	<	10	202.4	27-Mar-03	<	10	202.4	27-Nov-03		63
202.4	15-Aug-02		20	202.4	31-Mar-03	<	10	202.4	28-Nov-03		20
202.4	19-Aug-02		20	202.4	11-Apr-03		10	202.4	1-Dec-03		20
202.4	29-Aug-02	<	10	202.4	14-Apr-03	<	10	202.4	8-Dec-03		20
202.4	7-Sep-02		52	202.4	24-Apr-03		10	202.4	15-Dec-03		10
202.4	12-Sep-02	<	10	202.4	28-Apr-03		41	202.4	22-Dec-03		359
202.4	19-Sep-02		10	202.4	8-May-03	<	10	202.4	23-Dec-03		265
202.4	26-Sep-02		10	202.4	12-May-03		10	202.4	24-Dec-03	<	10
202.4	30-Sep-02		20	202.4	19-May-03		10	202.4	30-Dec-03		52
202.4	10-Oct-02		275	202.4	27-May-03		10	202.4	31-Dec-03		41
202.4	11-Oct-02		20	202.4	2-Jun-03		10	202.4	3-Jan-04		10
202.4	15-Oct-02		10	202.4	12-Jun-03		41	202.4	5-Jan-04		20
202.4	24-Oct-02	<	10	202.4	14-Jun-03	<	10	202.4	12-Jan-04		20
202.4	1-Nov-02		185	202.4	18-Jun-03		10	202.4	21-Jan-04		1450
202.4	2-Nov-02		10	202.4	26-Jun-03		216	202.4	22-Jan-04		10
202.4	4-Nov-02		31	202.4	27-Jun-03		73	202.4	4-Feb-04		9208
202.4	8-Nov-02		464	202.4	28-Jun-03		10	202.4	5-Feb-04		30
202.4	9-Nov-02		31	202.4	30-Jun-03		20	202.4	18-Feb-04		187

Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value
202.4	19-Feb-04		41	202.4	14-Dec-04		20	202.4	4-Oct-05		63
202.4	1-Mar-04	<	10	202.4	22-Dec-04	<	10	202.4	12-Oct-05		73
202.4	15-Mar-04		98	202.4	28-Dec-04		41	202.4	18-Oct-05		10
202.4	25-Mar-04		62	202.4	5-Jan-05		10	202.4	26-Oct-05	<	10
202.4	29-Mar-04		10	202.4	11-Jan-05		146	202.4	1-Nov-05		63
202.4	6-Apr-04		10	202.4	12-Jan-05		85	202.4	9-Nov-05		10
202.4	12-Apr-04	<	10	202.4	19-Jan-05		122	202.4	15-Nov-05		218
202.4	20-Apr-04	<	10	202.4	20-Jan-05		10	202.4	16-Nov-05		31
202.4	27-Apr-04	<	10	202.4	25-Jan-05		10	202.4	21-Nov-05	<	10
202.4	4-May-04	<	10	202.4	2-Feb-05		41	202.4	29-Nov-05		20
202.4	12-May-04	<	10	202.4	8-Feb-05	<	10	202.4	7-Dec-05		20
202.4	17-May-04	<	10	202.4	16-Feb-05		110	202.4	13-Dec-05		10
202.4	26-May-04	<	10	202.4	17-Feb-05	<	10	202.4	21-Dec-05		185
202.4	1-Jun-04	<	10	202.4	22-Feb-05		4611	202.4	22-Dec-05		10
202.4	9-Jun-04	<	10	202.4	23-Feb-05		52	202.4	27-Dec-05		1785
202.4	15-Jun-04	<	10	202.4	2-Mar-05		31	202.4	28-Dec-05		2187
202.4	23-Jun-04		10	202.4	8-Mar-05		960	202.4	29-Dec-05		1187
202.4	29-Jun-04	<	10	202.4	9-Mar-05		3255	202.4	30-Dec-05		882
202.4	7-Jul-04		20	202.4	10-Mar-05		441	202.4	31-Dec-05		24192
202.4	8-Jul-04	<	10	202.4	11-Mar-05	<	10	202.4	1-Jan-06		228
202.4	13-Jul-04	<	10	202.4	16-Mar-05		10	202.4	2-Jan-06		488
202.4	21-Jul-04	<	10	202.4	22-Mar-05		63	202.4	3-Jan-06		269
202.4	27-Jul-04	<	10	202.4	30-Mar-05		14136	202.4	4-Jan-06		146
202.4	4-Aug-04	<	10	202.4	31-Mar-05		20	202.4	5-Jan-06		160
202.4	10-Aug-04		20	202.4	5-Apr-05		20	202.4	6-Jan-06		109
202.4	18-Aug-04	<	10	202.4	13-Apr-05	<	10	202.4	7-Jan-06		31
202.4	24-Aug-04	<	10	202.4	19-Apr-05		31	202.4	10-Jan-06		63
202.4	1-Sep-04		20	202.4	27-Apr-05	<	10	202.4	18-Jan-06		10
202.4	7-Sep-04	<	10	202.4	3-May-05	<	10	202.4	24-Jan-06	<	10
202.4	15-Sep-04		62	202.4	11-May-05	<	10	202.4	1-Feb-06		20
202.4	16-Sep-04		52	202.4	17-May-05	<	10	202.4	7-Feb-06		52
202.4	21-Sep-04	<	10	202.4	25-May-05		10	202.4	15-Feb-06		109
202.4	29-Sep-04		10	202.4	31-May-05	<	10	202.4	16-Feb-06	<	10
202.4	5-Oct-04	<	10	202.4	8-Jun-05		10	202.4	21-Feb-06		63
202.4	13-Oct-04		10	202.4	14-Jun-05		30	202.4	1-Mar-06		10
202.4	19-Oct-04	<	10	202.4	22-Jun-05		10	202.4	7-Mar-06	<	10
202.4	27-Oct-04		907	202.4	28-Jun-05		10	202.4	15-Mar-06		20
202.4	29-Oct-04	<	10	202.4	6-Jul-05	<	10	202.4	21-Mar-06		10
202.4	2-Nov-04	<	10	202.4	12-Jul-05	<	10	202.4	29-Mar-06		683
202.4	10-Nov-04		63	202.4	20-Jul-05		10	202.4	30-Mar-06		41
202.4	16-Nov-04		10	202.4	26-Jul-05	<	10	202.4	4-Apr-06		12033
202.4	22-Nov-04		627	202.4	3-Aug-05	<	10	202.4	5-Apr-06		1054
202.4	23-Nov-04		10	202.4	9-Aug-05	<	10	202.4	6-Apr-06		10
202.4	30-Nov-04	<	10	202.4	17-Aug-05		10	202.4	12-Apr-06		109
202.4	8-Dec-04		281	202.4	23-Aug-05		31	202.4	13-Apr-06		148
202.4	9-Dec-04		213	202.4	31-Aug-05	<	10	202.4	14-Apr-06		285
202.4	10-Dec-04		457	202.4	6-Sep-05	<	10	202.4	15-Apr-06		20
202.4	11-Dec-04		743	202.4	14-Sep-05	<	10	202.4	18-Apr-06	<	10
202.4	12-Dec-04		146	202.4	20-Sep-05		20	202.4	26-Apr-06		134
202.4	13-Dec-04	<	10	202.4	28-Sep-05	<	10	202.4	27-Apr-06		97

Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value
202.4	2-May-06		30	202.4	31-Jan-07		31	210.1	18-Jul-02		40
202.4	10-May-06		10	202.4	6-Feb-07	<	10	210.1	22-Jul-02	<	10
202.4	16-May-06		20	202.4	14-Feb-07		41	210.1	1-Aug-02		20
202.4	24-May-06	<	10	202.4	21-Feb-07	<	10	210.1	5-Aug-02	<	10
202.4	30-May-06	<	10	202.4	28-Feb-07		121	210.1	15-Aug-02		10
202.4	7-Jun-06		216	202.4	1-Mar-07		10	210.1	19-Aug-02	<	10
202.4	8-Jun-06		10	202.4	6-Mar-07		10	210.1	29-Aug-02		31
202.4	13-Jun-06	<	10	202.4	14-Mar-07		20	210.1	4-Sep-02		20
202.4	21-Jun-06		20	202.4	20-Mar-07		2613	210.1	12-Sep-02	<	10
202.4	27-Jun-06	<	10	202.4	21-Mar-07		52	210.1	19-Sep-02		10
202.4	5-Jul-06		10	202.4	28-Mar-07	<	10	210.1	26-Sep-02		10
202.4	11-Jul-06		10	202.4	3-Apr-07	<	10	210.1	30-Sep-02	<	10
202.4	12-Jul-06	<	10	202.4	11-Apr-07	<	10	210.1	10-Oct-02	<	10
202.4	19-Jul-06	<	10	202.4	17-Apr-07	<	10	210.1	15-Oct-02	<	10
202.4	25-Jul-06		41	202.4	25-Apr-07	<	10	210.1	24-Oct-02		10
202.4	2-Aug-06	<	10	202.4	1-May-07	<	10	210.1	1-Nov-02		41
202.4	8-Aug-06		63	202.4	9-May-07	<	10	210.1	4-Nov-02		145
202.4	16-Aug-06		10	202.4	15-May-07	<	10	210.1	5-Nov-02	<	10
202.4	22-Aug-06		10	202.4	23-May-07		10	210.1	8-Nov-02		86
202.4	30-Aug-06	<	10	202.4	29-May-07	<	10	210.1	9-Nov-02		31
202.4	5-Sep-06	<	10	202.4	6-Jun-07	<	10	210.1	10-Nov-02		20
202.4	13-Sep-06		20	202.4	12-Jun-07		10	210.1	14-Nov-02	<	10
202.4	19-Sep-06	<	10	202.4	20-Jun-07		30	210.1	18-Nov-02		20
202.4	27-Sep-06		226	202.4	26-Jun-07		10	210.1	26-Nov-02		10
202.4	29-Sep-06	<	10	202.4	2-Jul-07	<	10	210.1	2-Dec-02	<	10
202.4	4-Oct-06	<	10	202.4	10-Jul-07	<	10	210.1	12-Dec-02	<	10
202.4	11-Oct-06	<	10	202.4	18-Jul-07	<	10	210.1	16-Dec-02		96
202.4	17-Oct-06		10	202.4	24-Jul-07		10	210.1	19-Dec-02		20
202.4	25-Oct-06		10	202.4	1-Aug-07	<	10	210.1	20-Dec-02		31
202.4	31-Oct-06		10	202.4	7-Aug-07	<	10	210.1	23-Dec-02		10
202.4	8-Nov-06		435	202.4	15-Aug-07	<	10	210.1	30-Dec-02		10
202.4	9-Nov-06	<	10	202.4	21-Aug-07	<	10	210.1	6-Jan-03		10
202.4	14-Nov-06		41	202.4	29-Aug-07	<	10	210.1	7-Jan-03		10
202.4	20-Nov-06		169	202.4	4-Sep-07	<	10	210.1	16-Jan-03		10
202.4	21-Nov-06		175	202.4	12-Sep-07	<	10	210.1	21-Jan-03		10
202.4	22-Nov-06		644	202.4	18-Sep-07	<	10	210.1	30-Jan-03		41
202.4	23-Nov-06		246	202.4	19-Sep-07		10	210.1	31-Jan-03		20
202.4	24-Nov-06	<	10	202.4	26-Sep-07	<	10	210.1	3-Feb-03	<	10
202.4	28-Nov-06	<	10	202.4	3-Oct-07	<	10	210.1	13-Feb-03		31
202.4	6-Dec-06		52	202.4	10-Oct-07		203	210.1	18-Feb-03	<	10
202.4	12-Dec-06		209	202.4	11-Oct-07		20	210.1	27-Feb-03		41
202.4	13-Dec-06		581	202.4	16-Oct-07	<	10	210.1	28-Feb-03	<	10
202.4	14-Dec-06		31	202.4	24-Oct-07	<	10	210.1	3-Mar-03	<	10
202.4	20-Dec-06		85	202.4	30-Oct-07	<	10	210.1	13-Mar-03		85
202.4	21-Dec-06		41	202.4	7-Nov-07		75	210.1	14-Mar-03	<	10
202.4	26-Dec-06	<	10	202.4	13-Nov-07	<	10	210.1	17-Mar-03		10
202.4	3-Jan-07		10	202.4	21-Nov-07		20	210.1	27-Mar-03		10
202.4	9-Jan-07	<	10	202.4	27-Nov-07		20	210.1	31-Mar-03	<	10
202.4	17-Jan-07		63	210.1	2-Jul-02	<	10	210.1	11-Apr-03		20
202.4	23-Jan-07	<	10	210.1	8-Jul-02	<	10	210.1	14-Apr-03		10

City and County of San Francisco, Southeast Water Pollution Control Plant, North Point Wet Weather Facility, and Bayside Wet Weather Facilities and Wastewater Collection System

Source	Sample Date	Qual	Value
210.1	24-Apr-03		41
210.1	28-Apr-03	<	10
210.1	8-May-03	<	10
210.1	12-May-03	<	10
210.1	19-May-03	<	10
210.1	27-May-03		10
210.1	2-Jun-03		199
210.1	3-Jun-03	<	10
210.1	12-Jun-03	<	10
210.1	18-Jun-03	<	10
210.1	26-Jun-03	<	10
210.1	30-Jun-03		10
210.1	7-Jul-03		10
210.1	14-Jul-03	<	10
210.1	24-Jul-03	<	10
210.1	28-Jul-03		10
210.1	7-Aug-03	<	10
210.1	11-Aug-03	<	10
210.1	21-Aug-03		110
210.1	22-Aug-03	<	10
210.1	25-Aug-03	<	10
210.1	5-Sep-03		20
210.1	8-Sep-03	<	10
210.1	16-Sep-03	<	10
210.1	22-Sep-03	<	10
210.1	1-Oct-03	<	10
210.1	6-Oct-03		20
210.1	14-Oct-03	<	10
210.1	20-Oct-03		10
210.1	27-Oct-03		31
210.1	28-Oct-03	<	10
210.1	3-Nov-03	<	10
210.1	10-Nov-03	<	10
210.1	17-Nov-03	<	10
210.1	24-Nov-03		31
210.1	1-Dec-03		20
210.1	8-Dec-03		10
210.1	9-Dec-03	<	10
210.1	15-Dec-03		20
210.1	22-Dec-03		31
210.1	23-Dec-03		41
210.1	26-Dec-03		31
210.1	30-Dec-03		52
210.1	31-Dec-03		31
210.1	5-Jan-04		10
210.1	12-Jan-04	<	10
210.1	21-Jan-04		30
210.1	4-Feb-04	<	10
210.1	18-Feb-04		384
210.1	19-Feb-04		10
210.1	1-Mar-04		52
210.1	15-Mar-04	<	10
210.1	29-Mar-04	<	10
210.1	6-Apr-04		10
210.1	12-Apr-04	<	10
210.1	20-Apr-04	<	10
210.1	27-Apr-04	<	10
210.1	4-May-04	<	10
210.1	12-May-04	<	10
210.1	17-May-04	<	10
210.1	26-May-04	<	10
210.1	1-Jun-04	<	10
210.1	9-Jun-04	<	10
210.1	15-Jun-04	<	10
210.1	23-Jun-04		31
210.1	29-Jun-04		20
210.1	7-Jul-04	<	10
210.1	13-Jul-04	<	10
210.1	21-Jul-04	<	10
210.1	27-Jul-04	<	10
210.1	4-Aug-04		10
210.1	10-Aug-04	<	10
210.1	18-Aug-04		10
210.1	24-Aug-04	<	10
210.1	1-Sep-04	<	10
210.1	7-Sep-04		10
210.1	15-Sep-04	<	10
210.1	21-Sep-04	<	10
210.1	29-Sep-04	<	10
210.1	5-Oct-04		10
210.1	13-Oct-04	<	10
210.1	19-Oct-04		413
210.1	20-Oct-04		31
210.1	27-Oct-04		10
210.1	2-Nov-04	<	10
210.1	10-Nov-04		121
210.1	11-Nov-04		181
210.1	12-Nov-04		31
210.1	16-Nov-04	<	10
210.1	22-Nov-04	<	10
210.1	30-Nov-04	<	10
210.1	8-Dec-04		63
210.1	14-Dec-04		10
210.1	22-Dec-04		20
210.1	28-Dec-04		52
210.1	5-Jan-05	<	10
210.1	11-Jan-05	<	10
210.1	19-Jan-05		10
210.1	25-Jan-05	<	10
210.1	2-Feb-05	<	10
210.1	8-Feb-05		10
210.1	9-Feb-05	<	10
210.1	16-Feb-05		52
210.1	22-Feb-05		31
210.1	2-Mar-05		20
210.1	8-Mar-05		85
210.1	16-Mar-05	<	10
210.1	22-Mar-05	<	10
210.1	30-Mar-05		10
210.1	5-Apr-05	<	10
210.1	13-Apr-05	<	10
210.1	19-Apr-05	<	10
210.1	27-Apr-05	<	10
210.1	3-May-05	<	10
210.1	11-May-05	<	10
210.1	17-May-05	<	10
210.1	25-May-05		10
210.1	31-May-05	<	10
210.1	8-Jun-05	<	10
210.1	14-Jun-05		10
210.1	22-Jun-05	<	10
210.1	28-Jun-05		10
210.1	6-Jul-05	<	10
210.1	12-Jul-05	<	10
210.1	20-Jul-05	<	10
210.1	26-Jul-05	<	10
210.1	3-Aug-05		10
210.1	9-Aug-05	<	10
210.1	17-Aug-05		20
210.1	23-Aug-05		20
210.1	31-Aug-05	<	10
210.1	6-Sep-05	<	10
210.1	14-Sep-05	<	10
210.1	20-Sep-05		10
210.1	28-Sep-05		10
210.1	4-Oct-05	<	10
210.1	12-Oct-05	<	10
210.1	18-Oct-05	<	10
210.1	26-Oct-05		10
210.1	1-Nov-05	<	10
210.1	9-Nov-05		10
210.1	15-Nov-05	<	10
210.1	21-Nov-05	<	10
210.1	29-Nov-05		63
210.1	7-Dec-05		10
210.1	13-Dec-05		10
210.1	21-Dec-05		52
210.1	27-Dec-05		98
210.1	31-Dec-05		2755
210.1	1-Jan-06		95

City and County of San Francisco, Southeast Water Pollution Control Plant, North Point Wet Weather Facility, and Bayside Wet Weather Facilities and Wastewater Collection System

Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value
210.1	4-Jan-06		201	210.1	20-Nov-06		30	210.1	24-Oct-07		355
210.1	5-Jan-06		161	210.1	28-Nov-06	<	10	210.1	25-Oct-07		52
210.1	7-Jan-06		10	210.1	6-Dec-06		10	210.1	26-Oct-07		10
210.1	10-Jan-06		41	210.1	12-Dec-06		231	210.1	30-Oct-07		20
210.1	18-Jan-06		10	210.1	13-Dec-06		20	210.1	7-Nov-07	<	10
210.1	24-Jan-06	<	10	210.1	20-Dec-06	<	10	210.1	13-Nov-07		20
210.1	1-Feb-06		10	210.1	26-Dec-06		31	210.1	21-Nov-07		20
210.1	7-Feb-06	<	10	210.1	3-Jan-07		122	210.1	27-Nov-07	<	10
210.1	15-Feb-06		20	210.1	4-Jan-07		41	210	20-Jul-05	<	10
210.1	21-Feb-06		98	210.1	9-Jan-07	<	10	211	2-Jul-02		40
210.1	1-Mar-06		20	210.1	17-Jan-07	<	10	211	8-Jul-02	<	10
210.1	7-Mar-06	<	10	210.1	23-Jan-07		20	211	18-Jul-02	<	10
210.1	15-Mar-06		10	210.1	31-Jan-07	<	10	211	22-Jul-02	<	10
210.1	21-Mar-06	<	10	210.1	6-Feb-07	<	10	211	1-Aug-02		20
210.1	29-Mar-06	<	10	210.1	14-Feb-07		10	211	5-Aug-02	<	10
210.1	4-Apr-06		10	210.1	21-Feb-07	<	10	211	15-Aug-02		10
210.1	12-Apr-06		20	210.1	28-Feb-07	<	10	211	19-Aug-02	<	10
210.1	18-Apr-06		31	210.1	6-Mar-07	<	10	211	29-Aug-02		41
210.1	26-Apr-06	<	10	210.1	14-Mar-07	<	10	211	30-Aug-02	<	10
210.1	2-May-06		10	210.1	20-Mar-07	<	10	211	4-Sep-02		173
210.1	10-May-06		20	210.1	28-Mar-07	<	10	211	5-Sep-02	<	10
210.1	16-May-06	<	10	210.1	3-Apr-07	<	10	211	12-Sep-02	<	10
210.1	24-May-06		10	210.1	11-Apr-07		10	211	19-Sep-02		52
210.1	30-May-06	<	10	210.1	17-Apr-07	<	10	211	20-Sep-02	<	10
210.1	7-Jun-06	<	10	210.1	25-Apr-07	<	10	211	26-Sep-02		10
210.1	13-Jun-06	<	10	210.1	1-May-07	<	10	211	30-Sep-02	<	10
210.1	21-Jun-06	<	10	210.1	9-May-07	<	10	211	10-Oct-02	<	10
210.1	27-Jun-06		10	210.1	15-May-07	<	10	211	15-Oct-02		171
210.1	5-Jul-06	<	10	210.1	23-May-07	<	10	211	16-Oct-02	<	10
210.1	11-Jul-06	<	10	210.1	29-May-07	<	10	211	17-Oct-02		20
210.1	19-Jul-06	<	10	210.1	6-Jun-07	<	10	211	24-Oct-02		1935
210.1	25-Jul-06	<	10	210.1	12-Jun-07	<	10	211	25-Oct-02	<	10
210.1	2-Aug-06	<	10	210.1	20-Jun-07	<	10	211	1-Nov-02	<	10
210.1	8-Aug-06		41	210.1	26-Jun-07	<	10	211	4-Nov-02		389
210.1	9-Aug-06	<	10	210.1	2-Jul-07	<	10	211	5-Nov-02		86
210.1	16-Aug-06	<	10	210.1	10-Jul-07	<	10	211	6-Nov-02		31
210.1	22-Aug-06	<	10	210.1	18-Jul-07	<	10	211	8-Nov-02		185
210.1	30-Aug-06	<	10	210.1	24-Jul-07		10	211	9-Nov-02		74
210.1	5-Sep-06	<	10	210.1	1-Aug-07		20	211	10-Nov-02		160
210.1	13-Sep-06	<	10	210.1	7-Aug-07	<	10	211	11-Nov-02		10
210.1	19-Sep-06	<	10	210.1	15-Aug-07	<	10	211	14-Nov-02		10
210.1	27-Sep-06		10	210.1	21-Aug-07	<	10	211	18-Nov-02		233
210.1	4-Oct-06		10	210.1	29-Aug-07	<	10	211	19-Nov-02		41
210.1	11-Oct-06	<	10	210.1	4-Sep-07	<	10	211	20-Nov-02		10
210.1	17-Oct-06		10	210.1	12-Sep-07	<	10	211	26-Nov-02		52
210.1	25-Oct-06	<	10	210.1	18-Sep-07	<	10	211	27-Nov-02		10
210.1	31-Oct-06	<	10	210.1	26-Sep-07	<	10	211	2-Dec-02		677
210.1	8-Nov-06		10	210.1	3-Oct-07	<	10	211	3-Dec-02		134
210.1	14-Nov-06		110	210.1	10-Oct-07		10	211	4-Dec-02		187
210.1	15-Nov-06		31	210.1	16-Oct-07	<	10	211	5-Dec-02		1354

City and County of San Francisco, Southeast Water Pollution Control Plant, North Point Wet Weather Facility, and Bayside Wet Weather Facilities and Wastewater Collection System

Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value
211	6-Dec-02		153	211	7-Jul-03	<	10	211	11-Dec-03		98
211	7-Dec-02		41	211	14-Jul-03	<	10	211	12-Dec-03		10
211	8-Dec-02		74	211	24-Jul-03		10	211	15-Dec-03		10
211	9-Dec-02		288	211	28-Jul-03	<	10	211	22-Dec-03		243
211	10-Dec-02		98	211	7-Aug-03		41	211	23-Dec-03	<	10
211	11-Dec-02		20	211	9-Aug-03		10	211	30-Dec-03		203
211	12-Dec-02		31	211	11-Aug-03	<	10	211	31-Dec-03		63
211	16-Dec-02		520	211	21-Aug-03		187	211	3-Jan-04		31
211	19-Dec-02		20	211	22-Aug-03		10	211	5-Jan-04		31
211	20-Dec-02		52	211	23-Aug-03		63	211	12-Jan-04	<	10
211	23-Dec-02		20	211	24-Aug-03		20	211	21-Jan-04		10
211	30-Dec-02		10	211	25-Aug-03		20	211	4-Feb-04		10
211	31-Dec-02		282	211	26-Aug-03		31	211	18-Feb-04		10
211	1-Jan-03		10	211	27-Aug-03		31	211	1-Mar-04		31
211	2-Jan-03		7270	211	28-Aug-03	<	10	211	15-Mar-04	<	10
211	3-Jan-03		31	211	5-Sep-03		52	211	29-Mar-04		31
211	6-Jan-03		10	211	6-Sep-03	<	10	211	6-Apr-04	<	10
211	8-Jan-03	<	10	211	8-Sep-03		10	211	12-Apr-04	<	10
211	16-Jan-03		20	211	16-Sep-03	<	10	211	20-Apr-04	<	10
211	21-Jan-03	<	10	211	22-Sep-03	<	10	211	27-Apr-04	<	10
211	30-Jan-03	<	10	211	1-Oct-03	<	10	211	4-May-04		10
211	3-Feb-03	<	10	211	6-Oct-03		86	211	12-May-04	<	10
211	13-Feb-03		988	211	7-Oct-03	<	10	211	17-May-04	<	10
211	14-Feb-03		472	211	14-Oct-03		20	211	26-May-04	<	10
211	15-Feb-03		10	211	20-Oct-03		30	211	1-Jun-04	<	10
211	18-Feb-03	<	10	211	21-Oct-03		52	211	9-Jun-04	<	10
211	27-Feb-03		41	211	22-Oct-03		189	211	15-Jun-04	<	10
211	28-Feb-03	<	10	211	23-Oct-03		20	211	23-Jun-04		20
211	3-Mar-03	<	10	211	27-Oct-03		199	211	29-Jun-04	<	10
211	13-Mar-03		52	211	28-Oct-03		1658	211	7-Jul-04		10
211	14-Mar-03		41	211	29-Oct-03		243	211	13-Jul-04	<	10
211	15-Mar-03		171	211	30-Oct-03	<	10	211	21-Jul-04	<	10
211	16-Mar-03		31	211	3-Nov-03		86	211	27-Jul-04		10
211	17-Mar-03	<	10	211	4-Nov-03		52	211	4-Aug-04		52
211	27-Mar-03	<	10	211	5-Nov-03		203	211	10-Aug-04	<	10
211	31-Mar-03		10	211	6-Nov-03		546	211	11-Aug-04		31
211	11-Apr-03	<	10	211	7-Nov-03		31	211	18-Aug-04		20
211	14-Apr-03	<	10	211	10-Nov-03	<	10	211	24-Aug-04		74
211	24-Apr-03	<	10	211	17-Nov-03		10	211	1-Sep-04		10
211	28-Apr-03	<	10	211	24-Nov-03		3873	211	7-Sep-04	<	10
211	8-May-03		10	211	25-Nov-03		4352	211	15-Sep-04		20
211	12-May-03		10	211	26-Nov-03		30	211	21-Sep-04	<	10
211	19-May-03	<	10	211	1-Dec-03		41	211	29-Sep-04		86
211	27-May-03		10	211	3-Dec-03		73	211	5-Oct-04		31
211	2-Jun-03		314	211	4-Dec-03		41	211	13-Oct-04	<	10
211	3-Jun-03	<	10	211	6-Dec-03		1450	211	19-Oct-04		565
211	12-Jun-03		31	211	7-Dec-03		242	211	20-Oct-04		52
211	18-Jun-03		10	211	8-Dec-03		122	211	27-Oct-04		10
211	26-Jun-03		20	211	9-Dec-03		41	211	2-Nov-04		52
211	30-Jun-03		31	211	10-Dec-03		10	211	10-Nov-04	>	24192

Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value
211	11-Nov-04		110	211	17-Aug-05		31	211	24-May-06		41
211	13-Nov-04		435	211	23-Aug-05	<	10	211	30-May-06	<	10
211	14-Nov-04		373	211	31-Aug-05		10	211	7-Jun-06	<	10
211	15-Nov-04		256	211	6-Sep-05		10	211	13-Jun-06	<	10
211	16-Nov-04		10	211	14-Sep-05		41	211	21-Jun-06	<	10
211	22-Nov-04		292	211	20-Sep-05		52	211	27-Jun-06		63
211	23-Nov-04		52	211	21-Sep-05	<	10	211	5-Jul-06	<	10
211	30-Nov-04		153	211	28-Sep-05		10	211	11-Jul-06	<	10
211	1-Dec-04	<	10	211	4-Oct-05	<	10	211	19-Jul-06		10
211	8-Dec-04		30	211	12-Oct-05		20	211	25-Jul-06		10
211	14-Dec-04		10	211	18-Oct-05	<	10	211	2-Aug-06	<	10
211	22-Dec-04		30	211	26-Oct-05		20	211	8-Aug-06		31
211	28-Dec-04		41	211	1-Nov-05	<	10	211	16-Aug-06	<	10
211	5-Jan-05		20	211	9-Nov-05		52	211	22-Aug-06		132
211	11-Jan-05		20	211	15-Nov-05	<	10	211	23-Aug-06		10
211	19-Jan-05		86	211	21-Nov-05	<	10	211	30-Aug-06	<	10
211	25-Jan-05	<	10	211	29-Nov-05		86	211	5-Sep-06		10
211	2-Feb-05	<	10	211	7-Dec-05		10	211	13-Sep-06	<	10
211	8-Feb-05	<	10	211	13-Dec-05		10	211	19-Sep-06	<	10
211	16-Feb-05		52	211	21-Dec-05		73	211	27-Sep-06	<	10
211	22-Feb-05		1043	211	27-Dec-05		185	211	4-Oct-06	<	10
211	23-Feb-05	<	10	211	28-Dec-05		754	211	11-Oct-06		10
211	2-Mar-05		31	211	29-Dec-05		249	211	17-Oct-06		10
211	8-Mar-05		158	211	30-Dec-05		41	211	25-Oct-06	<	10
211	9-Mar-05		108	211	31-Dec-05		85	211	31-Oct-06	<	10
211	10-Mar-05	<	10	211	1-Jan-06		97	211	8-Nov-06		161
211	16-Mar-05		20	211	4-Jan-06		259	211	9-Nov-06		10
211	22-Mar-05		63	211	5-Jan-06		216	211	14-Nov-06		20
211	30-Mar-05	<	10	211	6-Jan-06		146	211	20-Nov-06		63
211	5-Apr-05	<	10	211	7-Jan-06		85	211	28-Nov-06		20
211	13-Apr-05	<	10	211	10-Jan-06		31	211	6-Dec-06		20
211	19-Apr-05	<	10	211	18-Jan-06		31	211	12-Dec-06		98
211	27-Apr-05	<	10	211	24-Jan-06		52	211	20-Dec-06		20
211	3-May-05	<	10	211	1-Feb-06		10	211	26-Dec-06		173
211	11-May-05	<	10	211	7-Feb-06		20	211	27-Dec-06		109
211	17-May-05	<	10	211	15-Feb-06		20	211	28-Dec-06		98
211	25-May-05	<	10	211	21-Feb-06		31	211	3-Jan-07		168
211	31-May-05	<	10	211	1-Mar-06	<	10	211	4-Jan-07		20
211	8-Jun-05		496	211	7-Mar-06		20	211	9-Jan-07	<	10
211	9-Jun-05	<	10	211	15-Mar-06	<	10	211	17-Jan-07		20
211	14-Jun-05	<	10	211	21-Mar-06	<	10	211	23-Jan-07		10
211	22-Jun-05		52	211	29-Mar-06		10	211	31-Jan-07	<	10
211	28-Jun-05		10	211	4-Apr-06		231	211	6-Feb-07		10
211	6-Jul-05	<	10	211	5-Apr-06	<	10	211	14-Feb-07		41
211	12-Jul-05	<	10	211	12-Apr-06		41	211	21-Feb-07	<	10
211	20-Jul-05		10	211	18-Apr-06		20	211	28-Feb-07		10
211	26-Jul-05	<	10	211	26-Apr-06		10	211	6-Mar-07	<	10
211	3-Aug-05		20	211	2-May-06	<	10	211	14-Mar-07		10
211	4-Aug-05		10	211	10-May-06	<	10	211	20-Mar-07		20
211	9-Aug-05		41	211	16-May-06	<	10	211	28-Mar-07	<	10

Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value
211	3-Apr-07	<	10	300.1	3-Sep-02	<	10	300.1	15-Mar-03		110
211	11-Apr-07		41	300.1	12-Sep-02		10	300.1	16-Mar-03		74
211	17-Apr-07	<	10	300.1	19-Sep-02	<	10	300.1	17-Mar-03		31
211	25-Apr-07	<	10	300.1	26-Sep-02	<	10	300.1	18-Mar-03		10
211	1-May-07	<	10	300.1	30-Sep-02	<	10	300.1	27-Mar-03		10
211	9-May-07		10	300.1	10-Oct-02	<	10	300.1	31-Mar-03		10
211	15-May-07	<	10	300.1	15-Oct-02		20	300.1	11-Apr-03		31
211	23-May-07	<	10	300.1	24-Oct-02		31	300.1	14-Apr-03		10
211	29-May-07		10	300.1	1-Nov-02	<	10	300.1	24-Apr-03		97
211	6-Jun-07	<	10	300.1	4-Nov-02		74	300.1	25-Apr-03		327
211	12-Jun-07		10	300.1	5-Nov-02		10	300.1	26-Apr-03		31
211	20-Jun-07	<	10	300.1	8-Nov-02		6131	300.1	28-Apr-03		132
211	26-Jun-07	<	10	300.1	9-Nov-02		288	300.1	29-Apr-03		272
211	2-Jul-07	<	10	300.1	10-Nov-02		1664	300.1	30-Apr-03	<	10
211	10-Jul-07	<	10	300.1	11-Nov-02		121	300.1	5-May-03		10
211	18-Jul-07		10	300.1	12-Nov-02		146	300.1	8-May-03		10
211	24-Jul-07	<	10	300.1	13-Nov-02		51	300.1	12-May-03		278
211	1-Aug-07	<	10	300.1	14-Nov-02		10	300.1	13-May-03		10
211	7-Aug-07	<	10	300.1	18-Nov-02	<	10	300.1	19-May-03	<	10
211	15-Aug-07		52	300.1	25-Nov-02		10	300.1	27-May-03		20
211	21-Aug-07	<	10	300.1	2-Dec-02		145	300.1	2-Jun-03		10
211	29-Aug-07		31	300.1	3-Dec-02		134	300.1	3-Jun-03	<	10
211	4-Sep-07	<	10	300.1	5-Dec-02		20	300.1	12-Jun-03	<	10
211	12-Sep-07		20	300.1	12-Dec-02	<	10	300.1	18-Jun-03		20
211	18-Sep-07	<	10	300.1	16-Dec-02		8164	300.1	26-Jun-03		31
211	26-Sep-07	<	10	300.1	19-Dec-02		3441	300.1	30-Jun-03	<	10
211	3-Oct-07		10	300.1	20-Dec-02		1918	300.1	8-Jul-03	<	10
211	10-Oct-07		63	300.1	21-Dec-02		246	300.1	14-Jul-03	<	10
211	16-Oct-07		10	300.1	22-Dec-02		10	300.1	24-Jul-03	<	10
211	24-Oct-07		292	300.1	23-Dec-02	<	10	300.1	28-Jul-03	<	10
211	25-Oct-07		616	300.1	30-Dec-02		187	300.1	7-Aug-03		52
211	26-Oct-07		30	300.1	31-Dec-02		41	300.1	8-Aug-03	<	10
211	30-Oct-07		121	300.1	1-Jan-03		428	300.1	11-Aug-03	<	10
211	31-Oct-07	<	10	300.1	2-Jan-03		74	300.1	21-Aug-03		10
211	6-Nov-07		420	300.1	3-Jan-03		31	300.1	25-Aug-03		30
211	7-Nov-07		131	300.1	6-Jan-03		10	300.1	26-Aug-03	<	10
211	8-Nov-07		327	300.1	16-Jan-03		121	300.1	5-Sep-03	<	10
211	9-Nov-07	<	10	300.1	17-Jan-03		31	300.1	8-Sep-03	<	10
211	13-Nov-07	<	10	300.1	21-Jan-03		10	300.1	16-Sep-03	<	10
211	21-Nov-07		31	300.1	30-Jan-03	<	10	300.1	22-Sep-03		10
211	27-Nov-07		63	300.1	3-Feb-03	<	10	300.1	23-Sep-03		10
300.1	2-Jul-02	<	10	300.1	13-Feb-03	<	10	300.1	1-Oct-03	<	10
300.1	8-Jul-02	<	10	300.1	18-Feb-03		185	300.1	6-Oct-03	<	10
300.1	18-Jul-02		40	300.1	19-Feb-03	<	10	300.1	14-Oct-03	<	10
300.1	22-Jul-02		10	300.1	27-Feb-03		10	300.1	20-Oct-03	<	10
300.1	1-Aug-02		10	300.1	3-Mar-03		565	300.1	27-Oct-03		85
300.1	5-Aug-02		41	300.1	4-Mar-03		134	300.1	28-Oct-03		52
300.1	15-Aug-02	<	10	300.1	5-Mar-03		10	300.1	29-Oct-03	<	10
300.1	19-Aug-02	<	10	300.1	13-Mar-03		419	300.1	3-Nov-03		31
300.1	29-Aug-02	<	10	300.1	14-Mar-03		275	300.1	10-Nov-03	<	10

City and County of San Francisco, Southeast Water Pollution Control Plant, North Point Wet Weather Facility, and Bayside Wet Weather Facilities and Wastewater Collection System

Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value
300.1	17-Nov-03	<	10	300.1	15-Sep-04	<	10	300.1	12-Jul-05	<	10
300.1	24-Nov-03		31	300.1	21-Sep-04		10	300.1	20-Jul-05	<	10
300.1	1-Dec-03		272	300.1	29-Sep-04	<	10	300.1	26-Jul-05	<	10
300.1	2-Dec-03		20	300.1	5-Oct-04	<	10	300.1	3-Aug-05	<	10
300.1	8-Dec-03		10	300.1	13-Oct-04		31	300.1	9-Aug-05	<	10
300.1	15-Dec-03		20	300.1	19-Oct-04		565	300.1	17-Aug-05	<	10
300.1	22-Dec-03		121	300.1	20-Oct-04		216	300.1	23-Aug-05	<	10
300.1	23-Dec-03		122	300.1	21-Oct-04		10	300.1	31-Aug-05		41
300.1	24-Dec-03		5475	300.1	27-Oct-04		31	300.1	6-Sep-05		86
300.1	25-Dec-03	<	10	300.1	2-Nov-04		10	300.1	14-Sep-05		98
300.1	30-Dec-03		373	300.1	10-Nov-04		171	300.1	20-Sep-05		31
300.1	31-Dec-03		85	300.1	11-Nov-04		121	300.1	28-Sep-05	<	10
300.1	2-Jan-04		74	300.1	12-Nov-04		20	300.1	4-Oct-05	<	10
300.1	3-Jan-04		10	300.1	16-Nov-04	<	10	300.1	12-Oct-05		282
300.1	5-Jan-04		30	300.1	22-Nov-04		85	300.1	13-Oct-05	<	10
300.1	6-Jan-04		63	300.1	30-Nov-04	<	10	300.1	18-Oct-05		565
300.1	7-Jan-04	<	10	300.1	8-Dec-04		657	300.1	19-Oct-05		41
300.1	12-Jan-04		10	300.1	9-Dec-04		30	300.1	26-Oct-05		73
300.1	21-Jan-04		20	300.1	14-Dec-04		10	300.1	1-Nov-05	<	10
300.1	4-Feb-04	<	10	300.1	22-Dec-04		121	300.1	9-Nov-05	<	10
300.1	18-Feb-04		10	300.1	23-Dec-04		41	300.1	15-Nov-05		265
300.1	26-Feb-04		419	300.1	28-Dec-04		20	300.1	16-Nov-05		10
300.1	27-Feb-04		158	300.1	5-Jan-05		41	300.1	21-Nov-05	<	10
300.1	28-Feb-04		10	300.1	11-Jan-05		10	300.1	29-Nov-05		235
300.1	1-Mar-04		31	300.1	19-Jan-05	<	10	300.1	30-Nov-05		199
300.1	15-Mar-04		10	300.1	25-Jan-05	<	10	300.1	1-Dec-05		2282
300.1	29-Mar-04	<	10	300.1	2-Feb-05		10	300.1	2-Dec-05		121
300.1	6-Apr-04		10	300.1	8-Feb-05		10	300.1	3-Dec-05		20
300.1	12-Apr-04		41	300.1	16-Feb-05		31	300.1	7-Dec-05		31
300.1	20-Apr-04		98	300.1	22-Feb-05		31	300.1	13-Dec-05		10
300.1	27-Apr-04		10	300.1	2-Mar-05		10	300.1	18-Dec-05		19863
300.1	4-May-04		10	300.1	8-Mar-05		10	300.1	19-Dec-05		563
300.1	12-May-04		20	300.1	16-Mar-05		10	300.1	20-Dec-05		341
300.1	17-May-04	<	10	300.1	22-Mar-05		169	300.1	21-Dec-05		197
300.1	26-May-04	<	10	300.1	23-Mar-05		10	300.1	22-Dec-05		1183
300.1	1-Jun-04		10	300.1	30-Mar-05	<	10	300.1	23-Dec-05		41
300.1	9-Jun-04	<	10	300.1	5-Apr-05		10	300.1	27-Dec-05		240
300.1	15-Jun-04	<	10	300.1	13-Apr-05	<	10	300.1	28-Dec-05		1565
300.1	23-Jun-04		30	300.1	19-Apr-05		10	300.1	29-Dec-05	<	10
300.1	29-Jun-04	<	10	300.1	27-Apr-05		20	300.1	31-Dec-05		7270
300.1	7-Jul-04		20	300.1	3-May-05	<	10	300.1	1-Jan-06		6131
300.1	13-Jul-04		10	300.1	11-May-05		41	300.1	2-Jan-06		211
300.1	21-Jul-04	<	10	300.1	17-May-05	<	10	300.1	3-Jan-06		906
300.1	27-Jul-04	<	10	300.1	25-May-05	<	10	300.1	4-Jan-06		148
300.1	4-Aug-04		10	300.1	31-May-05	<	10	300.1	5-Jan-06		41
300.1	10-Aug-04		10	300.1	8-Jun-05		10	300.1	10-Jan-06		30
300.1	18-Aug-04	<	10	300.1	14-Jun-05	<	10	300.1	18-Jan-06		52
300.1	24-Aug-04	<	10	300.1	22-Jun-05	<	10	300.1	24-Jan-06		41
300.1	1-Sep-04	<	10	300.1	28-Jun-05	<	10	300.1	1-Feb-06		158
300.1	7-Sep-04	<	10	300.1	6-Jul-05		10	300.1	2-Feb-06	<	10

Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value
300.1	7-Feb-06		10	300.1	6-Dec-06	<	10	300.1	3-Oct-07		74
300.1	15-Feb-06		41	300.1	12-Dec-06	>	24196	300.1	10-Oct-07		556
300.1	21-Feb-06	<	10	300.1	13-Dec-06		146	300.1	11-Oct-07	<	10
300.1	1-Mar-06		122	300.1	14-Dec-06		98	300.1	16-Oct-07		20
300.1	2-Mar-06		20	300.1	20-Dec-06	<	10	300.1	24-Oct-07		73
300.1	7-Mar-06	<	10	300.1	26-Dec-06		663	300.1	30-Oct-07		31
300.1	15-Mar-06	<	10	300.1	27-Dec-06		373	300.1	7-Nov-07		30
300.1	21-Mar-06		84	300.1	28-Dec-06	<	10	300.1	13-Nov-07	<	10
300.1	29-Mar-06		228	300.1	3-Jan-07		754	300.1	21-Nov-07		10
300.1	30-Mar-06		31	300.1	4-Jan-07		10	300.1	27-Nov-07		41
300.1	4-Apr-06		624	300.1	9-Jan-07	<	10	301.1	8-Oct-03		10
300.1	5-Apr-06		10	300.1	17-Jan-07		10	301.1	9-Oct-03	<	10
300.1	12-Apr-06		529	300.1	23-Jan-07		10	301.1	14-Oct-03		52
300.1	13-Apr-06		988	300.1	31-Jan-07		98	301.1	20-Oct-03	<	10
300.1	14-Apr-06		10	300.1	6-Feb-07		31	301.1	2-Jul-02	<	10
300.1	18-Apr-06	<	10	300.1	14-Feb-07	<	10	301.1	8-Jul-02		20
300.1	26-Apr-06		96	300.1	21-Feb-07		97	301.1	18-Jul-02		40
300.1	27-Apr-06	<	10	300.1	28-Feb-07		10	301.1	22-Jul-02		31
300.1	2-May-06	<	10	300.1	6-Mar-07	<	10	301.1	1-Aug-02	<	10
300.1	10-May-06	<	10	300.1	14-Mar-07		20	301.1	5-Aug-02	<	10
300.1	16-May-06	<	10	300.1	20-Mar-07	<	10	301.1	15-Aug-02	<	10
300.1	24-May-06	<	10	300.1	28-Mar-07	<	10	301.1	19-Aug-02		84
300.1	30-May-06	<	10	300.1	3-Apr-07	<	10	301.1	21-Aug-02		10
300.1	7-Jun-06	<	10	300.1	11-Apr-07		31	301.1	29-Aug-02	<	10
300.1	13-Jun-06	<	10	300.1	17-Apr-07	<	10	301.1	3-Sep-02	<	10
300.1	21-Jun-06	<	10	300.1	25-Apr-07		20	301.1	12-Sep-02	<	10
300.1	27-Jun-06	<	10	300.1	1-May-07	<	10	301.1	19-Sep-02		573
300.1	5-Jul-06	<	10	300.1	9-May-07	<	10	301.1	20-Sep-02		10
300.1	11-Jul-06	<	10	300.1	15-May-07		52	301.1	21-Sep-02	<	10
300.1	19-Jul-06	<	10	300.1	23-May-07		10	301.1	23-Sep-02		10
300.1	25-Jul-06	<	10	300.1	29-May-07		10	301.1	26-Sep-02		10
300.1	2-Aug-06	<	10	300.1	6-Jun-07		10	301.1	30-Sep-02	<	10
300.1	8-Aug-06	<	10	300.1	12-Jun-07	<	10	301.1	10-Oct-02		20
300.1	16-Aug-06	<	10	300.1	20-Jun-07		31	301.1	11-Oct-02		20
300.1	22-Aug-06	<	10	300.1	26-Jun-07	<	10	301.1	15-Oct-02		85
300.1	30-Aug-06	<	10	300.1	2-Jul-07		160	301.1	16-Oct-02		109
300.1	5-Sep-06	<	10	300.1	3-Jul-07	<	10	301.1	17-Oct-02		41
300.1	13-Sep-06	<	10	300.1	10-Jul-07	<	10	301.1	18-Oct-02		74
300.1	19-Sep-06		10	300.1	18-Jul-07	<	10	301.1	19-Oct-02		10
300.1	27-Sep-06	<	10	300.1	24-Jul-07		10	301.1	24-Oct-02	<	10
300.1	4-Oct-06		52	300.1	1-Aug-07	<	10	301.1	1-Nov-02		10
300.1	11-Oct-06	<	10	300.1	7-Aug-07		20	301.1	4-Nov-02	<	10
300.1	17-Oct-06	<	10	300.1	15-Aug-07		10	301.1	8-Nov-02		5475
300.1	25-Oct-06	<	10	300.1	21-Aug-07	<	10	301.1	9-Nov-02		298
300.1	31-Oct-06	<	10	300.1	29-Aug-07	<	10	301.1	10-Nov-02		6867
300.1	8-Nov-06		10	300.1	4-Sep-07	<	10	301.1	11-Nov-02		231
300.1	14-Nov-06		96	300.1	12-Sep-07		474	301.1	12-Nov-02		41
300.1	20-Nov-06		161	300.1	13-Sep-07	<	10	301.1	13-Nov-02		341
300.1	21-Nov-06		30	300.1	18-Sep-07	<	10	301.1	14-Nov-02		152
300.1	28-Nov-06		10	300.1	26-Sep-07		52	301.1	15-Nov-02		74

Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value
301.1	16-Nov-02		216	301.1	8-May-03		10	301.1	3-Nov-03	<	10
301.1	17-Nov-02		31	301.1	12-May-03	<	10	301.1	10-Nov-03		20
301.1	18-Nov-02		41	301.1	19-May-03	<	10	301.1	17-Nov-03		158
301.1	19-Nov-02		63	301.1	27-May-03	<	10	301.1	18-Nov-03		146
301.1	20-Nov-02		743	301.1	2-Jun-03		62	301.1	19-Nov-03	<	10
301.1	21-Nov-02		193	301.1	3-Jun-03		31	301.1	24-Nov-03		20
301.1	22-Nov-02		265	301.1	4-Jun-03		31	301.1	1-Dec-03		1076
301.1	23-Nov-02		74	301.1	12-Jun-03	<	10	301.1	2-Dec-03		1785
301.1	24-Nov-02	<	10	301.1	18-Jun-03	<	10	301.1	3-Dec-03		63
301.1	25-Nov-02	<	10	301.1	26-Jun-03		10	301.1	4-Dec-03		110
301.1	2-Dec-02		20	301.1	27-Jun-03		74	301.1	5-Dec-03		6488
301.1	12-Dec-02		110	301.1	28-Jun-03		41	301.1	6-Dec-03		1250
301.1	13-Dec-02		11199	301.1	29-Jun-03		63	301.1	7-Dec-03		441
301.1	16-Dec-02		6488	301.1	30-Jun-03	<	10	301.1	8-Dec-03		52
301.1	19-Dec-02		2014	301.1	7-Jul-03		31	301.1	9-Dec-03		301
301.1	20-Dec-02		2613	301.1	8-Jul-03	<	10	301.1	10-Dec-03		644
301.1	21-Dec-02		246	301.1	14-Jul-03		31	301.1	12-Dec-03	<	10
301.1	22-Dec-02		10	301.1	15-Jul-03	<	10	301.1	15-Dec-03		84
301.1	23-Dec-02		10	301.1	16-Jul-03		10	301.1	16-Dec-03		122
301.1	30-Dec-02		63	301.1	24-Jul-03	<	10	301.1	17-Dec-03		20
301.1	31-Dec-02		6131	301.1	28-Jul-03		10	301.1	22-Dec-03		119
301.1	1-Jan-03		31	301.1	7-Aug-03		20	301.1	23-Dec-03		298
301.1	6-Jan-03		20	301.1	11-Aug-03	<	10	301.1	24-Dec-03		624
301.1	16-Jan-03		85	301.1	21-Aug-03	<	10	301.1	25-Dec-03		20
301.1	17-Jan-03		20	301.1	25-Aug-03		63	301.1	30-Dec-03		4786
301.1	21-Jan-03		193	301.1	26-Aug-03	<	10	301.1	31-Dec-03		143
301.1	22-Jan-03		20	301.1	5-Sep-03		31	301.1	2-Jan-04		3873
301.1	30-Jan-03		10	301.1	8-Sep-03		31	301.1	3-Jan-04		41
301.1	3-Feb-03		10	301.1	9-Sep-03		20	301.1	4-Jan-04		41
301.1	13-Feb-03		332	301.1	10-Sep-03		41	301.1	5-Jan-04	<	10
301.1	14-Feb-03		30	301.1	11-Sep-03		62	301.1	7-Jan-04	<	10
301.1	18-Feb-03		85	301.1	12-Sep-03		97	301.1	12-Jan-04	<	10
301.1	19-Feb-03		52	301.1	13-Sep-03	>	24912	301.1	21-Jan-04	<	10
301.1	20-Feb-03	<	10	301.1	14-Sep-03		10	301.1	30-Jan-04		20
301.1	27-Feb-03		96	301.1	16-Sep-03		30	301.1	4-Feb-04		10
301.1	28-Feb-03		31	301.1	22-Sep-03		10	301.1	18-Feb-04	<	10
301.1	3-Mar-03		131	301.1	23-Sep-03		31	301.1	1-Mar-04		74
301.1	4-Mar-03		20	301.1	24-Sep-03		2481	301.1	15-Mar-04	<	10
301.1	13-Mar-03		20	301.1	25-Sep-03		134	301.1	29-Mar-04	<	10
301.1	17-Mar-03	<	10	301.1	26-Sep-03		41	301.1	6-Apr-04	<	10
301.1	27-Mar-03		31	301.1	27-Sep-03		231	301.1	12-Apr-04		52
301.1	31-Mar-03		20	301.1	28-Sep-03		20	301.1	20-Apr-04	<	10
301.1	11-Apr-03		10	301.1	1-Oct-03		10	301.1	27-Apr-04	<	10
301.1	14-Apr-03		10	301.1	2-Oct-03	<	10	301.1	4-May-04		31
301.1	15-Apr-03		10	301.1	6-Oct-03		10	301.1	12-May-04		20
301.1	24-Apr-03		9208	301.1	8-Oct-03	<	10	301.1	17-May-04		20
301.1	25-Apr-03		52	301.1	9-Oct-03	<	10	301.1	26-May-04	<	10
301.1	26-Apr-03	<	10	301.1	14-Oct-03		10	301.1	1-Jun-04	<	10
301.1	28-Apr-03		85	301.1	20-Oct-03	<	10	301.1	9-Jun-04	<	10
301.1	29-Apr-03	<	10	301.1	27-Oct-03	<	10	301.1	15-Jun-04	<	10

City and County of San Francisco, Southeast Water Pollution Control Plant, North Point Wet Weather Facility, and Bayside Wet Weather Facilities and Wastewater Collection System

Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value
301.1	23-Jun-04		10	301.1	22-Feb-05	<	10	301.1	9-Nov-05		10
301.1	29-Jun-04		10	301.1	2-Mar-05		10	301.1	15-Nov-05		175
301.1	7-Jul-04		189	301.1	8-Mar-05	<	10	301.1	16-Nov-05		97
301.1	8-Jul-04		30	301.1	16-Mar-05		10	301.1	21-Nov-05	<	10
301.1	13-Jul-04	<	10	301.1	22-Mar-05		161	301.1	29-Nov-05		697
301.1	21-Jul-04	<	10	301.1	23-Mar-05		10	301.1	30-Nov-05		97
301.1	27-Jul-04	<	10	301.1	30-Mar-05	<	10	301.1	7-Dec-05		20
301.1	4-Aug-04	<	10	301.1	5-Apr-05	<	10	301.1	13-Dec-05		41
301.1	10-Aug-04	<	10	301.1	13-Apr-05		10	301.1	18-Dec-05		3448
301.1	18-Aug-04	<	10	301.1	19-Apr-05		10	301.1	19-Dec-05		3968
301.1	24-Aug-04		10	301.1	27-Apr-05		20	301.1	20-Dec-05		249
301.1	1-Sep-04		20	301.1	3-May-05		10	301.1	21-Dec-05		4360
301.1	7-Sep-04	<	10	301.1	11-May-05	<	10	301.1	22-Dec-05		563
301.1	15-Sep-04	<	10	301.1	17-May-05	<	10	301.1	23-Dec-05		305
301.1	21-Sep-04		20	301.1	25-May-05		10	301.1	24-Dec-05		31
301.1	29-Sep-04		10	301.1	31-May-05	<	10	301.1	27-Dec-05		52
301.1	5-Oct-04	<	10	301.1	8-Jun-05		389	301.1	31-Dec-05		2382
301.1	13-Oct-04		10	301.1	9-Jun-05	<	10	301.1	1-Jan-06		24192
301.1	19-Oct-04		3076	301.1	14-Jun-05	<	10	301.1	2-Jan-06		8164
301.1	20-Oct-04	<	10	301.1	22-Jun-05		20	301.1	3-Jan-06		1421
301.1	21-Oct-04	<	10	301.1	28-Jun-05		41	301.1	4-Jan-06		185
301.1	27-Oct-04		96	301.1	6-Jul-05		143	301.1	5-Jan-06		20
301.1	2-Nov-04		20	301.1	8-Jul-05	<	10	301.1	10-Jan-06		41
301.1	10-Nov-04		7701	301.1	12-Jul-05		10	301.1	18-Jan-06		669
301.1	11-Nov-04		3076	301.1	20-Jul-05		10	301.1	19-Jan-06		10
301.1	12-Nov-04		31	301.1	26-Jul-05	<	10	301.1	24-Jan-06		175
301.1	16-Nov-04	<	10	301.1	3-Aug-05		109	301.1	25-Jan-06		754
301.1	22-Nov-04		10	301.1	4-Aug-05		31	301.1	26-Jan-06		373
301.1	30-Nov-04	<	10	301.1	5-Aug-05		10	301.1	27-Jan-06		448
301.1	8-Dec-04		1565	301.1	9-Aug-05	<	10	301.1	28-Jan-06		20
301.1	9-Dec-04		85	301.1	17-Aug-05		10	301.1	1-Feb-06		160
301.1	14-Dec-04		31	301.1	23-Aug-05	<	10	301.1	2-Feb-06		350
301.1	22-Dec-04		41	301.1	31-Aug-05		41	301.1	3-Feb-06		20
301.1	28-Dec-04		1162	301.1	1-Sep-05		52	301.1	7-Feb-06		20
301.1	29-Dec-04		2909	301.1	6-Sep-05		31	301.1	15-Feb-06		20
301.1	30-Dec-04		1607	301.1	14-Sep-05		20	301.1	21-Feb-06	<	10
301.1	31-Dec-04		309	301.1	20-Sep-05	<	10	301.1	1-Mar-06		10
301.1	1-Jan-05		109	301.1	28-Sep-05	<	10	301.1	7-Mar-06		195
301.1	2-Jan-05		7701	301.1	4-Oct-05	<	10	301.1	8-Mar-06		52
301.1	3-Jan-05		84	301.1	12-Oct-05		10	301.1	15-Mar-06		10
301.1	4-Jan-05		10	301.1	13-Oct-05		20	301.1	21-Mar-06		10
301.1	5-Jan-05	<	10	301.1	18-Oct-05		85	301.1	29-Mar-06		428
301.1	11-Jan-05		41	301.1	19-Oct-05		10	301.1	30-Mar-06		20
301.1	19-Jan-05	<	10	301.1	26-Oct-05		2400	301.1	4-Apr-06		2909
301.1	25-Jan-05	<	10	301.1	27-Oct-05		2602	301.1	5-Apr-06		345
301.1	2-Feb-05		10	301.1	28-Oct-05		504	301.1	6-Apr-06		10
301.1	8-Feb-05		52	301.1	29-Oct-05		63	301.1	12-Apr-06		218
301.1	16-Feb-05		309	301.1	30-Oct-05		10	301.1	13-Apr-06		228
301.1	17-Feb-05		108	301.1	31-Oct-05		10	301.1	14-Apr-06		31
301.1	18-Feb-05		31	301.1	1-Nov-05		86	301.1	18-Apr-06		20

City and County of San Francisco, Southeast Water Pollution Control Plant, North Point Wet Weather Facility, and Bayside Wet Weather Facilities and Wastewater Collection System

Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value
301.1	26-Apr-06		10	301.1	31-Jan-07		10	301.1	13-Nov-07		20
301.1	2-May-06		10	301.1	6-Feb-07		31	301.1	21-Nov-07		52
301.1	10-May-06		10	301.1	14-Feb-07	<	10	301.1	27-Nov-07	<	10
301.1	16-May-06	<	10	301.1	21-Feb-07		120	301.1	8-Oct-03	<	10
301.1	24-May-06	<	10	301.1	22-Feb-07		10	301.1	9-Oct-03	<	10
301.1	30-May-06	<	10	301.1	28-Feb-07		31	301.1	14-Oct-03	<	10
301.1	7-Jun-06	<	10	301.1	6-Mar-07	<	10	301.1	20-Oct-03	<	10
301.1	13-Jun-06	<	10	301.1	14-Mar-07		52	301.2	2-Jul-02	<	10
301.1	21-Jun-06		10	301.1	20-Mar-07	<	10	301.2	8-Jul-02	<	10
301.1	27-Jun-06		4611	301.1	28-Mar-07	<	10	301.2	18-Jul-02		95
301.1	28-Jun-06	<	10	301.1	3-Apr-07	<	10	301.2	22-Jul-02		10
301.1	5-Jul-06	<	10	301.1	11-Apr-07		30	301.2	1-Aug-02	<	10
301.1	11-Jul-06	<	10	301.1	17-Apr-07	<	10	301.2	5-Aug-02	<	10
301.1	19-Jul-06	<	10	301.1	25-Apr-07		41	301.2	15-Aug-02		10
301.1	25-Jul-06	<	10	301.1	1-May-07		52	301.2	19-Aug-02		20
301.1	2-Aug-06	<	10	301.1	9-May-07		30	301.2	29-Aug-02	<	10
301.1	8-Aug-06		10	301.1	15-May-07		52	301.2	3-Sep-02	<	10
301.1	16-Aug-06		10	301.1	23-May-07		10	301.2	12-Sep-02	<	10
301.1	22-Aug-06		10	301.1	29-May-07		52	301.2	19-Sep-02	<	10
301.1	30-Aug-06	<	10	301.1	6-Jun-07	<	10	301.2	26-Sep-02	<	10
301.1	5-Sep-06		10	301.1	12-Jun-07		20	301.2	30-Sep-02	<	10
301.1	13-Sep-06	<	10	301.1	20-Jun-07		31	301.2	10-Oct-02		10
301.1	19-Sep-06		10	301.1	26-Jun-07		75	301.2	15-Oct-02	<	10
301.1	27-Sep-06	<	10	301.1	2-Jul-07		20	301.2	24-Oct-02	<	10
301.1	4-Oct-06		84	301.1	10-Jul-07	<	10	301.2	1-Nov-02		20
301.1	11-Oct-06	<	10	301.1	18-Jul-07	<	10	301.2	4-Nov-02	<	10
301.1	17-Oct-06	<	10	301.1	24-Jul-07	<	10	301.2	8-Nov-02		262
301.1	25-Oct-06	<	10	301.1	1-Aug-07		31	301.2	9-Nov-02		118
301.1	31-Oct-06		52	301.1	7-Aug-07	<	10	301.2	10-Nov-02		63
301.1	8-Nov-06		10	301.1	15-Aug-07		10	301.2	11-Nov-02		52
301.1	14-Nov-06		364	301.1	21-Aug-07		10	301.2	14-Nov-02		20
301.1	15-Nov-06		20	301.1	29-Aug-07		331	301.2	18-Nov-02	<	10
301.1	20-Nov-06		51	301.1	30-Aug-07	<	10	301.2	25-Nov-02		10
301.1	28-Nov-06		20	301.1	4-Sep-07	<	10	301.2	2-Dec-02		63
301.1	6-Dec-06	<	10	301.1	12-Sep-07	<	10	301.2	3-Dec-02	<	10
301.1	12-Dec-06		5794	301.1	18-Sep-07	<	10	301.2	12-Dec-02	<	10
301.1	13-Dec-06		8164	301.1	26-Sep-07	<	10	301.2	16-Dec-02		512
301.1	14-Dec-06		565	301.1	3-Oct-07		10	301.2	19-Dec-02		882
301.1	15-Dec-06		1259	301.1	10-Oct-07		197	301.2	20-Dec-02		187
301.1	16-Dec-06		96	301.1	11-Oct-07		10	301.2	21-Dec-02		31
301.1	20-Dec-06		10	301.1	12-Oct-07		3076	301.2	22-Dec-02	<	10
301.1	26-Dec-06		683	301.1	13-Oct-07		282	301.2	23-Dec-02	<	10
301.1	27-Dec-06		305	301.1	14-Oct-07		20	301.2	30-Dec-02		74
301.1	28-Dec-06		216	301.1	16-Oct-07		86	301.2	31-Dec-02		20
301.1	29-Dec-06		63	301.1	17-Oct-07		676	301.2	1-Jan-03		86
301.1	3-Jan-07		364	301.1	18-Oct-07		74	301.2	2-Jan-03		20
301.1	4-Jan-07		31	301.1	19-Oct-07		10	301.2	6-Jan-03		109
301.1	9-Jan-07		10	301.1	24-Oct-07		10	301.2	7-Jan-03		31
301.1	17-Jan-07		31	301.1	30-Oct-07	<	10	301.2	16-Jan-03		422
301.1	23-Jan-07	<	10	301.1	7-Nov-07		30	301.2	17-Jan-03	<	10

Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value	Source	Sample Date	Qual	Value
301.2	21-Jan-03		41	301.2	20-Oct-03		20	301.2	13-Oct-04	<	10
301.2	22-Jan-03	<	10	301.2	27-Oct-03	<	10	301.2	19-Oct-04		20
301.2	30-Jan-03		10	301.2	3-Nov-03	<	10	301.2	27-Oct-04	<	10
301.2	3-Feb-03		10	301.2	10-Nov-03		10	301.2	2-Nov-04	<	10
301.2	4-Feb-03	<	10	301.2	17-Nov-03	<	10	301.2	10-Nov-04		96
301.2	13-Feb-03		10	301.2	24-Nov-03	<	10	301.2	16-Nov-04	<	10
301.2	18-Feb-03		379	301.2	1-Dec-03		20	301.2	22-Nov-04		10
301.2	19-Feb-03	<	10	301.2	8-Dec-03	<	10	301.2	30-Nov-04	<	10
301.2	27-Feb-03	<	10	301.2	15-Dec-03	<	10	301.2	8-Dec-04		393
301.2	3-Mar-03	<	10	301.2	22-Dec-03	<	10	301.2	9-Dec-04		52
301.2	13-Mar-03		20	301.2	30-Dec-03		203	301.2	14-Dec-04		10
301.2	17-Mar-03	<	10	301.2	31-Dec-03		98	301.2	22-Dec-04		74
301.2	27-Mar-03	<	10	301.2	2-Jan-04		63	301.2	28-Dec-04		253
301.2	31-Mar-03	<	10	301.2	3-Jan-04		10	301.2	29-Dec-04		717
301.2	11-Apr-03	<	10	301.2	5-Jan-04		20	301.2	30-Dec-04		63
301.2	14-Apr-03		10	301.2	12-Jan-04	<	10	301.2	5-Jan-05		10
301.2	24-Apr-03	<	10	301.2	21-Jan-04		20	301.2	11-Jan-05	<	10
301.2	28-Apr-03		41	301.2	4-Feb-04		10	301.2	19-Jan-05		10
301.2	30-Apr-03	<	10	301.2	18-Feb-04		10	301.2	25-Jan-05		31
301.2	8-May-03		31	301.2	1-Mar-04		10	301.2	2-Feb-05		10
301.2	12-May-03		20	301.2	15-Mar-04		20	301.2	8-Feb-05		31
301.2	19-May-03		41	301.2	29-Mar-04	<	10	301.2	9-Feb-05		161
301.2	27-May-03	<	10	301.2	6-Apr-04	<	10	301.2	10-Feb-05		41
301.2	2-Jun-03		51	301.2	12-Apr-04	<	10	301.2	16-Feb-05	<	10
301.2	4-Jun-03	<	10	301.2	20-Apr-04	<	10	301.2	22-Feb-05	<	10
301.2	12-Jun-03		20	301.2	27-Apr-04		10	301.2	2-Mar-05		31
301.2	18-Jun-03		10	301.2	4-May-04	<	10	301.2	8-Mar-05		31
301.2	19-Jun-03		8664	301.2	12-May-04		20	301.2	16-Mar-05	<	10
301.2	21-Jun-03		10	301.2	17-May-04	<	10	301.2	22-Mar-05	<	10
301.2	26-Jun-03		41	301.2	26-May-04		31	301.2	30-Mar-05	<	10
301.2	27-Jun-03		10	301.2	1-Jun-04	<	10	301.2	5-Apr-05		74
301.2	28-Jun-03		323	301.2	9-Jun-04	<	10	301.2	13-Apr-05	<	10
301.2	29-Jun-03	<	10	301.2	15-Jun-04	<	10	301.2	19-Apr-05		20
301.2	30-Jun-03	<	10	301.2	23-Jun-04		10	301.2	27-Apr-05		10
301.2	7-Jul-03		10	301.2	29-Jun-04	<	10	301.2	3-May-05	<	10
301.2	14-Jul-03	<	10	301.2	7-Jul-04	<	10	301.2	11-May-05	<	10
301.2	24-Jul-03	<	10	301.2	13-Jul-04	<	10	301.2	17-May-05	<	10
301.2	28-Jul-03	<	10	301.2	21-Jul-04	<	10	301.2	25-May-05	<	10
301.2	7-Aug-03		20	301.2	27-Jul-04	<	10	301.2	31-May-05	<	10
301.2	11-Aug-03	<	10	301.2	4-Aug-04	<	10	301.2	8-Jun-05	<	10
301.2	21-Aug-03	<	10	301.2	10-Aug-04		10	301.2	14-Jun-05	<	10
301.2	25-Aug-03	<	10	301.2	18-Aug-04	<	10	301.2	22-Jun-05	<	10
301.2	5-Sep-03		31	301.2	24-Aug-04		110	301.2	28-Jun-05		20
301.2	8-Sep-03		10	301.2	25-Aug-04		10	301.2	6-Jul-05	<	10
301.2	16-Sep-03	<	10	301.2	1-Sep-04	<	10	301.2	12-Jul-05		10
301.2	22-Sep-03		52	301.2	7-Sep-04	<	10	301.2	20-Jul-05	<	10
301.2	23-Sep-03		10	301.2	15-Sep-04	<	10	301.2	26-Jul-05	<	10
301.2	1-Oct-03	<	10	301.2	21-Sep-04	<	10	301.2	3-Aug-05	<	10
301.2	6-Oct-03		41	301.2	29-Sep-04	<	10	301.2	9-Aug-05	<	10
301.2	14-Oct-03	<	10	301.2	5-Oct-04	<	10	301.2	17-Aug-05	<	10

City and County of San Francisco, Southeast Water Pollution Control Plant, North Point Wet Weather Facility, and Bayside Wet Weather Facilities and Wastewater Collection System

Source	Sample Date	Qual	Value
301.2	23-Aug-05	<	10
301.2	31-Aug-05		20
301.2	6-Sep-05	<	10
301.2	14-Sep-05		41
301.2	20-Sep-05	<	10
301.2	28-Sep-05	<	10
301.2	4-Oct-05	<	10
301.2	12-Oct-05	<	10
301.2	18-Oct-05	<	10
301.2	26-Oct-05		30
301.2	1-Nov-05	<	10
301.2	9-Nov-05	<	10
301.2	15-Nov-05		399
301.2	16-Nov-05		20
301.2	21-Nov-05	<	10
301.2	29-Nov-05		41
301.2	7-Dec-05		41
301.2	13-Dec-05	<	10
301.2	18-Dec-05		41
301.2	21-Dec-05		20
301.2	27-Dec-05		62
301.2	31-Dec-05		74
301.2	4-Jan-06		96
301.2	10-Jan-06		313
301.2	11-Jan-06		86
301.2	18-Jan-06	<	10
301.2	24-Jan-06		10
301.2	1-Feb-06		676
301.2	2-Feb-06		20
301.2	7-Feb-06		10
301.2	15-Feb-06	<	10
301.2	21-Feb-06		20
301.2	1-Mar-06		146
301.2	2-Mar-06		20
301.2	7-Mar-06		30
301.2	15-Mar-06	<	10
301.2	21-Mar-06		10
301.2	29-Mar-06		663
301.2	30-Mar-06		41
301.2	4-Apr-06		2602
301.2	5-Apr-06	<	10
301.2	12-Apr-06		31
301.2	18-Apr-06		10
301.2	26-Apr-06	<	10
301.2	2-May-06	<	10
301.2	3-May-06		41
301.2	10-May-06	<	10
301.2	16-May-06		233
301.2	17-May-06		10
301.2	24-May-06	<	10
301.2	30-May-06	<	10
301.2	7-Jun-06	<	10
301.2	13-Jun-06	<	10
301.2	21-Jun-06	<	10
301.2	22-Jun-06		41
301.2	27-Jun-06		51
301.2	5-Jul-06	<	10
301.2	11-Jul-06	<	10
301.2	19-Jul-06	<	10
301.2	25-Jul-06		20
301.2	2-Aug-06	<	10
301.2	8-Aug-06		10
301.2	16-Aug-06	<	10
301.2	22-Aug-06		10
301.2	30-Aug-06	<	10
301.2	5-Sep-06		41
301.2	13-Sep-06	<	10
301.2	19-Sep-06	<	10
301.2	27-Sep-06	<	10
301.2	4-Oct-06		75
301.2	5-Oct-06		20
301.2	11-Oct-06	<	10
301.2	17-Oct-06	<	10
301.2	25-Oct-06		41
301.2	31-Oct-06	<	10
301.2	8-Nov-06		20
301.2	14-Nov-06		41
301.2	20-Nov-06		75
301.2	21-Nov-06		173
301.2	22-Nov-06		241
301.2	23-Nov-06	<	10
301.2	28-Nov-06		10
301.2	6-Dec-06		10
301.2	12-Dec-06		98
301.2	20-Dec-06		10
301.2	26-Dec-06		86
301.2	3-Jan-07		63
301.2	9-Jan-07		10
301.2	17-Jan-07	<	10
301.2	23-Jan-07		10
301.2	31-Jan-07		20
301.2	6-Feb-07	<	10
301.2	14-Feb-07	<	10
301.2	21-Feb-07		31
301.2	28-Feb-07		10
301.2	6-Mar-07	<	10
301.2	14-Mar-07	<	10
301.2	20-Mar-07	<	10
301.2	28-Mar-07	<	10
301.2	3-Apr-07	<	10
301.2	11-Apr-07	<	10
301.2	17-Apr-07	<	10
301.2	25-Apr-07	<	10
301.2	1-May-07	<	10
301.2	9-May-07	<	10
301.2	15-May-07		108
301.2	16-May-07	<	10
301.2	23-May-07		63
301.2	29-May-07	<	10
301.2	6-Jun-07		10
301.2	12-Jun-07	<	10
301.2	20-Jun-07		20
301.2	26-Jun-07	<	10
301.2	2-Jul-07	<	10
301.2	10-Jul-07	<	10
301.2	18-Jul-07	<	10
301.2	24-Jul-07	<	10
301.2	1-Aug-07	<	10
301.2	7-Aug-07	<	10
301.2	15-Aug-07	<	10
301.2	21-Aug-07		20
301.2	29-Aug-07		31
301.2	4-Sep-07		20
301.2	12-Sep-07		134
301.2	13-Sep-07		20
301.2	18-Sep-07	<	10
301.2	26-Sep-07	<	10
301.2	3-Oct-07	<	10
301.2	10-Oct-07		10
301.2	16-Oct-07		10
301.2	24-Oct-07	<	10
301.2	30-Oct-07	<	10
301.2	7-Nov-07		52
301.2	13-Nov-07		20
301.2	21-Nov-07	<	10
301.2	27-Nov-07		20
301	11-Nov-02		109

Bay Area Clean Water Agencies

Leading the Way to Protect Our Bay

A Joint Powers Public Agency

P.O. Box 24055, MS 702

Oakland, California 94623

December 19, 2007

VIA EMAIL AND FACSIMILE: (510) 622-2460

Mr. Bruce Wolfe, Executive Officer
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

RE: Comments on the Tentative Order Reissuing the Southeast Water Pollution Control Plant, North Point Wet Weather Facility, and Bayside Wet Weather Facilities NPDES Permit (CA0037664)

Dear Mr. Wolfe:

The Bay Area Clean Water Agencies (BACWA) appreciate the opportunity to comment on the Tentative Order (TO) for the City and County of San Francisco Public Utilities Commission's Southeast Water Pollution Control Plant, North Point Wet Weather Facility, and Bayside Wet Weather Facilities (referred to herein as San Francisco), as well as make comments on policy issues related to the NPDES permit. BACWA members own and operate publicly-owned treatment works (POTWs) that discharge to San Francisco Bay and its tributaries. Collectively, BACWA members serve over 6.5 million people in the nine-county Bay Area, treating all domestic, commercial and a significant amount of industrial wastewater. BACWA was formed to develop a region-wide understanding of the watershed protection and enhancement needs through reliance on sound technical, scientific, environmental and economic information and to ensure that this understanding leads to long-term stewardship of the San Francisco Bay Estuary. BACWA member agencies are public agencies, governed by elected officials and managed by professionals who are dedicated to protecting our water environment and the public health.

BACWA hopes that the following comments will result in changes made to the tentative order prior to issuance of the final NPDES permit for the San Francisco. Further, in order to avoid repetition, but to preserve these arguments, BACWA supports and incorporates by reference the comments made by San Francisco in its comment letters.

1. **BACWA objects to including numeric final limits and a compliance schedule for dioxin-TEQ, as they are not commensurate with actual water quality impacts or sources.**

   BACWA requests that the dioxin-TEQ numeric final effluent limit be removed because there is no approved numeric water quality objective for dioxin-TEQ, it does not appear likely that

San Francisco will be able to meet this limit, and there are no analytical methods that can accurately detect dioxins at these levels. BACWA believes that the Regional Water Board has the discretion to maintain the narrative standard that exists in the San Francisco Bay Basin Plan. There is no value in developing a numerical standard at this time since dioxin at these levels cannot be measured. The dioxin sources are air emissions and combustion which get into the food crops and ultimately end up in influent. Neither San Francisco, or any BACWA member agency, can control or prevent.

2. **The compliance schedule action plan for dioxin-TEQ is neither realistic nor commensurate with actual water quality impacts, and overly burdensome.**

The congeners detected in fish tissue samples which form the basis for the dioxin 303(d) listing are different than the congeners detected in publicly-owned treatment works. As a result, there is nothing a municipal wastewater treatment plant could do to its effluent to reduce the concentrations of dioxin congeners found in fish tissue, which is the basis for these requirements. In addition, it is highly unlikely that compliance schedule action plan activities will result in compliance with proposed final limits.

Although an optional offset provision (as described in Task 7) may provide an alternative to compliance with a final effluent limit for dioxin-TEQ, such a program does not currently exist. Even though the Regional Water Board directed Regional Water Board staff to develop such a program, there do not appear to be any plans in place. Until such a program is developed with a feasible implementation strategy, BACWA believes this is not a realistic alternative and it is misleading to expect that such a program would lead to compliance.

For these reasons, BACWA requests that the compliance schedule for dioxin-TEQ be removed, along with the final limits.

3. **BACWA has concerns about including final effluent limits for mercury with which San Francisco cannot comply.**

The tentative order (TO) include final effluent limits for mercury. This pollutant is currently being addressed through alternative means in order to protect beneficial uses for the San Francisco Bay. The Average Monthly Effluent Limit (AMEL) in the permit is 0.021 µg/L, yet the maximum concentration measured by San Francisco is 0.026 µg/L. Requiring final effluent limits that are unachievable by San Francisco for a compound that is awaiting approval of a total maximum daily load (TMDL) is inappropriate. These final limits should be only provided for reference and should not be enforceable. BACWA requests removal of these final concentration limits.

The Regional Water Board has been in the process of developing a mercury TMDL for at least 10 years. The mercury TMDL approved by the Regional Water Board contains requirements that have been developed in a meaningful way throughout the process of its development and deliberation. Bay Area POTWs are ready to implement the mercury TMDL through activities that will address impairment in San Francisco Bay.

USEPA Region 9 has provided an opinion that TMDLs cannot be used to delay the implementation of a final limit in a permit. This is an opinion of USEPA Region 9, this is not a regulation adopted by neither the State of California nor the USEPA. We strongly object to having final limits for mercury when we have worked tirelessly with the Clean Estuary Partnership (CEP), the Regional Water Board and the State Water Board to have a final mercury TMDL adopted. Now BACWA members are being punished because a final TMDL has not been approved in time for new permit issuances. We urge the WB to work the EPA to better define what is considered a final TMDL for the purposes of develop a new permit. It is our understanding that the EPA is intending to approve the TMDL in January 2008. .

BACWA appreciates the Regional Water Board's close attention to the comments made herein. I would be more than happy to meet with you to discuss our comments and concerns in more detail as you wish.

Respectfully submitted,

Michele Pla
BACWA Executive Director

cc: BACWA Executive Board
Robert Cole, BACWA Permits Committee Chair

C. Responses to Comments

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

RESPONSE TO WRITTEN COMMENTS
ON THE REISSUANCE OF WASTE DISCHARGE REQUIREMENTS FOR

City and County of San Francisco
Southeast Water Pollution Control Plant, North Point Wet Weather Facility, and Bayside Wet Weather Facilities
1155 Market Street, 11th Floor
San Francisco, CA 94103

The Tentative Order for reissuance of the San Francisco Southeast Water Pollution Control Plant, North Point Wet Weather Facility, and Bayside Wet Weather Facilities, Permit No. CA0037664, was made available for public comment for 30 days from November 19, 2007, to December 19, 2007.

On December 19, 2007, the Regional Water Board received comments from Tommy Moala, Assistant General Manager, Wastewater Enterprise, City and County of San Francisco Public Utilities Commission.

Comments were also received on the same date from:

Michele Plá, Executive Director
Bay Area Clean Water Agencies (BACWA)
P. O. Box 24055, MS 702
Oakland, CA 94623

The comments included recommendations for various changes in the Tentative Order. Among these recommendations, those suggesting changes to more accurately describe the operational conditions of the plant and facilities were incorporated into the revised Tentative Order without detailed response. Responses to the other recommendations are provided below.

CITY AND COUNTY OF SAN FRANCISCO COMMENTS

1. Critical Compliance Issues

City Comment 1.1 Dioxin. *The City notes that its combined sewer system is unique in the Bay Area. In addition to treating wastewater from the service area, the City also almost all stormwater from the area, providing 60% of it with secondary treatment. The entire system is estimated to remove about 800 mg of dioxin-TEQ congeners per year, which is significantly more than the annual dry weather discharge of dioxin-TEQ, 2.5 mg/year. The proposed effluent limit is 1.6 mg/year, and it only applies during dry weather..*

To comply with the dry weather effluent limit of 1.6 mg/year, the City claims would require major capital cost upgrades of the treatment plant. The City proposes that, instead, a mass offset program be developed to offset the 1 – 2 mg/year of dioxin congeners discharged during dry weather. This could be achieved through innovative watershed management practices and would be a far more effective and responsible use of public funds. The City requests that more definitive language regarding a potential offset program be included in the permit.

In addition, the City requests changes to details in the Tentative Order, Monitoring and Reporting Program, and Fact Sheet. It proposes that, given the very small quantities being measured and the bioaccumulative nature of the pollutant, an annual mass limit, not daily and monthly concentration limits be established. A mass-based limit would facilitate a mass offset program. It notes that the design capacity of the plant, and not the average loading, should be used to calculate effluent limits. Also, the City requests a non-substantive change in the monitoring details for dioxin congeners by removing a reference to ½USEPA specified MLs (Minimum Levels) and including a reference to the MLs for the specific dioxin congers.

Response 1.1 We generally concur with the City's comments. We note that the City's combined sewer system is very effective in removing dioxin-TEQ and other pollutants to the Bay, and by treating all the stormwater, it does more to remove stormwater pollutants than typical stormwater programs where there are separate sewer systems. Despite the significant dioxin-TEQ removal, the concentrations of the City's dioxin-TEQ discharges during both wet and dry weather both significantly exceed the previously proposed concentration-based dry weather effluent limits. (No limits apply during wet weather operations.)

For the City to comply with the effluent limits, we agree that large investments of public funds for marginal improvements in removal efficiencies may not be the best course of action. To provide time for the City to meet the effluent limits, we already included a compliance Schedule in the Tentative Order (Table 10). This schedule requires the City to examine and enhance its source control measures to see how it can reduce its dioxin-

TEQ discharges. If this does not result in compliance, then other options are to be evaluated and implemented.

We revised the provisions of the Tentative Order, §VI.C.2.c and Table 10, item 4, to clarify that a mass offset program is a potential option to achieve compliance. The revised text notes that an offset may be achieved by using stormwater controls, such as stormwater cisterns, living roof, rain gardens, grassy swales, planter boxes, and pervious pavement. Such an offset program, when proposed, would have to be circulated for public comment and approved by the Regional Water Board before it could be adopted. The revised text stipulates, however, that the actions proposed for an offset should be new commitments that are not already required by the permit or other means.

We also revised the Tentative Order to convert the concentration-based dioxin-TEQ limits to a mass-based limit, which better reflect the bioaccumulative nature of the pollutant and could facilitate a potential offset program in the future. The mass-based limit is based on the Southeast Plant's design capacity as requested, not its average flow. In addition, we have made requested changes in the monitoring details for dioxin-TEQ congeners by removing the reference to USEPA-specified MLs and including a reference to the specific MLs of the dioxin congers.

2. Other Effluent Limits

City Comment 2.1 Dilution Model Update. *The City proposes that effluent limits for ammonia and cyanide be calculated using dilution data submitted in the December 6, 2007, Dilution Model for the San Francisco Southeast Treatment Plant Bay Outfall (Pier 80) study.*

Response 2.1 We concur with the City's proposal. Ammonia and cyanide effluent limits have been recalculated using the dilution data submitted in the December 6, 2007, report. These changes are reflected in Table 7 of the permit and Fact Sheet § IV.C.4.b, § IV.C.4.c.(6), and § IV.C.4.c.(10); and Tables F-21 and F-23. The City is able to comply with these revised limits.

City Comment 2.2 Mercury Effluent Limit. *The City proposes that since the San Francisco Bay Mercury Total Maximum Daily Load has been adopted by the Regional Water Board and the State Board and the Office of Administrative Law and only awaits final approval by the USEPA, which is expected in January 2008, then language in the permit (footnote to Table 7) and the Fact Sheet (Table F-23) should reflect the language used for cyanide and ammonia limitations.*

Response 2.2 We concur with the changes proposed by the City. Changes have been made in the permit and Fact Sheet as indicated in the City's comment.

City Comment 2.3 Enterococci Bacteria Limit Wet Weather. *The City proposes that the inclusion of a requirement of a geometric mean limit (35 MPN/100mL) for wet weather discharges is erroneous and that the single maximum of 104 MPN/100mL would be more appropriate due to the intermittent nature of wet weather flows.*

Response 2.3 We concur that wet weather discharges are essentially acute events, reflective of a single maximum, rather than the geometric mean appropriate for long term situations. Changes in permit § IV.A.2.c and § IV.B.1.c and in Fact Sheet § IV.D.3 and § IV.B.3 have been made to reflect this change.

City Comment 2.4 Bis (2-ethylhexyl) phthalate does not need a maximum daily limit. *The City asserts that since phthalate is considered a pollutant due to its chronic effects on human health then a maximum daily effluent limit is inappropriate.*

Response 2.4 We recognize that phthalate is a pollutant based on its human health effects, but in preparing this permit we followed the State Water Resources Control Board Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP) at §1.4, Calculation of Effluent Limitations. The SIP protocol results in both average monthly effluent limits and maximum daily effluent limits.

City Comment 2.5 Metals Translators. *The City notes that site-specific translators were used for nickel and copper in the reasonable potential analysis. The City proposes that the Regional Water Board use site-specific translators for all metals in the reasonable potential analysis. The City also proposes that it is willing to assist in this effort.*

Response 2.5 We use site-specific translators in reasonable potential analyses when they are available; otherwise, we use default translators provided in the SIP. The City may submit to the Regional Water Board site-specific translators for other metals and this information may be used in the reasonable potential analysis when this permit is reissued. Since the City can comply with existing effluent limits for metals, there is no compelling reason to consider changes to the Tentative Order.

3. Monitoring Requirements

City Comment 3.1 Sanitary Sewer Overflows and Sewer System Management Plan. *The City claims that the Tentative Order incorrectly states that San Francisco's combined sewer system is subject to the State's General Waste Discharge Requirements*

for Collection System Agencies since that General WDR does not apply to combined sewer systems. The City proposes precise deletions and additions to the text in Section VI.C.6.c. The City also requests that in the Monitoring and Reporting Program (MRP), Attachment E, §X.A, which specifies sanitary sewer overflow monitoring requirements, be deleted because these requirements are already specified in Provision VI.6.c of the Tentative Order.

Response 3.1 We concur that incorrect requirements regarding overflow monitoring from the combined sewer system were proposed in the Tentative Order and we have made the changes recommended in the Tentative Order and Attachment E – Monitoring and Reporting Program. Regarding §X.A in the MRP, we do not agree that this should be deleted as this requirement applies only to those parts of the City's system that have separate sanitary sewers where the State Water Board's General WDR applies. Inclusion of the requirements in both the Tentative Order and the MRP is not conflicting.

City Comment 3.2 Southeast Influent Chemical Oxygen Demand (COD) – Table E-3. *The City proposes there is no rationale for monitoring for COD in the Southeast influent (INF-001) since, although COD effluent monitoring is required, there is no percent removal requirement in the permit.*

Response 3.2 We agree that there is no rationale for influent monitoring of COD, and we have removed this requirement from Table E-3.

City Comment 3.3 North Point Oil and Grease (O&G) – Table E-4. *The City proposes there is no rationale for monitoring O&G in the North Point influent INF-002 since there are no limits under wet weather conditions and there is no percent removal requirement for O&G in the permit.*

Response 3.3 We agree that there is no rationale for influent monitoring of oil and grease and we have removed this requirement from Table E-4.

City Comment 3.4 Wet weather Effluent Oil and Grease (O&G) – Table E-6. *The City questions the rationale and practicality of O&G monitoring during wet weather events and requests that O&G monitoring be removed from wet weather effluent monitoring requirements in Table E-6. The City requests this on the basis that there are no numeric effluent limits for O&G in wet weather effluent. Furthermore, data already collected show that 95% of wet weather primary treated effluent samples meet dry weather secondary treated effluent limits, indicating that O&G is not a significant pollutant during wet weather. The City further notes that if, despite its request, wet weather O&G sampling is retained then the sampling process should be modified to make it more practical. The current method requires samples to be composited based on*

flow rates during the wet weather discharge. The City claims that, in practice, since flows constantly change, this is impracticable.

Response 3.4 The Tentative Order already includes a reduced requirement for O&G wet weather effluent monitoring to samples collected only from discharge point EFF-003 (Pier 33), which is primary treated effluent from the North Point Facility. While there are no wet weather effluent limits for O&G, sampling is required to monitor the pollutants in the discharge. As well as O&G, there are monitoring requirements for other conventional pollutants and priority pollutants and thus we have retained the requirement for O&G sampling. We acknowledge the practical difficulties of sampling and have changed the requirement for flow based composite samples (Footnote 4 to Table E-6) to a composite sample based on samples collected after the beginning, in the projected middle, and before the projected end of the storm event.

City Comment 3.5 Wet Weather Monitoring Frequency – Table E-6. *The City claims that the wet weather monitoring frequency (the first two storm events and monthly thereafter) prescribed in Table E-6 is too onerous and requests that this be reduced to twice per season.*

Response 3.5 We do not agree that the sampling frequency is onerous since typically wet weather discharges only occur between October and April. Because weather patterns can be unpredictable, and for simplicity, we modified the Tentative Order to require monitoring of the first storm event resulting in a wet weather discharge, should it occur, in each calendar month.

4. Other Clarifying Issues

City Comment 4.1 Defined Separation of Wet Weather Discharge Events. *The City comments that the combined sewer system was designed to provide storage and treatment capacity for wet weather flows and that combined sewer discharges to shoreline receiving waters occur only when storm flows exceed the capacity of the facilities. It was designed such that any discharges within a six-hour period are considered a single discharge event. The City requests that the definition of a single discharge event that is already included in the Oceanside Water Pollution Control Plant and Westside Wet Weather Combined Sewer System NPDES Permit be included in this permit.*

Response 4.1 We agree that the definition of a single discharge event should be included in this permit. The definition written in the Oceanside facilities permit (Order No. R2-2003-0073) has been added to §VI.C.7.c of this Tentative Order.

City Comment 4.2 Consideration of Wet Weather Influenced Day. *The City comments that directing stormwater runoff to a treatment system is environmentally beneficial to the Bay since it captures pollutants in the stormwater that would otherwise enter the Bay. The treatment system may not, however, have the capability to remove the stormwater pollutants such that the concentrations in the discharge to the Bay are below prescribed effluent limits. This could result in permit violations. (This scenario would apply to situations where there is some precipitation, but not enough for the system to be in wet weather mode, where no effluent limits would apply.) The City therefore requests that the Regional Water Board define "wet weather-influenced days" and relieve the City of effluent limits for those pollutants that come from stormwater runoff, e.g. dioxin congeners. By doing so, the City claims that this would generally promote the capture and treatment of stormwater by other POTWs since POTWs would not be deterred by the possibility of compliance violations when they treat stormwater.*

Response 4.2 We acknowledge the City's position in that primary and secondary treatment of stormwater should be encouraged. We note, however, that the City can comply with all of its effluent limits, except the limit for dioxin congeners. As noted in the response to Comment 1, compliance for dioxin-TEQ may be readily achieved by additional source control measures, mass offset programs, or upgrades to the treatment plant. Whether the Regional Water Board provides relief from effluent limits to other dischargers who may choose to treat stormwater may be decided when such proposals are put forward.

5. Program Implementation

City Comment 5.1 Bacteria Limits Should Incorporate Dilution. *The City requests that dilution be factored in when calculating enterococci bacteria limits. The City includes five years of enterococci bacteria data from shoreline samples collected at least weekly that they claim could be used as background data to calculate an appropriate dilution factor.*

Response 5.1 As recognized in the previous Permit (Order No R2-2002-0073) and in current NPDES permits for other dischargers, bacteria limits are technology-based effluent limits (see Fact Sheet § IV.B.3). Technology-based limits do not account for dilution in the receiving waters. Dilution is considered only in setting water quality based effluent limits. Since the City is able to comply with the technology-based limits for bacteria, there is no need for less stringent limits.

City Comment 5.2 SIP Allows Dilution for All Pollutants. *The City challenges the Regional Water Board's use of a 10:1 dilution ratio for most non-bioaccumulative pollutants and its zero dilution of bioaccumulative pollutants. The City claims that the SIP allows for dilution credits and that it takes precedence over the Basin Plan. The City*

also claims that U.S. EPA guidance also assumes dilution for bioaccumulative pollutants and claims that dilution should be available for bioaccumulative pollutants in this Order.

Response 5.2. Credit for dilution of the discharge within the receiving water may be granted if assimilative capacity exists. Pursuant to Section 1.4.2.1 of the SIP, dilution credits may be limited or denied on a pollutant-by-pollutant basis. We conclude that no assimilative capacity exists for pollutants causing the receiving water to appear on the 303(d) List of waters not meeting existing water quality standards. In these cases, we granted no dilution credit.

For other pollutants (except ammonia and cyanide), we use a conservative allowance of 10:1 dilution for discharges to the Bay to protect beneficial uses. The basis for limiting dilution to 10:1 is that (1) no more than 10:1 dilution was granted in the previous Order, (2) the Basin Plan's Prohibition Number 1 in Table 4-1, generally prohibits discharges without a 10:1 dilution, and (3) SIP Section 1.4.2 allows for limiting the dilution credit. Moreover, the following further outlines the basis for derivation of the dilution credit.

- A far-field background station is appropriate because the receiving water body is a very complex estuarine system with highly variable and seasonal upstream freshwater inflows and diurnal tidal saltwater inputs.

- Because of the complex hydrology of the San Francisco Bay, a mixing zone has not been established.

- Previous dilution studies do not fully account for the cumulative effects of other wastewater discharges to the system.

- The SIP allows limiting a mixing zone and dilution credit for persistent pollutants (e.g., copper, silver, zinc, and lead).

The main justification for using a 10:1 dilution credit is the uncertainty in accurately determining both ambient background and the mixing zone in a complex estuarine system with multiple wastewater discharges. In other words, we concluded that the assimilative capacity is uncertain due to the complex hydrology of the receiving water. We granted higher dilution credit for pollutants that rapidly degrade in the receiving water (i.e., ammonia and cyanide).

City Comment 5.3 Reasonable Potential Analysis (RPA) – Background Data Calculations. *The City comments that the Water Board continues to use outdated background data from the San Francisco Regional Monitoring Program (RMP) in determining the reasonable potential of discharges to exceed water quality objectives. The City comments that the high values recorded represent extreme situations, not current conditions, and that these high values can yield more restrictive permit limits. The City notes that only the most recent three to five years of effluent data are used and thus recommends that receiving water data collected over this same time period be used*

to set background values. In addition, the City recommends that the Regional Water Board incorporates into the Basin Plan, the methodology included in the California Ocean Plan.

Response 5.3 We use the most recent three to five years of effluent data because they best reflect current and recent past treatment plant performance. The background data for the Bay should be independent of the effluent discharge and more constant over the years. Therefore, we use all the available data to establish background conditions. Regarding incorporating the Ocean Plan methodology to determine reasonable potential, we note that we must rely on the State Water Board's SIP.

City Comment 5.4 Replace Maximum Daily Limits with Weekly Average Limits. *The City notes that 40 CFR 122.45(d) requires that POTW permit limits be expressed as average weekly limits and average monthly limits, and refers to a Superior Court decision that the Los Angeles Regional Board had improperly imposed daily maximum limits for POTWs. The City further notes that the State Board did not appeal the court decision on maximum daily limits. The City requests that daily maximum limits not be included in this permit to conform to the Superior Court decision.*

Response 5.4 We disagree with the City's assertions. We agree that 40 CFR 122.45(d) requires average weekly limits, but only when not impracticable. In preparing this permit, we are required to comply with the SIP at § 1.4, Calculation of Effluent Limitations, which states, "the permit shall contain effluent limitations developed using one or more of the following methods…:" Four methods are provided. Method A requires implementation of a TMDL allocation in setting limits. No TMDL has been completed for the pollutants where we have developed effluent limits, so this method is impracticable. Method C requires the use of a dynamic model where sufficient effluent and receiving water data exist. We do not have such data, so this method, too, is impracticable. Method D requires consideration of intake water credits according to §1.4.4 of the SIP. There is no intake water associated with this discharge, so this method is also impracticable. Method B describes a procedure to calculate effluent limits using steady state background concentrations, dilution rates, water quality criteria (or objectives) that take into account site specific translators, and statistical variability of existing data. Method B is the only SIP method that is practicable, and that is why we used it to establish effluent limitations. This approach yields average monthly and maximum daily effluent limits (AMELs and MDELs) not average weekly effluent limits. Furthermore, we note that Superior Court decisions are not precedential, and the cited case does not override these SIP requirements.

RESPONSE TO BACWA COMMENTS

BACWA Comment 1 BACWA objects to including numeric final effluent limits and a compliance schedule for dioxin-TEQ, as they are not commensurate with actual water quality impacts or sources. *BACWA requests that dioxin-TEQ final effluent limit be removed because there is no approved numeric water quality objective for dioxin-TEQ, and it does not appear likely that San Francisco will be able to meet the limit. Moreover, no analytical methods can accurately detect dioxins at these levels. The Dioxin sources are air emissions and combustion, neither of which San Francisco can control.*

BACWA Response 1 The numeric effluent limit for dioxin-TEQ is reasonable and appropriate. The Tentative Order includes a dioxin-TEQ effluent limit because State and Federal laws and regulations require them. By adopting the dioxin-TEQ limits, the Regional Water Board is complying with regulations implementing the Clean Water Act at 40 CFR 122.44(d), which require that permits include effluent limits for all pollutants that may be discharged at levels with a reasonable potential to cause or contribute to exceedances of water quality standards, including narrative objectives, such as the Basin Plan's bioaccumulation objective. Moreover, the Basin Plan states, "Water quality-based effluent limitations will consist of narrative requirements and, where appropriate, numerical limits for the protection of the most sensitive beneficial uses of the receiving water."

Dioxin and similar compounds have bioaccumulated in San Francisco Bay fish in violation of the Basin Plan's narrative bioaccumulation water quality objective. Therefore, a numeric effluent limit is appropriate to protect San Francisco Bay's beneficial uses, which the bioaccumulation objective is intended to preserve. As allowed by 40 CFR 122.44(d)(1)(vi), we used Toxic Equivalency Factors (TEFs) published by U.S. EPA and the World Health Organization, together with the CTR water quality objective for 2,3,7,8-TCDD (the most toxic of the Dioxins), to translate the Basin Plan's narrative bioaccumulation objective into a numeric water quality-based effluent limit.

We do not intend to enforce compliance with the dioxins limit in situations where we cannot determine whether the limit is exceeded. However, neither 40 CFR 122.44(d) nor the Basin Plan allows consideration of whether analytical methods can actually measure dioxin-TEQ at concentrations as low as the limits. The Basin Plan states, "…when pollutant concentrations in waters are relatively low, the limits of quantification will be taken into account in determining compliance with, rather than the calculation of, effluent limits." Following this policy and the State Implementation Policy's Minimum Level (ML) concept, we developed effluent limits consistent with the water quality objective. We will use analysis-based MLs for compliance determination and enforcement.

We disagree that dioxins cannot be controlled. U.S. EPA resolved this issue by placing San Francisco Bay on the 303(d) list of impaired waters due to dioxin concentrations in fish and other aquatic organisms. The Basin Plan states, "Controllable water quality factors are those actions, conditions, or circumstances resulting from human activities

that may influence the quality of the waters of the State and that may be reasonably controlled." Air emissions, which are created through combustion, are a source of dioxins, but wastewater treatment plants are also sources of dioxins. Dioxins in wastewater are primarily a result of human activity and their discharge to waters can be controlled by removing solids from wastewater (dioxins are hydrophobic and bind to particles). Additional dioxin removal could result from plant upgrades. This could be burdensome and may not be cost effective at this time; however, such actions could be necessary in the future.

Because meeting the dioxin-TEQ limit will be challenging, the Tentative Order includes a compliance schedule in accordance with Basin Plan section 4.7.6. The State Water Board, in its recent East Bay Municipal Utilities District remand order (Order WQ-2007-0004), did not address the Regional Water Board's approach to final limits and compliance schedules for Dioxin-TEQ. The Tentative Order is consistent with the approach we have taken with recent permits.

BACWA Comment 2 The compliance schedule action plan for dioxin-TEQ is neither realistic nor commensurate with actual water quality impacts, and overly burdensome. *BACWA requests that the compliance schedule for dioxin-TEQ be removed, along with the limits, because the congeners found in fish tissue samples, which form the basis for the dioxin 303(d) listing, are different than the congeners detected in publicly-owned treatment works. In addition BACWA asserts that although an optional offset provision (Task 7) may provide an alternative to compliance with the final limit, such a program does not currently exist and until shown to work it cannot be assumed that it would lead to compliance.*

BACWA Response 2 For the reasons stated in our response to comment 1, we cannot remove the final limits for dioxin-TEQ from the Tentative Order. Data provided by the City and County of San Francisco indicate that the Discharger exceeds the annual mass limit of 1.6 mg dioxin-TEQ/year, by less than 1 mg. Given that the Discharger already removes almost 1,000 mg/year in its wet weather and dry weather operations, we believe that with a number of practical changes the Discharger may be able to reduce its annual mass loading.

BACWA cites no evidence to support their assertion that the dioxins in San Francisco Bay fish are different (i.e., come from a different source) than the dioxins discharged by wastewater treatment plants. Therefore we cannot agree with the assertion.

We acknowledge that a formal mass offset program does not currently exist. However, we revised the Tentative Order specifically to facilitate such a program if the City chooses to propose one (see our response to City Comment 1.1).

BACWA Comment 3 BACWA has concerns about including final effluent limits for mercury with which San Francisco cannot comply. *BACWA notes that the Average Monthly Effluent Limit in the permit is set at 0.21 µg/L while the maximum effluent concentration measured by San Francisco is 0.26 µg/L. BACWA further notes that the Tentative Order includes final effluent limits for mercury although this pollutant is being addressed through a TMDL. BACWA objects to having final limits for mercury while awaiting final approval of new TMDL based limits.*

BACWA Response 3 We see no basis for removing the final effluent limits for mercury from the permit. The SIP's prescriptive measures require that we include this limit because there is reasonable potential for the discharge to contain mercury at levels that could adversely affect water quality. Based on our statistical analysis, the City is, in fact, able to immediately comply with the water quality-based limits for mercury.

As discussed in our response to City Comment 3.2, this issue will soon be moot. The Regional Water Board has already adopted a Mercury Watershed Permit that will supersede the mercury limitations listed in this Order as soon as U.S. EPA approves the San Francisco Bay Mercury TMDL. We expect this to occur by the end of this month.
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