

quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in 40 CFR 122.44(d)(1)(vi).

Specific factors affecting the development of limitations and requirements in this Order are discussed below.

A. Discharge Prohibitions

1. **Discharge Prohibition III.A (No discharge other than that described in this Order):** This prohibition is the same as in the previous permit and is based on CWC section 13260, which requires filing a Report of Waste Discharge before discharges can occur. Discharges not described in the Report of Waste Discharge, and subsequently in this Order, are prohibited.
2. **Discharge Prohibition III.B (No discharge receiving less than 61:1 dilution):** This provision is based on the performance of the Discharger's outfall diffuser as modeled in the Discharger's 2008 dilution study¹. Some water quality-based effluent limitations in this Order are based on this level of dilution.
3. **Discharge Prohibition III.C (No bypass or overflow of untreated or partially treated wastewaters):** This prohibition is based on 40 CFR 122.41(m) (see Federal Standard Provisions, Attachment D, section G.) This prohibition is changed from the previous permit in that the practice of blending is no longer allowed.
4. **Discharge Prohibition III.D (Average dry weather flow not to exceed dry weather design capacity):** This prohibition is based on the design treatment capacity of the Plant. Exceedance of the Plant's average dry weather flow design capacity of 16.5 MGD may result in lowering the reliability of achieving compliance with water quality requirements. The treatment capacity may be increased up to 22.7 MGD if the conditions of Provision VI.C.9 are met.
5. **Discharge Prohibition III. E (No sanitary sewer overflows to waters of the United States):** Discharge Prohibition No. 15 from Basin Plan Table 4-1 and the CWA 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)]. Therefore, a sanitary sewer overflow that results in the discharge of raw sewage, or sewage not meeting secondary treatment requirements, to surface waters is prohibited under the CWA and the Basin Plan.

B. Effluent Limitations for Conventional and Non-Conventional Pollutants

1. Scope and Authority

CWA section 301(b)(1)(B) requires USEPA to develop secondary treatment standards (the level of effluent quality attainable through application of secondary or equivalent treatment)

¹ Near-field Mixing Zone and Dilution Analysis for the Delta Diablo Sanitation District Outfall Diffuser to New York Slough, December 17, 2008. Larry Walker Associates

for POTWs. USEPA promulgated such technology-based effluent guidelines for POTWs at 40 CFR 133. These Secondary Treatment Regulations include the following minimum requirements for POTWs, which are applicable to discharges from the Plant.

Table F-7. Secondary Treatment Requirements

	30-Day Average	7-Day Average
BOD ^[1]	30 mg/L	45 mg/L
TSS ^[1]	30 mg/L	45 mg/L
pH	6.0 – 9.0	

^[1] The 30 day average percent removal shall not be less than 85 percent.

2. Applicable Effluent Limitations

This Order contains the following effluent limitations for conventional and non-conventional pollutants, applicable to Discharge Point 001.

Table F-8. Summary of Effluent Limitations for Conventional and Non-conventional Pollutants

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	---	---	---
BOD ₅ and TSS % Removal	%	85	---	---	---	---
Oil and Grease	mg/L	10	---	20	---	---
pH	s.u.	---	---	---	6.0	9.0
Total Residual Chlorine	mg/L	---	---	---	---	0.0 ^[1]
Enterococcus Bacteria	CFU/100 mL	(2)				

^[1] Requirement defined as below the limit of detection in standard test methods defined in the latest USEPA approved edition of *Standard Methods for the Examination of Water and Wastewater*. The Discharger may elect to use a continuous on-line monitoring system for measuring flow, chlorine, and sodium bisulfite dosage (including a safety factor) and concentration to prove that chlorine residual exceedances are false positives. Convincing evidence must be provided to Regional Water Board staff to conclude these false positive exceedances are not violations of this permit.

^[2] The 30-day geometric mean value shall not exceed 33 colony forming units (CFU)/100 mL.

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 San Francisco Bay Region.

The limitation for pH is retained from Order No. R2-2003-0114 and is required by USEPA's Secondary Treatment Regulation at 40 CFR 133 and by the Basin Plan (Table 4-2) for deep water discharges.

This Order retains the instantaneous maximum limitation for chlorine of 0.0 mg/L, which is based on Table 4-2 of the Basin Plan.

Effluent limitations for BOD and TSS, including the 85% removal requirement, are retained from Order No. R2-2003-0114. NPDES regulations at 40 CFR 122.45(d)(2) specify that discharge limitations for POTWs shall be stated as average weekly limitations and average monthly limitations, unless impracticable.

The effluent limitation for total coliform has been replaced by an effluent limitation for enterococcus bacteria. Shellfish harvesting is not a beneficial use for New York Slough. The alternate enterococcus limitation is based on the freshwater objectives for water contact recreation from Table 3-2 of the Basin Plan.

The technology-based effluent limitations for settleable matter are not retained from Order No. R2-2003-0114, as the Regional Water Board has determined that compliance with the Secondary Treatment Regulation at 40 CFR 133 and with the Basin Plan (Table 4-2) requirements for all discharges to inland surface waters and enclosed bays and estuaries of the San Francisco Bay Region 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).

C. Effluent Limitations for Toxic Pollutants

1. Scope and Authority

- a. NPDES regulations at 40 CFR 122.44(d)(1)(i) require permits to include Water Quality-Based Effluent Limitations (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, when necessary, calculating WQBELs is intended to (1) protect the designated beneficial uses of the receiving water specified in the Basin Plan, and (2) achieve applicable WQOs and WQO that are contained in the California Toxics Rule (CTR), National Toxics Rule (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 maximum daily and average monthly discharge limitations for all discharges other than publicly owned treatment works."
 - (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 and Objectives

The WQC and WQOs applicable to the receiving waters for this discharge are from the Basin Plan; the CTR, established by USEPA at 40 CFR 131.38; and the 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 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.

The Basin Plan contains narrative WQOs for constituents of concern for municipal supplies. The receiving water for the Delta Diablo discharge includes a beneficial use category of Municipal and Domestic Supply (MUN). Chapter 3 of the Basin Plan incorporates the provisions of Title 22, Division 4, Chapter 15 of Title 22 of the California Code of Regulations, which has established Maximum Contaminant Levels (MCLs) for certain pollutants, as applicable water quality objectives for receiving waters with the MUN designation.

- 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 San Francisco Bay Region, although Basin Plan Tables 3-3 and 3-4 include numeric objectives for certain of these priority toxic pollutants, which supersede CTR criteria (except in the South Bay south of the Dumbarton Bridge).

CTR human health criteria are further categorized as “water and organisms” and “organisms only.” Because the receiving water is designated for municipal and domestic supply, both categories apply to this discharge.

- c. **NTR.** The NTR establishes numeric aquatic life criteria for selenium and numeric human health criteria for 33 toxic organic pollutants for waters of San Francisco Bay upstream to and including Suisun Bay and the Sacramento River Delta. These criteria of the NTR apply to New York Slough, the receiving water for this Discharger.
- d. **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 WQO. Freshwater criteria shall apply to discharges to waters with salinities equal to or less than one part per thousand (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 discharger is New York Slough, which is tidally influenced. New York Slough is located within the Sacramento-San Joaquin Delta, which is specifically identified as supporting an estuarine habitat beneficial use. The salinity of the receiving water is therefore considered estuarine, and the lower of the marine and freshwater WQOs from the Basin Plan, NTR, and CTR apply to this discharge.

- e. **Receiving Water Hardness.** Ambient hardness values are used to calculate freshwater WQOs that are hardness dependent. In determining the WQOs for this Order, Regional Water Board staff used a hardness of 90 mg/L as CaCO₃, which was calculated as the adjusted geometric mean (AGM) of the hardness data (censored for hardness greater than 400 mg/L and salinity greater than 1 ppt) collected at the San Joaquin Regional Monitoring Program station, an upstream background station to the discharge.
- f. **Site-Specific Metals Translators.** Because NPDES regulations at 40 CFR 122.45(c) require that effluent limitations for metals be expressed as total recoverable metal, and applicable WQO for 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 in the water and therefore available to cause toxicity. In general, the dissolved form of the metals is more available and more toxic to aquatic life than filterable forms. Site-specific translators can be developed to account for site-specific conditions, thereby preventing exceedingly stringent or under protective WQOs.

For deep water discharges to New York Slough, the Regional Water Board used 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). The copper translator for deepwater discharges to New York Slough are 0.38 (chronic) and 0.66 (acute). In determining the need for and calculating WQBELs for all other metals, the Regional Water Board staff used default translators established by the USEPA in the CTR at 40 CFR 131.38(b)(2), Table 2.

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 and 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, the receiving water's designated beneficial uses, and/or previous permit pollutant limitations to determine Reasonable Potential. For priority pollutants, Regional Water Board staff used the methods prescribed in SIP Section 1.3 to determine if the discharge from the Plant demonstrates Reasonable Potential.

a. Reasonable Potential Analysis (RPA)

Using the methods prescribed in SIP Section 1.3, Regional Water Board staff analyzed the effluent data to determine if the discharge from the Plant demonstrates Reasonable Potential. The RPA compares the effluent data with numeric and narrative WQOs in the Basin Plan and numeric WQO established by USEPA in the NTR and CTR.

b. Reasonable Potential Methodology

Using the methods and procedures prescribed in SIP Section 1.3, 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 WQOs (including site-specific objectives). The RPA projects a maximum effluent concentration (MEC) for each pollutant based on existing data, while accounting for a limited data set and effluent variability. There are three triggers in determining Reasonable Potential.

- (1) The first trigger is activated if the MEC is greater than or equal to the lowest applicable WQO ($MEC \geq WQO$), which has been adjusted, if appropriate, for pH, hardness, and translator data. If the MEC is greater than or equal to the adjusted WQO, then that pollutant has Reasonable Potential, and a WQBEL is required.
- (2) The second trigger is activated if the observed maximum ambient background concentration (B) is greater than the adjusted WQO ($B > WQO$), and the pollutant is detected in any of the effluent samples ($MEC > ND$).
- (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. 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* (August 6, 2001 Letter – available online; see Standard Language and Other References Available Online, below) to all permittees, formally required the Discharger (pursuant to CWC Section 13267) to initiate or continue monitoring for the priority pollutants using analytical methods that provide the best detection limits reasonably feasible. Regional Water Board staff analyzed these data and the nature of the effluent to determine if the discharge has Reasonable Potential. The RPA is based on the effluent monitoring data collected by the Discharger from August 2005 through July 2008 for most inorganic pollutants, and from March 2004 through March 2008 for most organic pollutants.

d. Ambient Background Data

Ambient background values are used to determine reasonable potential and to calculate effluent limitations, when necessary. For the RPA, ambient background concentrations are the observed maximum detected water column concentrations. The SIP states that for calculating WQBELs, ambient background concentrations are either the observed maximum ambient water column concentrations or, for criteria intended to protect human health from carcinogenic effects, the arithmetic mean of observed ambient water concentrations. The RMP station located in the Sacramento River is a far field background station that 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.

The RMP has not analyzed all the constituents listed in the CTR. These data gaps are addressed by the August 6, 2001, Letter. The August 6, 2001, Letter formally required Dischargers (pursuant to CWC Section 13267) 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* (2003). 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 1996 through 2006 for inorganics and organics at the Sacramento River RMP station, and additional data from BACWA's *Ambient Water Monitoring: Final CTR Sampling Update* (2004) for the Sacramento RMP station.

e. Reasonable Potential Determination

The MECs, most stringent applicable WQOs, 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 for all pollutants, and monitoring data are not available for others. RPA results are shown below. Based on a review of the effluent data collected during the previous permit term, the pollutants that exhibit Reasonable Potential are copper, selenium, cyanide, dioxin-TEQ, bromoform, chlorodibromomethane, methylene chloride, bis(2-ethylhexyl)phthalate, total ammonia, and mercury. The discharge of mercury is not covered by this Order because it is regulated by Regional Water Board Order No. R2-2007-0077.

Table F-9. Reasonable Potential Analysis Summary

CTR #	Priority Pollutants	MEC or Minimum DL ^{(a)(b)} (µg/L)	Governing WQO (µg/L)	Maximum Background or Minimum DL ^{(a)(b)} (µg/L)	RPA Results ^(c)
1	Antimony	1	6	0.34	No
2	Arsenic	17	36	3.7	No

CTR #	Priority Pollutants	MEC or Minimum DL ^{(a)(b)} (µg/L)	Governing WQO (µg/L)	Maximum Background or Minimum DL ^{(a)(b)} (µg/L)	RPA Results ^(c)
3	Beryllium	< 0.006	4	0.126	No
4	Cadmium	0.2	1.0	0.066	No
5a	Chromium (III)	2.1	50	Not Available	No
5b	Chromium (VI)	2.1	11	Not Available	No
6	Copper	11	7.2	9.9	Yes
7	Lead	1.4	2.8	2.3	No
8	Mercury (303d listed)	0.016	0.025	0.038	Yes
9	Nickel (303d listed)	13	30	22	No
10	Selenium (303d listed)	7	5	0.45	Yes
11	Silver	0.05	2.2	0.057	No
12	Thallium	0.03	1.7	0.143	No
13	Zinc	28	86	18	No
14	Cyanide	9.7	2.9	0.5	Yes
15	Asbestos	< 1	7000000	Not Available	No
16	2,3,7,8-TCDD	< 5.6E-07	1.3E-08	6.0E-09	No
	Dioxin TEQ (303d listed)	1.3E-07	1.3E-08	4.8E-08	Yes
17	Acrolein	< 0.5	320	< 0.5	No
18	Acrylonitrile	< 0.33	0.059	< 0.02	No
19	Benzene	< 0.03	1	< 0.05	No
20	Bromoform	5	4.3	< 0.5	Yes
21	Carbon Tetrachloride	< 0.04	0.25	0.06	No
22	Chlorobenzene	< 0.03	70	< 0.5	No
23	Chlorodibromomethane	1	0.41	< 0.05	Yes
24	Chloroethane	< 0.03	No Criteria	< 0.5	Ud
25	2-Chloroethylvinyl ether	< 0.1	No Criteria	< 0.5	Ud
26	Chloroform	1.3	No Criteria	< 0.5	Ud
27	Dichlorobromomethane	0.4	0.56	< 0.05	No
28	1,1-Dichloroethane	< 0.04	5	< 0.05	No
29	1,2-Dichloroethane	< 0.04	0.38	0.04	No
30	1,1-Dichloroethylene	< 0.06	0.057	< 0.5	No
31	1,2-Dichloropropane	< 0.03	0.52	< 0.5	No
32	1,3-Dichloropropylene	< 0.03	0.5	Not Available	No
33	Ethylbenzene	< 0.04	300	< 0.5	No
34	Methyl Bromide	< 0.05	48	< 0.5	No
35	Methyl Chloride	< 0.04	No Criteria	< 0.5	Ud
36	Methylene Chloride	11	4.7	< 0.5	Yes
37	1,1,2,2-Tetrachloroethane	< 0.04	0.17	< 0.05	No
38	Tetrachloroethylene	< 0.04	0.8	< 0.05	No
39	Toluene	0.1	150	< 0.3	No
40	1,2-Trans-Dichloroethylene	< 0.05	10	< 0.5	No
41	1,1,1-Trichloroethane	< 0.03	200	< 0.5	No
42	1,1,2-Trichloroethane	< 0.05	0.6	< 0.05	No
43	Trichloroethylene	< 0.05	2.7	< 0.5	No
44	Vinyl Chloride	< 0.05	0.5	< 0.5	No
45	2-Chlorophenol	< 0.6	120	Not Available	No
46	2,4-Dichlorophenol	< 0.7	93	< 1.3	No
47	2,4-Dimethylphenol	< 0.8	540	< 1.3	No
48	2-Methyl- 4,6-Dinitrophenol	< 0.6	13	< 1.2	No
49	2,4-Dinitrophenol	< 0.6	70	< 0.7	No
50	2-Nitrophenol	< 0.6	No Criteria	< 1.3	Ud
51	4-Nitrophenol	4.7	No Criteria	< 1.6	Ud
52	3-Methyl 4-Chlorophenol	< 0.5	No Criteria	< 1.1	Ud
53	Pentachlorophenol	< 0.6	0.28	< 1	No

CTR #	Priority Pollutants	MEC or Minimum DL ^{[a][b]} (µg/L)	Governing WQO (µg/L)	Maximum Background or Minimum DL ^{[a][b]} (µg/L)	RPA Results ^[c]
54	Phenol	6	21000	< 1.3	No
55	2,4,6-Trichlorophenol	< 0.6	2.1	< 1.3	No
56	Acenaphthene	< 0.017	1200	0.0019	No
57	Acenaphthylene	< 0.019	No Criteria	0.000492	Ud
58	Anthracene	< 0.02	9600	0.000389	No
59	Benzidine	< 0.95	0.00012	< 0.0003	No
60	Benzo(a)Anthracene	< 0.019	0.0044	0.0011	No
61	Benzo(a)Pyrene	< 0.019	0.0044	0.0008215	No
62	Benzo(b)Fluoranthene	< 0.02	0.0044	0.0019	No
63	Benzo(ghi)Perylene	< 0.02	No Criteria	0.0012465	Ud
64	Benzo(k)Fluoranthene	< 0.02	0.0044	0.000928	No
65	Bis(2-Chloroethoxy)Methane	< 0.7	No Criteria	< 10	Ud
66	Bis(2-Chloroethyl)Ether	< 0.67	0.031	< 0.3	No
67	Bis(2-Chloroisopropyl)Ether	< 0.6	1400	Not Available	No
68	Bis(2-Ethylhexyl)Phthalate	6.6	1.8	0.68	Yes
69	4-Bromophenyl Phenyl Ether	< 0.4	No Criteria	< 0.23	Ud
70	Butylbenzyl Phthalate	0.7	3000	< 0.5	No
71	2-Chloronaphthalene	< 0.5	1700	< 0.3	No
72	4-Chlorophenyl Phenyl Ether	< 0.5	No Criteria	< 0.3	Ud
73	Chrysene	< 0.02	0.0044	0.001067	No
74	Dibenzo(a,h)Anthracene	< 0.02	0.0044	0.00067	No
75	1,2-Dichlorobenzene	< 0.03	600	< 0.3	No
76	1,3-Dichlorobenzene	< 0.03	400	< 0.3	No
77	1,4-Dichlorobenzene	0.3	5	< 0.3	No
78	3,3 Dichlorobenzidine	< 0.3	0.04	< 0.0002	No
79	Diethyl Phthalate	1.3	23000	Not Available	No
80	Dimethyl Phthalate	< 0.57	313000	Not Available	No
81	Di-n-Butyl Phthalate	< 0.57	2700	1.72	No
82	2,4-Dinitrotoluene	< 0.6	0.11	< 0.27	No
83	2,6-Dinitrotoluene	< 0.48	No Criteria	< 0.29	Ud
84	Di-n-Octyl Phthalate	< 0.67	No Criteria	Not Available	Ud
85	1,2-Diphenylhydrazine	< 0.6	0.04	0.0087	No
86	Fluoranthene	0.03	300	0.0034255	No
87	Fluorene	< 0.02	1300	0.0024	No
88	Hexachlorobenzene	< 0.4	0.00075	0.000109	No
89	Hexachlorobutadiene	< 0.7	0.44	< 0.3	No
90	Hexachlorocyclopentadiene	< 0.4	50	< 0.3	No
91	Hexachloroethane	< 0.6	1.9	< 0.2	No
92	Indeno(1,2,3-cd)Pyrene	< 0.02	0.0044	0.001317	No
93	Isophorone	< 0.48	8.4	< 0.3	No
94	Naphthalene	0.07	No Criteria	0.00681	Ud
95	Nitrobenzene	< 0.67	17	< 0.25	No
96	N-Nitrosodimethylamine	< 0.57	0.00069	< 0.3	No
97	N-Nitrosodi-n-Propylamine	< 0.6	0.005	< 0.0002	No
98	N-Nitrosodiphenylamine	< 0.57	5	< 0.001	No
99	Phenanthrene	< 0.02	No Criteria	0.003442	Ud
100	Pyrene	0.2	960	0.00358	No
101	1,2,4-Trichlorobenzene	< 0.6	5	< 0.3	No
102	Aldrin	< 0.002	0.00013	0.00000404	No
103	Alpha-BHC	< 0.002	0.0039	0.0003468	No
104	Beta-BHC	< 0.002	0.014	0.000118	No
105	Gamma-BHC	< 0.002	0.019	0.0010032	No
106	Delta-BHC	< 0.002	No Criteria	0.000038	Ud

CTR #	Priority Pollutants	MEC or Minimum DL ^{[a][b]} (µg/L)	Governing WQO (µg/L)	Maximum Background or Minimum DL ^{[a][b]} (µg/L)	RPA Results ^[c]
107	Chlordane (303d listed)	< 0.003	0.00057	0.0003	No
108	4,4'-DDT (303d listed)	< 0.002	0.00059	0.000349	No
109	4,4'-DDE (linked to DDT)	< 0.002	0.00059	0.00092	No
110	4,4'-DDD	< 0.0019	0.00083	0.000347	No
111	Dieldrin (303d listed)	< 0.0019	0.00014	0.00038	No
112	Alpha-Endosulfan	0.003	0.0087	0.0000571	No
113	beta-Endosulfan	< 0.0019	0.0087	0.0000424	No
114	Endosulfan Sulfate	< 0.002	110	0.000284	No
115	Endrin	< 0.0019	0.0023	0.00015	No
116	Endrin Aldehyde	< 0.002	0.76	Not Available	No
117	Heptachlor	< 0.0029	0.00021	0.000011	No
118	Heptachlor Epoxide	< 0.0019	0.0001	0.000097	No
119-125	PCBs sum (303d listed)	< 0.02	0.00017	0.0007923	No
126	Toxaphene	< 0.14	0.0002	Not Available	No
	Tributyltin	< 0.00036	0.0074 ^[d]	0.00214	No
	Total PAHs	0.2	15	0.0175332	No
	Total Ammonia (mg/L N)	52	1.2	0.18	Yes

[a] The Maximum Effluent Concentration (MEC) and maximum background concentration are the actual detected concentrations unless preceded by a "<" sign, 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, B > WQO/WQC and MEC is detected, or Trigger 3;

= No, if MEC and B are < WQO/WQC or all effluent data are undetected;

= Undetermined (Ud), if no criteria have been promulgated or there are insufficient data.

[d] from *Ambient Aquatic Life Water Quality Criteria for Tributyltin (TBT)*. EPA 822-R-03-031

(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, this Order requires the Discharger to investigate the source(s) of the increase(s). Remedial measures are required if the increases pose a threat to water quality in the receiving water.

Order No. R2-2003-0114, as amended by Order No. R2-2004-027, included final WQBELs for lead and dichlorobromomethane; however, because the RPA showed that discharges from the Plant no longer demonstrate Reasonable Potential for these pollutants, effluent limitations for these pollutants are not retained by this Order, and new effluent limitations are not established. Elimination of final WQBELs for lead and dichlorobromomethane in this Order is consistent with anti-backsliding requirements in accordance with State Water Board Order No. WQ 2001-16.

4. **WQBEL Calculations.**

a. **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 WQBELs were calculated based on appropriate WQOs and the appropriate procedures specified in SIP Section 1.4. The WQOs used for each pollutant with Reasonable Potential are discussed below.

b. **Shallow/Deep Water Discharge**

The discharge from the Plant to New York Slough is a deep water discharge, which is defined by the Basin Plan as a discharge through a diffuser that receives a minimum initial dilution of 10 to 1.

c. **Dilution Credit**

The SIP provides the basis for dilution credits. The Plant is designed to achieve a minimum initial dilution of at least 10:1. Based on review of RMP data from local and Central Bay monitoring stations, there is variability in receiving water quality, and the hydrology of the receiving water is complex. There is uncertainty, therefore, regarding the representative nature of ambient background data for effluent limitation calculations. Pursuant to SIP section 1.4.2.1, "dilution credit may be limited or denied on a pollutant-by-pollutant basis...." The Regional Water Board has determined that a conservative 10:1 (D=9) dilution credit is appropriate for most toxic priority pollutants to protect beneficial uses. No dilution credit is granted, however, for bioaccumulative pollutants that impair the Sacramento-San Joaquin Delta pursuant to CWA 303(d). The basis for the Regional Water Board's determination regarding dilution is further explained below.

- (1) For certain 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 updated and approved the 303(d) list on October 25, 2006. For the Sacramento-San Joaquin Delta, the Regional Water Board placed mercury, polychlorinated biphenyls (PCBs), and selenium on the 303(d) list. USEPA added dioxin and furan compounds, chlordane, dieldrin, nickel, and 4,4'-DDT. These decisions are based on the following factors that suggest there is no assimilative capacity in the Sacramento-San Joaquin Delta for these pollutants.

Samples of tissue taken from fish in 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 the study 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 Delta. This advisory is still in effect for exposure to sport fish that are found to be contaminated with dioxins and certain pesticides (e.g., DDT).

- (2) For most other constituents (except ammonia and cyanide, which are discussed below), a conservative allowance of 10:1 dilution has been assigned to protect beneficial uses and is retained from the previous permit. This 10:1 dilution ratio is from the Basin Plan Prohibition 1, which prohibits discharges with less than 10:1 dilution. The dilution credit is also based on SIP Section 1.4.2 as follows:
 - (a) A far-field background station is appropriate because the receiving water body (the Delta) 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 section 1.4.3). Consistent with the SIP, a water body-by-water body basis is used because of the uncertainties inherent in accurately characterizing ambient background conditions in a complex estuarine system on a discharge-by-discharge basis.
 - (b) Because of the complex hydrology of the Delta, 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 Delta resulting from the interaction of tidal flushes and seasonal fresh water outflows. Being heavier and colder than fresh water, ocean salt water enters San Francisco Bay on diurnal tidal cycles, generally flowing beneath the warmer fresh water that moves seaward during wet seasons. When these waters mix and interact, complex circulation patterns occur throughout the Delta but are most prevalent in the San Pablo, Carquinez Straight, and Suisun Bay areas. The locations of this mixing and interaction change, depending on the strength of each tide and variable rate of delta outflow. Additionally, sediment loads to the Bay from the Central Valley change on a long-term basis, affecting the depth of different parts of the Delta and resulting in alteration of flow patterns and mixing and dilution that is achieved at an outfall.
 - (c) The SIP allows a limited mixing zone and dilution credit for persistent pollutants. SIP Section 1.4.2.2 specifies that the Regional Water Board shall “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 as “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 initial dilution do not address the effects of these persistent pollutants, such as their long term effects on sediment concentrations.
- (3) Applying actual initial dilution is appropriate for calculating the effluent limits for ammonia, which are non-persistent pollutants that rapidly disperse and degrade to a non-toxic state. A dilution of 61:1 (D=60) was used for calculating WQBELs for

ammonia based on modeling² of flow conditions appropriate for acute toxicity concerns (maximum daily flow) because the results were more conservative than those based on flow conditions for chronic toxicity concerns (average dry-weather flow).

d. Calculation of Pollutant-Specific WQBELs

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

(1) Copper

- (a) **Copper WQO.** The chronic and acute marine WQO for copper from the Basin Plan and the CTR are 2.5 and 3.9 micrograms per liter ($\mu\text{g/L}$), respectively, expressed as dissolved metal. These Site Specific Objectives (SSOs) were established by Regional Water Board Order No. R2-2006-0086 and approved by the USEPA on January 6, 2009. Regional Water Board staff converted these WQO to total recoverable metal using the site-specific translators of 0.38 (chronic) and 0.66 (acute), as recommended by the Clean Estuary Project's *North of Dumbarton Bridge Copper and Nickel Development and Selection of Final Translators* (2005) and a Water Effects Ratio of 2.4. The resulting chronic water quality criterion of 16 $\mu\text{g/L}$ and acute water quality criterion of 14 $\mu\text{g/L}$ were used to perform the RPA.
- (b) **RPA Results.** This Order establishes effluent limitations for copper by Trigger 3.
- (c) **Copper WQBELs.** WQBELs for copper, calculated according to SIP procedures (using a CV of 0.24) are an AMEL of 38 $\mu\text{g/L}$ and an MDEL of 53 $\mu\text{g/L}$, based on the Basin Plan's copper SSOs (Regional Water Board Resolution R2-2007-0042, which was approved by the State Water Board on January 15, 2008 and by USEPA on January 6, 2009). The limitations take into account the deep water nature of the discharge and are based on an initial dilution of 10:1.
- (d) **Immediate Compliance Feasible.** Statistical analysis of effluent data for copper, collected over the period of August 2005 through July 2008, shows that the 95th percentile (9.2 $\mu\text{g/L}$) is less than the AMEL (38 $\mu\text{g/L}$); the 99th percentile (11 $\mu\text{g/L}$) is less than the MDEL (53 $\mu\text{g/L}$); and the mean (6.5 $\mu\text{g/L}$) is less than the long term averages of the projected lognormal distribution of the effluent data set after accounting for effluent variability (31 $\mu\text{g/L}$). Therefore, the Regional Water Board concludes that immediate compliance with final effluent limitations for copper is feasible.

² Near Field Mixing Zone and Dilution Analysis for the Delta Diablo Sanitation District Outfall Diffuser to New York Slough, December 17, 2008. Larry Walker Associates

- (e) **Antibacksliding.** Antibacksliding requirements are satisfied because the previous Order did not include final effluent limitations for copper.

(2) Selenium

- (a) **Selenium WQO.** The NTR for protection of aquatic life, 20 µg/L (acute) and 5.0 µg/L (chronic), establishes the most stringent WQO for selenium.
- (b) **RPA Results.** This Order establishes effluent limitations for selenium because the MEC of 7.0 µg/L exceeds the WQO, demonstrating Reasonable Potential by Trigger 1.
- (c) **Selenium WQBELS.** WQBELS for selenium, calculated according to SIP procedures (using a CV of 0.6) are an AMEL of 4.1 µg/L and an MDEL of 8.2 µg/L. No dilution credit is granted in because selenium is bioaccumulative and it is identified as an impairing pollutant in the Sacramento San Joaquin Delta on the 303(d) list.
- (d) **Immediate Compliance Feasible.** It is immediately feasible for the Discharger to comply with WQBELS for selenium. Reasonable Potential was triggered by a series of unusually high results in May 2004. The cause of the high selenium levels was never discovered, but results since then have been consistently much lower and are below the WQBELS.
- (e) **Antibacksliding.** Antibacksliding requirements are satisfied because the previous Order did not include final effluent limitations for selenium.

(3) Cyanide

- (a) **Cyanide WQO.** The most stringent WQO for cyanide are an acute criterion of 9.4 µg/L and a chronic criterion of 2.9 µg/L. These site-specific objectives appear in Basin Plan Table 3-3C and were established by Regional Water Board Order No. R2-2006-0086 and approved by USEPA on July 22, 2008.
- (b) **RPA Results.** This Order establishes effluent limitations for cyanide because the MEC of 9.7 µg/L exceeds the governing WQO of 2.9 µg/L, demonstrating Reasonable Potential by Trigger 1.
- (c) **Cyanide WQBELS.** WQBELS for cyanide, calculated according to SIP procedures, are an AMEL of 18 µg/L and an MDEL of 45 µg/L. These limitations take into account the deep water nature of the discharge, and are therefore based on a minimum initial dilution of 10:1.
- (d) **Immediate Compliance Feasible.** Statistical analysis of effluent data for cyanide collected over the period of August 2005 through July 2008 shows that the 95th percentile (5.3 µg/L) is less than the AMEL (18 µg/L); the 99th percentile (9.7 µg/L) is less than the MDEL (45 µg/L); and the mean (1.8 µg/L) is less than the long term average of the projected lognormal distribution of the effluent data set after accounting for effluent variability (9.0 µg/L). Based on this

analysis, the Regional Water Board concludes that immediate compliance with final WQBELs for cyanide is feasible.

- (e) **Antibacksliding.** Antibacksliding requirements are satisfied because the previous Order did not include final effluent limitations for cyanide.

(4) Dioxin – TEQ

- (a) **Dioxin-TEQ WQO.** 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 bioaccumulation WQO applies to these pollutants. Elevated levels of dioxins and furans in fish tissue in San Francisco Bay demonstrate that the narrative bioaccumulation WQO is not being met. USEPA has therefore listed the Sacramento-San Joaquin Delta as impaired by dioxin and furan compounds in the current 303(d) listing of receiving waters.

The CTR establishes a numeric WQO for 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) of 1.3×10^{-8} $\mu\text{g/L}$ for the protection of human health when water and 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 WQBELs 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. The CTR criterion is used as a criterion for dioxin-TEQ because dioxin-TEQ represents a toxicity weighted concentration equivalent to 2,3,7,8-TCDD, thus translating the narrative bioaccumulation objective into a numeric criterion.

To determine if the discharge of dioxin or dioxin-like compounds from the Delta Diablo Sanitation District facility has reasonable potential to cause or contribute to a violation of the Basin Plan's narrative bioaccumulation WQO, Regional Water Board staff 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 were then compared to the CTR numeric criterion for 2,3,7,8-TCDD (1.3×10^{-8} $\mu\text{g/L}$). Although the 1998 WHO scheme includes TEFs for dioxin-like PCBs, they are not included in this Order’s version of the TEF procedure because the CTR has established a specific water quality standard for dioxin-like PCBs and they are included in the analysis of total PCBs.

- (b) **RPA Results.** This Order establishes effluent limitations for dioxin-TEQ because the MEC (1.3×10^{-7} $\mu\text{g/L}$) exceeds the applicable water quality criterion (1.3×10^{-8} $\mu\text{g/L}$), demonstrating Reasonable Potential by Trigger 1. The average background concentration of dioxin-TEQ at the Sacramento River RMP station (3.4×10^{-8} $\mu\text{g/L}$) also exceeds the applicable water quality criterion (Trigger 2).
- (c) **Dioxin-TEQ WQBELs.** WQBELs for dioxin-TEQ, calculated using SIP procedures as guidance, with a CV of 1.4, are an AMEL of 1.3×10^{-8} $\mu\text{g/L}$ and an MDEL of 3.7×10^{-8} $\mu\text{g/L}$. No dilution credit is granted in because dioxin-TEQ is bioaccumulative and it is identified as an impairing pollutant in the Sacramento San Joaquin Delta on the 303(d) list.
- (d) **Immediate Compliance Infeasible.** The Discharger cannot immediately comply with the final WQBELs for dioxin-TEQ because statistical analysis of effluent data for dioxin-TEQ collected over the period of March 2004 through March 2008 shows that the 95th percentile (9.2×10^{-8} $\mu\text{g/L}$) is greater than the AMEL (1.3×10^{-8} $\mu\text{g/L}$), and the 99th percentile (1.2×10^{-7} $\mu\text{g/L}$) is greater than the MDEL (3.7×10^{-8} $\mu\text{g/L}$).
- (e) **Interim Effluent Limitation.** Order R2-2003-0114 (as amended by Order R2-2004-027) did not include final effluent limitations for dioxin-TEQ. It contained a compliance schedules and a performance based interim limitation of 1.3×10^{-7} $\mu\text{g/L}$. The ten-year term of the compliance schedule is carried over from the previous permit and is to remain in effect until August 1, 2014, at which point the final effluent limitations will become effective. The compliance schedule is also based on a new interpretation of the narrative objective as authorized by State Water Board Resolution No. 2008-0025, *Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits*, which was approved by USEPA on August 27, 2008.
- (f) **Antibacksliding.** Antibacksliding requirements are satisfied because the previous Order did not include final effluent limitations for dioxin-TEQ.

(5) Bromoform.

- (a) **Bromoform WQO.** The most stringent applicable WQO for bromoform is the CTR criterion for protection of human health of 4.3 $\mu\text{g/L}$.
- (b) **RPA Results.** This Order finds reasonable potential and thus establishes effluent limitations for bromoform because the MEC (5.0 $\mu\text{g/L}$) exceeds the most stringent applicable criterion (4.3 $\mu\text{g/L}$), demonstrating Reasonable Potential by Trigger 1.

(c) **Bromoform WQBELs.** WQBELs for bromoform, calculated according to SIP procedures, with a CV of 0.60 and a dilution credit of 10:1, are an AMEL of 39 $\mu\text{g/L}$ and an MDEL of 77 $\mu\text{g/L}$.

(d) **Immediate Compliance Feasible.** With insufficient data to determine the distribution of the data set or to calculate a mean and standard deviation, feasibility to comply with final effluent limitations is determined by comparing the MEC (5 $\mu\text{g/L}$) to the AMEL (39 $\mu\text{g/L}$) and the MDEL (77 $\mu\text{g/L}$). Based on this comparison, the Regional Water Board concludes that immediate compliance with WQBELs is feasible.

(e) **Antibacksliding.** Antibacksliding requirements are satisfied because final limitations for bromoform are identical to those included in the previous Order.

(6) **Chlorodibromomethane.**

(a) **Chlorodibromomethane WQO.** The most stringent applicable WQO for chlorodibromomethane is the CTR criterion for protection of human health of 0.41 $\mu\text{g/L}$.

(b) **RPA Results.** This Order finds reasonable potential and thus establishes effluent limitations for chlorodibromomethane because the MEC (1.0 $\mu\text{g/L}$) exceeds the most stringent applicable criterion (0.41 $\mu\text{g/L}$), demonstrating Reasonable Potential by Trigger 1.

(c) **Chlorodibromomethane WQBELs.** WQBELs for chlorodibromomethane, calculated according to SIP procedures, with a CV of 0.60 and a dilution credit of 10:1, are an AMEL of 3.6 $\mu\text{g/L}$ and an MDEL of 7.1 $\mu\text{g/L}$.

(d) **Immediate Compliance Feasible.** With insufficient data to determine the distribution of the data set or to calculate a mean and standard deviation, feasibility to comply with final effluent limitations is determined by comparing the MEC (1.0 $\mu\text{g/L}$) to the AMEL (3.6 $\mu\text{g/L}$) and the MDEL (7.1 $\mu\text{g/L}$). Based on this comparison, the Regional Water Board concludes that immediate compliance with WQBELs is feasible.

(e) **Antibacksliding.** Antibacksliding requirements are satisfied because final limitations for chlorodibromomethane are the same as those included in the previous Order.

(7) **Methylene Chloride.**

(a) **Methylene Chloride WQO.** The most stringent applicable WQO for methylene chloride is the CTR criterion for protection of human health of 4.7 $\mu\text{g/L}$.

(b) **RPA Results.** This Order finds reasonable potential and thus establishes effluent limitations for methylene chloride because the MEC (11 $\mu\text{g/L}$) exceeds the most stringent applicable criterion (4.7 $\mu\text{g/L}$), demonstrating Reasonable Potential by Trigger 1.

- (c) **Methylene Chloride WQBELs.** WQBELs for methylene chloride, calculated according to SIP procedures, with a CV of 0.60 and a dilution credit of 10:1, are an AMEL of 43 µg/L and an MDEL of 85 µg/L.
- (d) **Immediate Compliance Feasible.** With insufficient data to determine the distribution of the data set or to calculate a mean and standard deviation, feasibility to comply with the WQBELs is determined by comparing the MEC (11 µg/L) to the AMEL (43 µg/L) and the MDEL (85 µg/L). Based on this comparison, the Regional Water Board concludes that immediate compliance with these WQBELs is feasible.
- (e) **Antibacksliding.** Antibacksliding requirements are satisfied because final limitations for methylene chloride were not included in the previous Order.

(8) Bis(2-ethylhexyl)phthalate.

- (a) **Bis(2-ethylhexyl)phthalate WQO.** The most stringent applicable WQO for bis(2-ethylhexyl)phthalate is the CTR criterion for protection of human health of 1.8 µg/L.
- (b) **RPA Results.** This Order finds reasonable potential and thus establishes effluent limitations for bis(2-ethylhexyl)phthalate because the MEC (6.6 µg/L) exceeds the most stringent applicable criterion (1.8 µg/L), demonstrating Reasonable Potential by Trigger 1.
- (c) **Bis(2-ethylhexyl)phthalate WQBELs.** WQBELs for bis(2-ethylhexyl)phthalate, calculated according to SIP procedures, with a CV of 0.60 and a dilution credit of 10:1, are an AMEL of 12 µg/L and an MDEL of 24 µg/L.
- (d) **Immediate Compliance Feasible.** With insufficient data to determine the distribution of the data set or to calculate a mean and standard deviation, feasibility to comply with the WQBELs is determined by comparing the MEC (6.6 µg/L) to the AMEL (12 µg/L) and the MDEL (24 µg/L). Based on this comparison, the Regional Water Board concludes that immediate compliance with these WQBELs is feasible.
- (e) **Antibacksliding.** Antibacksliding requirements are satisfied because final limitations for bis(2-ethylhexyl)phthalate were not included in the previous Order.

(9) Total Ammonia.

- (a) **Ammonia WQO.** The Basin Plan contains WQOs for un-ionized ammonia of 0.025 milligrams per liter (mg/L) as an annual median and 0.16 mg/L as a maximum north of the Golden Gate Channel. Regional Water Board staff translated these WQOs for un-ionized ammonia to equivalent total ammonia concentrations (as nitrogen) since (1) sampling and laboratory methods are not available to analyze for un-ionized ammonia; and (2) the fraction of total ammonia that exists in the toxic un-ionized form depends on the pH, salinity, and temperature of the receiving water. To translate the Basin Plan un-ionized

ammonia objectives, Regional Water Board staff used pH, salinity, and temperature data from 1994 through 2002 from the nearest RMP station to the outfall, the San Joaquin River station (BG30). Regional Water Board staff used the following equations to determine the fraction of total ammonia that would exist in the toxic, un-ionized form in the estuarine receiving water. [*Ambient Water Quality Criteria for Ammonia* (saltwater) – 1989, EPA Publication 440/5-88-004, USEPA, 1989]:

$$\text{For salinity} > 10 \text{ ppt: fraction of NH}_3 = \frac{1}{1 + 10^{(pK - pH)}}$$

Where:

$$pK = 9.245 + 0.116*(I) + 0.0324*(298-T) + 0.0415*(P)/(T+273)$$

$$I = \text{the molal ionic strength of saltwater} = 19.9273*(S)/(1000-1.005109*S)$$

S = Salinity (parts per thousand)

T = Temperature in degrees Celsius

P = Pressure (one atmosphere)

To convert the Basin Plan's chronic un-ionized ammonia WQO to an equivalent total ammonia concentration, the median un-ionized ammonia fraction at the San Joaquin River monitoring station was used. To convert the Basin Plan's acute un-ionized ammonia WQO to an equivalent total ammonia concentration, the 90th percentile un-ionized ammonia fraction at the San Joaquin River station was used. Using the 90th percentile and median to express the acute and chronic un-ionized ammonia WQOs as equivalent total ammonia concentrations is consistent with USEPA guidance, as expressed by USEPA in *The Metals Translator: Guidance for Calculating a Total Recoverable Limit from a Dissolved Criterion* (EPA Publication Number 823-B-96-007, 1996). The equivalent total ammonia acute and chronic WQOs are 4.4 mg/L and 1.2 mg/L, respectively.

- (b) **RPA Results.** This Order establishes effluent limitations for total ammonia because the MEC of 52 mg/L exceeds the translated WQO calculated above, demonstrating Reasonable Potential by Trigger 1.
- (c) **Ammonia WQBELs.** To establish limitations for toxic pollutants, Basin Plan Section 4.5.5.2 indicates that WQBELs are to be calculated according to the SIP. Basin Plan Section 3.3.20 refers to ammonia as a toxic pollutant; therefore, it is consistent with the Basin Plan to use the SIP methodology to establish effluent limitations for ammonia. The total ammonia WQBELs were 210 mg/L AMEL and 260 mg/L MDEL, calculated according to SIP procedures as explained below.

To calculate total ammonia limits, some statistical adjustments were made because the Basin Plan's chronic WQO for un-ionized ammonia is based on an annual median, while chronic criteria are usually based on a 4-day average; also, the SIP assumes a monthly sampling frequency of 4 days per month to calculate effluent limitations based on chronic criteria. To use the SIP methodology to calculate effluent limits for a Basin Plan objective that is based on an annual

median, an averaging period of 365 days and a monitoring frequency of 30 days per month (the maximum daily sampling frequency in a month since the averaging period for a chronic criterion is longer than 30 days) were used. These statistical adjustments are supported by USEPA's *Water Quality Criteria; Notice of Availability; 1999 Update of Ambient Water Quality Criteria for Ammonia*; published on December 22, 1999, in the Federal Register.

Following the SIP methodology as guidance, Regional Water Board staff used the maximum ambient background total ammonia concentration to calculate effluent limitations based on the acute criterion and the median background total ammonia concentration to calculate effluent limitations based on the chronic criterion. Because the Basin Plan's chronic un-ionized ammonia objective is an annual median, the median background concentration is more representative of ambient conditions than a daily maximum.

The estimated actual dilution of 61:1 was used to calculate the final effluent limitations for ammonia because ammonia, a non-persistent pollutant, is quickly dispersed and degraded to a non-toxic state, and cumulative toxicity effects are unlikely. The Discharger used the model CORMIX to calculate the initial dilution using the average dry weather flow for chronic toxicity concerns and the maximum wet weather flow for acute toxicity concerns. The estimated actual dilutions (using a CV of 0.14) were 345:1 for calculating chronic limits and 61:1 for calculating acute limits. The final limits (210 mg/L AMEL, 260 mg/L MDEL) were based on acute criteria because they were lower than those based on the chronic criteria.

- (d) **Immediate Compliance Feasible.** Immediate compliance with ammonia effluent limitations is feasible because statistical analysis of effluent data for total ammonia collected over the period of October 2005 through September 2008 shows that the 95th percentile (45 mg/L) is less than the AMEL (210 mg/L); the 99th percentile (49 mg/L) is less than the MDEL (260 mg/L).
- (f) **Antibacksliding.** Antibacksliding requirements are satisfied because final limitations for total ammonia were not included in the previous Order.

e. Effluent Limit Calculations

Tables F-10a and F-10b show the WQBEL calculations for copper, selenium, cyanide, dioxin-TEQ, bromoform, chlorodibromomethane, methylene chloride, bis(2-ethylhexyl)phthalate, and total ammonia.

Table F-10a. Effluent Limit Calculations for Copper, Selenium, Cyanide, Dioxin-TEQ, and Bromoform

PRIORITY POLLUTANTS	Copper	Selenium	Cyanide	Dioxin-TEQ	Bromoform
Units	µg/L	µg/L	µg/L	µg/L	µg/L
Basin and Criteria Type	SSOs	NTR	SSOs	BP narrative	CTR HH
Criteria – Acute		20			
Criteria - Chronic		5			
SSO Criteria – Acute	3.9		9.4		
SSO Criteria – Chronic	2.5		2.9		
Water Effects Ratio (WER)	2.4	1	1	1	1
Lowest WQO		5.0	2.9	1.3E-08	4.3
Site Specific Translator – MDEL	0.66				
Site Specific Translator – AMEL	0.38				
Dilution Factor (D)	9	0	9	0	9
No of samples per month	4	4	4	4	4
Aq. life criteria analysis required?	Y	Y	Y	N	N
HH criteria analysis required?	N	Y	N	Y	N
Applicable Acute WQO	14	20	9.4		
Applicable Chronic WQO	16	5	2.9		
HH criteria			700	1.3E-08	4.3
Background(max for aq. life calc)	9.9	0.45	0.5	4.8E-08	
Background(ave for HH calc)			0.5	3.4E-08	0.5
Is pollutant on 303d list?	N	Y	N	Y	N
ECA acute	53	20	90		
ECA chronic	69	5.0	430		
ECA HH			7000	1.3E-08	39
No. of data points <10 or at least 80% of data ND?	N	N	N	N	Y
Average of effluent data	6.5	2.4	1.8	2.9E-08	
St. dev. of effluent data	1.6	1.4	1.8	4.0E-08	
CV calculated	0.24	0.6	1.0	1.4	N/A
CV selected – Final	0.24	0.6	1.0	1.4	0.6
ECA acute mult99	0.59	0.32	0.20		
ECA chronic mult99	0.76	0.53	0.37		

PRIORITY POLLUTANTS	Copper	Selenium	Cyanide	Dioxin-TEQ	Bromoform
Units	µg/L	µg/L	µg/L	µg/L	µg/L
LTA acute	31	6.4	18		
LTA chronic	53	2.6	9.0		
Minimum of LTAs	31	2.6	9.0		
AMEL mult95	1.2	1.6	2.0	2.3	1.6
MDEL mult99	1.7	3.1	5.0	6.5	3.1
AMEL aq life	38	4.1	18		
MDEL aq life	53	8.2	45		
MDEL/AMEL Multiplier	1.4	2.01	2.54	2.82	2.01
AMEL human health			7000	0	39
MDEL human health			18000	0	77
minimum of AMEL aq life vs. HH	38	4.1	18	0	39
minimum of MDEL aq life vs. HH	53	8.2	45	0	77
Current limit in permit (30 day ave)				1.3E-07 (interim)	39
Current limit in permit (daily)	16 (interim)		25 (interim)		77
Final limit – AMEL	38	4.1	18	1.4E-08	39
Final limit - MDEL	53	8.2	45	3.9E-08	77

Table F-10b. Effluent Limit Calculations for Chlorodibromomethane, Methylene Chloride, Bis(2-ethylhexyl)phthalate, and Total Ammonia.

PRIORITY POLLUTANT	Chlorodibromomethane	Methylene Chloride	Bis(2-ethylhexyl) phthalate	Total Ammonia Acute	Total Ammonia Chronic
Units	µg/L	µg/L	µg/L	mg/L N	mg/L N
Basis and Criteria Type	CTR HH	CTR HH	CTR HH	BP aq. life	BP aq. life
Lowest WQO	0.41	4.7	1.8	4.43	1.22
Dilution Factor (D)	9	9	9	60	344
No of samples per month	4	4	4	4	30
Aq. life criteria analysis required?	N	N	N	Y	Y
HH criteria analysis required?	Y	Y	Y	N	N
Applicable Acute WQO				4.43	

PRIORITY POLLUTANT	Chlorodibromomethane	Methylene Chloride	Bis(2-ethylhexyl) phthalate	Total Ammonia Acute	Total Ammonia Chronic
Units	µg/L	µg/L	µg/L	mg/L N	mg/L N
Applicable Chronic WQO					1.22
HH criteria	0.41	4.7	1.8		
Background (max for aq. life calc)				0.18	0.04
Background (ave for HH calc)	0.05	0.5	0.64		
Is pollutant on 303d list?	N	N	N	N	N
ECA acute				260	
ECA chronic					410
ECA HH	3.7	43	12		
No. of data points <10 or at least 80% of data ND?	Y	Y	Y	N	N
Ave. of effluent data				37	37
St. dev. of effluent data				5	5
CV calculated	N/A	N/A	N/A	0.14	0.14
CV selected – Final	0.60	0.60	0.60	0.14	0.14
ECA acute mult99				0.74	
ECA chronic mult99					0.98
LTA acute				190	
LTA chronic					400
AMEL mult95	1.6	1.6	1.6	1.1	1.0
MDEL mult99	3.1	3.1	3.1	1.4	1.4
AMEL aq life				210	420
MDEL aq life				260	540
MDEL/AMEL Multiplier	2.0	2.0	2.0		
AMEL human health	3.7	43	12		
MDEL human health	7.3	85	24		
Current limit in permit (30 day)	3.7				
Current limit in permit (daily)	7.3		46 (interim)		
Final limit – AMEL	3.7	43	12	210	---
Final limit – MDEL	7.3	85	24	260	---

5. Whole Effluent Acute Toxicity

The Basin Plan requires dischargers to either conduct flow-through effluent toxicity tests or perform static renewal bioassays (Chapter 4, Acute Toxicity) to measure the toxicity of wastewaters and to assess negative impacts upon water quality and beneficial uses caused by the aggregate toxic effect of the discharge of pollutants. This Order includes effluent limitations for whole effluent acute toxicity. Compliance evaluation is based on 96-hour static-renewal bioassays. All bioassays are to be performed according to the USEPA-approved method in 40 CFR Part 136, currently "*Methods for Measuring the Acute Toxicity of Effluents and Receiving Water, 5th Edition.*"

6. Whole Effluent Chronic Toxicity

This permit includes requirements for chronic toxicity monitoring based on the Basin Plan narrative toxicity objective and the USEPA and State Water Board Task Force guidance. This permit includes the Basin Plan narrative toxicity objective as the applicable effluent limit, implemented via monitoring with numeric values as 'triggers' to initiate accelerated monitoring and to initiate a chronic toxicity reduction evaluation (TRE) as necessary. The permit requirements for chronic toxicity are also consistent with the CTR and SIP requirements. Accelerated monitoring is required after exceeding a single-sample maximum of 10 TUc, consistent with Basin Plan Table 4-5.

D. Anti-Backsliding and Anti-Degradation

1. Effluent Limitations Retained from Order No. R2-2003-0114, as amended by Order No. R2-2004-027. Limitations for the following parameters are retained and unchanged from the previous permit.

- Oil and grease
- pH
- BOD₅ and TSS
- Total residual chlorine
- 85% removal requirement for BOD and TSS
- Acute toxicity
- Chronic toxicity
- Bromoform
- Chlorodibromomethane

Retaining effluent limitations for these parameters in this Order ensures that these limitations are at least as stringent as those in Orders No. R2-2003-0114 and No. R2-2004-027, meeting applicable anti-backsliding and antidegradation requirements.

2. Effluent Limitations Different than Order No. R2-2003-0114 (as amended by Order No. R2-2004-027). Final, concentration-based limitations were calculated for the following parameters. These final limitations replace the interim limitations in the previous permit. The final limits for dioxin-TEQ become effective February 1, 2014.

- Copper
- Cyanide
- Bis(2-ethylhexyl)phthalate
- Dioxin-TEQ

The final effluent limitations for bis(2-ethylhexyl)phthalate and dioxin-TEQ are more stringent than the previous permit; therefore, they meet applicable anti-backsliding and antidegradation requirements. Although the new final limits for copper and cyanide are higher than the interim limits for these parameters in Order No. R2-2003-0114, performance-based interim limits and water quality-based final limits are not comparable for purposes of complying with antibacksliding requirements. Compliance with antidegradation requirements is discussed below.

The Regional Water Board has determined that implementation of the newly established SSOs for cyanide in San Francisco Bay is consistent with applicable antidegradation requirements. [See *Staff Report on Proposed Site-Specific Water Quality Objectives and Effluent Limit Policy for Cyanide for San Francisco Bay* (December 4, 2006).] This conclusion is based on assumed implementation of a Cyanide Action Plan. Provision VI.C.8 requires such a plan.

The final effluent limitation for copper is higher than the previous copper interim limitation. Nevertheless, the limit complies with antidegradation requirements. The standards-setting process for the SSOs addressed anti-degradation and concluded that water quality would not be degraded in establishing SSOs, based on the implementation of a Copper Action Plan. [See *Copper Site-Specific Objectives in San Francisco Bay: Proposed Basin Plan Amendment and Draft Staff Report* (June 6, 2007).] Provision VI.C.7 requires implementation of a Copper Action Plan. To ensure that the new copper limits that take effect immediately upon the effective date of the Order also comply with anti-degradation policies, implementation of the Copper Action Plan is required immediately upon the effective date of the Order.

- 3. New Effluent Limitations.** Final, concentration-based limitations for the following parameters were not contained in Orders No. R2-2003-0114 and No. R2-2004-027, and are newly established by this Order.

- Selenium
- Methylene chloride
- Enterococcus bacteria
- Ammonia

The establishment of effluent limitations for these pollutants effectively creates limitations that are more stringent than in Order No. R2-2003-0114, as amended by Order No. R2-2004-027; therefore, these limits meet applicable anti-backsliding and antidegradation requirements.

The bacteriological limitations for enterococcus are established by this Order as alternate limitations to the total coliform bacteria limitations in the previous permit.

4. Effluent Limitations Not Retained from Order No. R2-2003-0114, as amended by Order No. R2-2004-027. Final limitations for the following parameters are not retained by this Order.

- Settleable matter
- Mercury
- Lead
- Nickel
- Dichlorobromomethane
- Aldrin
- 4,4-DDE
- Dieldrin
- Total coliform bacteria

This Order does not retain effluent limitations for settleable matter. As with other facilities achieving secondary or more advanced levels of treatment, compliance with the requirements of 40 CFR 133 and of Basin Plan Table 4-2 will ensure removal of settleable solids to equivalently low levels - below 0.1 mL/L-hr (30-day average) and 0.2 mL/L-hr (daily maximum).

The previous permit included an interim effluent limitation for mercury. Mercury discharges to San Francisco Bay are now regulated by Regional Water Board Order No. R2-2007-0077, which became effective March 1, 2008. Order No. R2-2007-0077 is a watershed permit that implements the San Francisco Bay Mercury TMDL and establishes waste load allocations for industrial and municipal wastewater discharges of this pollutant. The Plant discharge of mercury is therefore regulated by another means. Order No. R2-2007-0077 was established in accordance with anti-backsliding and antidegradation requirements.

Order No. R2-2003-0114, as amended by Order No. R2-2004-027, included final or interim effluent limitations for lead, nickel, dichlorobromomethane, aldrin, 4,4-DDE, and dieldrin. However, because the RPA showed that discharges from the Plant no longer demonstrate a reasonable potential to cause or contribute to exceedances of applicable water quality criteria for these pollutants, this Order does not retain these limitations. Elimination of WQBELs for these pollutants is consistent with State Water Board Order WQ 2001-16.

Effluent limitations for total coliform bacteria are not retained by this permit, because a new, equivalently-protective enterococcus limitation is established.

E. Land Discharge Specifications

Not Applicable

F. Reclamation Specifications

Not Applicable.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

Receiving water limitations are retained from Order No. R2-2003-0114 and reflect applicable water quality standards from the Basin Plan.

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
- prepare water and wastewater quality inventories.

The Monitoring and Reporting Program (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 CWC, and Regional Water Board 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

Influent monitoring requirements for BOD₅ and TSS allow determination of compliance with this Order's 85 percent removal requirement.

B. Effluent Monitoring

The MRP retains most effluent monitoring requirements from the previous permit. Changes in effluent monitoring are summarized as follows.

- Monitoring for settleable matter is no longer required, because the effluent limitation for this parameter has not been retained by this Order.
- Monthly routine monitoring for lead, nickel, dichlorobromomethane, aldrin, 4,4'-DDE, and dieldrin is no longer required because these pollutants no longer demonstrate reasonable potential. Monthly monitoring for mercury is no longer required because the discharge of mercury from the Plant is now regulated by Regional Water Board Order No. 2007-0077.

- Routine effluent monitoring for selenium, methylene chloride, and total ammonia (priority toxic pollutants with effluent limitations established by this Order) is established by this Order. Monitoring for all other priority toxic pollutants must be conducted in accordance with frequency and methods described in the August 6, 2001 Letter.
- Effluent monitoring for total coliform bacteria is no longer required, but monitoring for enterococcus bacteria has been established to reflect the change in effluent limitations from total coliform to enterococcus bacteria.
- The frequency of effluent monitoring for acute toxicity has been reduced from monthly to quarterly based on historical performance that indicates acute toxicity survival has been high and does not vary significantly from month to month.
- The frequency of effluent monitoring for chronic toxicity has been reduced from quarterly to semi-annually based on historical performance that indicates chronic toxicity survival has been high and does not vary significantly from quarter to quarter.

C. Receiving Water Monitoring

Receiving water monitoring requirements are unchanged from the previous permit. On April 15, 1992, the Regional Water Board adopted Resolution No. 92-043 directing the Executive Officer to implement the San Francisco Bay Regional Monitoring Program for Trace Substances, or RMP (RMP). Subsequent to a public hearing and various meetings, Regional Water Board staff requested under authority of CWC section 13267 that major permit holders in the San Francisco Bay region report on the water quality of the San Francisco Estuary. 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.

D. Other Monitoring Requirements

1. **Pretreatment Requirements.** Pretreatment monitoring requirements for the influent, effluent, and biosolids are retained from the previous permit, and are required to assess compliance with the Discharger's USEPA approved pretreatment program.
2. **Biosolids Requirements.** Biosolids monitoring is required pursuant to 40 CFR Part 503.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions (Provision VI.A)

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

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

The Discharger is required to monitor 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 this 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. They contain definitions of terms, specify general sampling and analytical protocols, and set out requirements for reporting of spills, violations, and routine monitoring data in accordance with NPDES regulations, the CWC, and Regional Water Board's policies. The MRP contains a sampling program specific for the Plant. It defines the sampling stations and frequency, the pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all parameters for which effluent limitations are specified. Monitoring for additional constituents, for which no effluent limitations are established, is also required to provide data for future completion of RPAs for them.

C. Special Provisions (Provision VI.C)

1. Reopener Provisions

These provisions are based on 40 CFR 123 and allow modification of this Order and its effluent limitations, as necessary, to respond to updated information.

2. Special Studies and Additional Monitoring Requirements

- a. Effluent Characterization Study. This Order does not include effluent limitations for constituents addressed in the August 6, 2001, Letter that do not demonstrate Reasonable Potential, but this provision requires the Discharger to continue monitoring for these pollutants as described in the August 6, 2001 Letter and as specified in the MRP to provide data for future RPAs. If concentrations of these constituents increase significantly, this provision requires the Discharger 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. 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 this Order, this requirement may be met by participating in a collaborative BACWA study.

3. Best Management Practices and Pollution Minimization Program

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

4. Construction, Operation, and Maintenance Specifications

- a. Wastewater Facilities, Review and Evaluation, Status Reports: This provision is based on Order No. R2-2003-0114 and the Basin Plan. See Section VI.C.4.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 122, and Order No. R2-2003-0114. See Section VI.C.4.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 122, and Order No. R2-2003-0114. See Section VI.C.4.c of this Order for specific requirements.

5. Special Provisions for Municipal Facilities (POTWs Only)

- a. Pretreatment Program. This provision is based on 40 CFR 403 and carried over from the previous permit.
- b. Biosolids Management Practices Requirements: This provision is based on the Basin Plan (Chapter 4, Section 17), 40 CFR §§257, and 503 and the previous permit.
- c. Sanitary Sewer Overflows and Sewer System Management Plan: This provision is to explain this Order's requirements as they relate to the Discharger's conveyance system, and to promote consistency with the State Water Board-adopted Statewide General Waste Discharge Requirements for Sanitary Sewer Overflow (SSO WDRs) and a related Monitoring and Reporting Program (Order No. 2006-0003-DWQ). The bases for these requirements are described elsewhere in this Fact Sheet (section IV.A.5). See Section VI.C.5.c of this Order for specific requirements of this provision.

6. Compliance Schedule

The compliance schedule and the requirement to submit reports on further measures to reduce concentrations of dioxin-TEQ to ensure compliance with final limits are based on State Water Board Resolution No. 2008-0025, *Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits*, which was approved by the U.S. EPA on August 27, 2008. This Order includes a compliance schedule and discharge specifications for dioxin-TEQ.

A maximum compliance schedule is reasonable for dioxin-TEQ, because of the considerable uncertainty in determining effective measures (e.g., pollution prevention, treatment upgrades) that should be implemented to ensure compliance with final limitations. In the Regional Water Board's view, it is appropriate to allow the Discharger sufficient time to explore source control measures before requiring it to propose further actions, such as Plant upgrades, that are likely to be much more costly. This 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."

7. Copper Action Plan

This provision is required because the final effluent limitations for copper established by this Order are less stringent than the interim effluent limitation from the previous Order. Immediate implementation of the copper action plan is necessary to ensure that any increase in copper limitations is consistent with antidegradation policies. The copper action plan is therefore required immediately upon the effective date of the Order.

8. Cyanide Action Plan

The Basin Plan contains SSOs for cyanide for San Francisco Bay. Along with the cyanide SSOs, the Basin Plan requires that Cyanide Action Plans be implemented to ensure compliance with antidegradation policies.

9. Plant Expansion

This Provision requires tasks to ensure that the Plant can adequately treat the increased flows allowed by this Order.

VIII. PUBLIC PARTICIPATION

The San Francisco Bay Regional Water Board is considering the issuance of Waste Discharge Requirements (WDRs) that will serve as an NPDES permit for the Plant. As a step in the WDR adoption process, the Regional Water Board 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 Dischargers and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the Contra Costa Times.

B. Written Comments

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

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by 5:00 p.m. on February 10, 2009.

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: March 11, 2009
Time: 9:00 am
Location: Elihu Harris State Office Building
1515 Clay Street, 1st Floor Auditorium
Oakland, CA 94612

Contact: Vince Christian, (510) 622-2336, email vchristian@waterboards.ca.gov

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our Web address is <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 (ROWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., except from noon to 1:00 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling 510-622-2300.

F. Register of Interested Persons

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

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Vince Christian at 510-622-2336 (e-mail at vchristian@waterboards.ca.gov).

ATTACHMENT H - PRETREATMENT REQUIREMENTS

Pretreatment Program Provisions

1. The Discharger shall implement all pretreatment requirements contained in 40 CFR 403, as amended. The Discharger shall be subject to enforcement actions, penalties, and fines as provided in the Clean Water Act (33 USC 1351 *et seq.*), as amended. The Discharger shall implement and enforce its Approved Pretreatment Program or modified Pretreatment Program as directed by the Board's Executive Officer or the EPA. The EPA and/or the State may initiate enforcement action against an industrial user for noncompliance with applicable standards and requirements as provided in the Clean Water Act.
2. The Discharger shall enforce the requirements promulgated under Sections 307(b), 307(c), 307(d) and 402(b) of the Clean Water Act. The Discharger shall cause industrial users subject to Federal Categorical Standards to achieve compliance no later than the date specified in those requirements or, in the case of a new industrial user, upon commencement of the discharge.
3. The Discharger shall perform the pretreatment functions as required in 40 CFR 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 EPA Region 9, the State Board and the Regional Water Board describing its pretreatment program activities over the previous twelve months. In the event that the Discharger is not in compliance with any conditions or requirements of the Pretreatment Program, the Discharger shall also include the reasons for noncompliance and a plan and schedule for achieving compliance. The report shall contain, but is not limited to, the information specified in Appendix A entitled, "Requirements for Pretreatment Annual Reports," which is made a part of this Order. The annual report is due on the last day of February each year.
5. The Discharger shall submit semiannual pretreatment reports to the EPA Region 9, the State Board and the Board describing the status of its significant industrial users (SIUs). The report shall contain, but is not limited to, the information specified in Appendix B entitled, "Requirements for Semiannual Pretreatment Reports," which is made part of this Order. The semiannual reports are due July 31st (for the period January through June) and January 31st (for the period July through December) of each year. The Executive Officer may exempt a Discharger from the semiannual

reporting requirements on a case by case basis subject to State Board and EPA's comment and approval.

6. The Discharger may combine the annual pretreatment report with the semiannual pretreatment report (for the July through December reporting period). The combined report shall contain all of the information requested in Appendices A and B and will be due on January 31st of each year.
7. The Discharger shall conduct the monitoring of the 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 POTWs that are part of the Pretreatment Program. Additionally, the cover sheet must include: the name, address and telephone number of a pretreatment contact person; the period covered in the report; a statement of truthfulness; and the dated signature of a principal executive officer, ranking elected official, or other duly authorized employee who is responsible for overall operation of the POTW (40 CFR 403.12(j)).

2. Introduction

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

3. Definitions

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

4. Discussion of Upset, Interference and Pass Through

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

- a. a description of what occurred;
- b. a description of what was done to identify the source;
- c. the name and address of the IU responsible
- d. the reason(s) why the incident occurred;
- e. a description of the corrective actions taken; and

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

5. Influent, Effluent and Sludge Monitoring Results

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

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

6. Inspection and Sampling Program

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

- a. Inspections: the number of inspections performed for each type of IU; the criteria for determining the frequency of inspections; the inspection format procedures;
- b. Sampling Events: the number of sampling events performed for each type of IU; the criteria for determining the frequency of sampling; the chain of custody procedures.

7. Enforcement Procedures

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

8. Federal Categories

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

9. Local Standards

This section shall include a table presenting the local limits.

10. Updated List of Regulated SIUs

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

11. Compliance Activities

- a. Inspection and Sampling Summary:** This section shall contain a summary of all the inspections and sampling activities conducted by the Discharger over the past year to gather information and data regarding the SIUs. The summary shall include:
- (1) the number of inspections and sampling events conducted for each SIU;
 - (2) the quarters in which these activities were conducted; and
 - (3) the compliance status of each SIU, delineated by quarter, and characterized using all applicable descriptions as given below:
 - (a) in consistent compliance;
 - (b) in inconsistent compliance;
 - (c) in significant noncompliance;
 - (d) on a compliance schedule to achieve compliance, (include the date final compliance is required);
 - (e) not in compliance and not on a compliance schedule;
 - (f) compliance status unknown, and why not.
- b. Enforcement Summary:** This section shall contain a summary of the compliance and enforcement activities during the past year. The summary shall include the names of all the SIUs affected by the following actions:
- (1) Warning letters or notices of violations regarding SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements. For each notice, indicate whether it was for an infraction of a federal or local standard/limit or requirement.
 - (2) Administrative Orders regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements. For each notice, indicate whether it was for an infraction of a federal or local standard/limit or requirement.
 - (3) Civil actions regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements. For each notice, indicate whether it was for an infraction of a federal or local standard/limit or requirement.
 - (4) Criminal actions regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements. For each notice, indicate whether it was for an infraction of a federal or local standard/limit or requirement.

- (5) Assessment of monetary penalties. Identify the amount of penalty in each case and reason for assessing the penalty.
- (6) Order to restrict/suspend discharge to the POTW.
- (7) Order to disconnect the discharge from entering the POTW.

12. Baseline Monitoring Report Update

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

13. Pretreatment Program Changes

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

14. Pretreatment Program Budget

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

15. Public Participation Summary

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

16. Sludge Storage and Disposal Practice

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

17. PCS Data Entry Form

The annual report shall include the PCS Data Entry Form. This form shall summarize the enforcement actions taken against SIUs in the past year. This form shall include the following information: the POTW name, NPDES Permit number, period covered by the report, the number of SIUs in significant noncompliance (SNC) that are on a pretreatment compliance schedule, the

number of notices of violation and administrative orders issued against SIUs, the number of civil and criminal judicial actions against SIUs, the number of SIUs that have been published as a result of being in SNC, and the number of SIUs from which penalties have been collected.

18. Other Subjects

Other information related to the Pretreatment Program that does not fit into one of the above categories should be included in this section.

Signed copies of the reports shall be submitted to the Regional Administrator at 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

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 31 (for pretreatment program activities conducted from January through June) and January 31 (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 (ERS). The Discharger shall contact the Regional Water Board's ERS Project Manager for specific details in submitting the monitoring data.

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

2. Industrial User Compliance Status

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

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

- a. Indicate if the SIU is subject to Federal categorical standards; if so, specify the category including the subpart that applies.
- b. For SIUs subject to Federal Categorical Standards, indicate if the violation is of a categorical or local standard.
- c. Indicate the compliance status of the SIU for the two quarters of the reporting period.

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

3. POTW's Compliance with Pretreatment Program Requirements

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

- a. Date of latest PCA, PCI or PPE and report.
- b. Date of the Discharger's response.
- c. List of unresolved issues.
- d. Plan and schedule for resolving the remaining issues.

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

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

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

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

APPENDIX C

REQUIREMENTS FOR INFLUENT, EFFLUENT AND SLUDGE MONITORING

The Discharger shall conduct sampling of the Plant's influent, effluent and sludge at the frequency as shown in Table E-5 of the Self-Monitoring Program (SMP).

The monitoring and reporting requirements of the POTW's Pretreatment Program are in addition to those specified in Tables E-3 and E-4 of the SMP. Any subsequent modifications of the requirements specified in Tables E-3 and E-4 shall be adhered to and shall not affect the requirements described in this Appendix unless written notice from the Regional Water Board is received. When sampling periods coincide, one set of test results, reported separately, may be used for those parameters that are required to be monitored by both Table E-5 and the Pretreatment Program. The Pretreatment Program monitoring reports shall be sent to the Pretreatment Program Coordinator.

1. Influent and Effluent Monitoring

The Discharger shall monitor for the parameters using the required test methods listed in Tables E-3 and E-4 of the SMP. Any test method substitutions must have received prior written Regional Water Board approval. Influent and Effluent sampling locations shall be the same as those sites specified in the Self-Monitoring Program.

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

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

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

- c. Sample Compositing – The manner in which samples are composited shall be described. If the compositing procedure is different from the test method specifications, a reason for the variation shall be provided.
- d. Data Validation – All quality assurance/quality control (QA/QC) methods to be used shall be discussed and summarized. These methods include, but are not limited to, spike samples, split samples, blanks and standards. Ways in which the QA/QC data will be used to qualify the analytical test results shall be identified. A certification statement shall be submitted with this discussion stating that the laboratory QA/QC validation data has been reviewed and has met the laboratory acceptance criteria. The QA/QC validation data shall be submitted to the Regional Water Board upon request.
- e. A tabulation of the test results shall be provided.
- f. Discussion of Results – The report shall include a complete discussion of the test results. If any pollutants are detected in sufficient concentration to upset, interfere or pass through Plant operations, the type of pollutant(s) and potential source(s) shall be noted, along with a plan of action to control, eliminate, and/or monitor the pollutant(s). Any apparent generation and/or destruction of pollutants attributable to chlorination/dechlorination sampling and analysis practices shall be noted.

2. Sludge Monitoring

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

- a. Sludge lagoons – 20 grab samples collected at representative equidistant intervals (grid pattern) and composited as a single grab, or
- b. Dried stockpile – 20 grab samples collected at various representative locations and depths and composited as a single grab, or
- c. Dewatered sludge- daily composite of 4 representative grab samples each day for 5 days taken at equal intervals during the daily operating shift taken from a) the dewatering units or b) from each truckload, and shall be combined into a single 5-day composite.

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

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

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

- a. Sampling procedures – Include sample locations, collection procedures, types of containers used, storage/refrigeration methods, compositing techniques and holding times. Enclose a map of sample locations if sludge lagoons or stockpiled sludge is sampled.
- b. Data Validation – All quality assurance/quality control (QA/QC) methods to be used shall be discussed and summarized. These methods include, but are not limited to, spike samples, split samples, blanks and standards. Ways in which the QA/QC data will be used to qualify the analytical test results shall be identified. A certification statement shall be submitted with this discussion stating that the laboratory QA/QC validation data has been reviewed and has met the laboratory acceptance criteria. The QA/QC validation data shall be submitted to the Regional Water Board upon request.
- c. Test Results – Tabulate the test results and include the percent solids.
- d. Discussion of Results – The report shall include a complete discussion of test results. If the detected pollutant(s) is reasonably deemed to have an adverse effect on sludge disposal, a plan of action to control, eliminate, and/or monitor the pollutant(s) and the known or potential source(s) shall be included. Any apparent generation and/or destruction of pollutants attributable to chlorination/ dechlorination sampling and analysis practices shall be noted.

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