

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

ORDER NO. 01-012
NPDES PERMIT NO. CA0038369

REISSUING WASTE DISCHARGE REQUIREMENTS FOR:

SOUTH BAYSIDE SYSTEM AUTHORITY
REDWOOD CITY
SAN MATEO COUNTY

TABLE OF CONTENTS

FINDINGS.....	2
Facility Description.....	2
Effluent Discharge Description:	2
Stormwater Discharge Description:.....	3
Regional Monitoring Program	3
Applicable Plans, Policies and Regulations.....	3
Basin Plan	3
California Toxic Rule	4
State Implementation Policy.....	4
Other Plans, Policies and Regulations	4
Basis for Effluent Limitations:.....	4
Antibacksliding and Antidegradation	20
Pretreatment Program	22
Pollutant Minimization/Pollution Prevention	22
Notification	22
PROHIBITIONS.....	23
EFFLUENT LIMITATIONS.....	23
RECEIVING WATER LIMITATIONS.....	28
SLUDGE MANAGEMENT PRACTICES	29
PROVISIONS.....	30
SELF-MONITORING PROGRAM	42
Part A	43
Part B	55
Table 1	56
Table 2 (j).....	62
STANDARD PROVISIONS AND REPORTING REQUIREMENTS	75
RESOLUTION NO. 74-10	90

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

ORDER NO. 01-0012
NPDES PERMIT NO. CA0038369

REISSUING WASTE DISCHARGE REQUIREMENTS FOR:

SOUTH BAYSIDE SYSTEM AUTHORITY
REDWOOD CITY, SAN MATEO COUNTY

FINDINGS

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

1. South Bayside System Authority, hereinafter called the Discharger, submitted a Report of Waste Discharge for reissuance of waste discharge requirements and a permit to discharge wastewater to waters of the State and the United States under the National Pollutant Discharge Elimination System (NPDES).
2. The Discharge was previously regulated by Waste Discharge Requirements in Order No. 93-066, adopted by the Board on July 21, 1993. Order No. 93-066 was subsequently amended by Order Nos. 97-098, and 98-105, adopted by the Board on August 29, 1997 and October 21, 1998, respectively.

Facility Description

3. **Location:** The Discharger owns and operates the South Bayside System Authority Wastewater Treatment Plant, located at 1400 Radio Road, Redwood City, San Mateo County, California. A location map of the Discharger facility is included as Attachment A of this Order.
4. **Service Area and Population:** The plant provides advanced secondary treatment of wastewater from domestic and industrial wastewater from the City of Belmont, West Bay Sanitary District, Redwood City, the City of San Carlos and portions of unincorporated area in San Mateo County. The Discharger's service area has a present population of about 210,680.
5. **Wastewater Treatment Process:** The wastewater treatment process consists of primary sedimentation using clarifiers, biological treatment using fixed film reactors and activated sludge, secondary sedimentation, effluent filtration using dual media filters, disinfection using hypochlorite, and dechlorination using sodium bisulfite. A treatment process schematic diagram is included as Attachment B of this Order.
6. **Sludge Treatment Process:** Sludge is treated by gravity thickening, anaerobic digestion and dewatering using filter presses. Final bio-solids are disposed via beneficial reuse and/or landfill.

Effluent Discharge Description:

7. **Discharge Location:** The treated wastewater is discharged into the deep-water channel of Lower San Francisco Bay, a water of the State and United States. The wastewater is discharged approximately 3.5 miles southerly from the San Mateo-Hayward Bridge through a submerged diffuser about 6300 feet offshore at a depth of 50 feet below the water surface (Latitude 37 degrees,

33 minutes, 40 seconds; Longitude 122 degrees, 13 minutes, 02 seconds). The discharge point is approximately 2.5 miles from the Foster City shellfish beds.

8. **Discharge Volume and Plant Capacity:** The treatment plant has an average dry weather flow design capacity of 29 million gallons per day (MGD) and can treat hourly peak flows up to 68 MGD during the wet weather flow period. It presently discharges an annual average daily flow of 20.7 MGD and annual average dry weather flow of 19.0 MGD.
9. **Discharge Classification:** The U.S. Environmental Protection Agency (U.S. EPA) and the Board have classified this discharge as a major discharge.

Stormwater Discharge Description:

10. Federal regulations for stormwater discharges were promulgated by U.S. EPA on November 19, 1990. The regulations [40 Code of Federal regulations (CFR) Parts 122, 123, and 124] require specific categories of industrial activities including Publicly Owned Treatment Works (POTWs) which discharge stormwater associated with industrial activity (industrial stormwater) to obtain an NPDES permit and to implement Best Available Technology Economically Available (BAT) and Best Conventional Pollutant Control Technology (BCT) to control pollutants in industrial stormwater discharges. POTWs are not required to obtain a separate NPDES permit if all stormwater flows from the treatment facility are treated by the POTW.
11. The stormwater from the wastewater treatment facility process areas are directed to the wastewater treatment plant head works and are treated along with the wastewater discharged to the treatment plant. These stormwater flows constitute all industrial stormwater at this facility and consequently this permit regulates all industrial stormwater discharges at this facility.

Regional Monitoring Program

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

Applicable Plans, Policies and Regulations

Basin Plan

13. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin on June 21, 1995 (Basin Plan). This updated and consolidated plan represents the Board's master water quality control planning document. The revised Basin Plan was approved by the State Water Resources Control Board (SWRCB) and the Office of Administrative Law on July 20 and November 13, respectively, of 1995. A summary of regulatory provisions is contained in Title 23 of the California Code of Regulations at Section 3912. The Basin Plan identifies beneficial uses for waters of the State in the Region, including surface waters and groundwaters. The Basin Plan also

identifies water quality objectives, discharge prohibitions and effluent limitations intended to protect beneficial uses. This Order implements the plans, policies and provisions of the Board's Basin Plan.

Beneficial Uses:

14. Beneficial Uses of Lower San Francisco Bay and contiguous waters, as identified in the Basin Plan and based on known uses of the receiving waters in the vicinity of the discharges, are:
- a. Ocean, Commercial, and Sport Fishing
 - b. Estuarine Habitat
 - c. Industrial Service Supply
 - d. Fish Migration
 - e. Navigation
 - f. Preservation of Rare and Endangered Species
 - g. Water Contact Recreation
 - h. Noncontact Water Recreation
 - i. Shellfish Harvesting
 - j. Wildlife Habitat

California Toxic Rule

15. On May 18, 2000, the U.S. EPA published the *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California* (Federal Register, Volume 65, Number 97, 18 May 2000). These standards are generally referred to as the California Toxics Rule (CTR). The CTR specified water quality standards for numerous pollutants, of which some are applicable to the Discharger's effluent discharges.

State Implementation Policy

16. On March 2, 2000, the State Water Resources Control Board (SWRCB) adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bay and Estuaries of California*. This policy prescribes the plans for implementing the water quality standards in the CTR and applicable standards in the National Toxics Rule, and the Basin Plan. This policy is generally referred to as the State Implementation Policy (SIP). The SIP was subsequently adopted by the Office of Administrative Law on April 28, 2000. It became fully effective on May 18, 2000.

Other Plans, Policies and Regulations

17. The reissuance of waste discharge requirements for these discharges is exempt from the provisions of Chapter 3 (commencing with Section 21100 of Division 13) of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.
18. Under 40 CFR 122.44, "Establishing limitations, Standards, and Other Permit Conditions", NPDES permits should also include toxic pollutant limitations if the Discharger uses or manufactures a toxic pollutant as an intermediate or final product or by product.

Basis for Effluent Limitations:

General Basis

19. **Water Quality Objectives (WQOs) and Effluent Limits:** WQOs and effluent limitations in this permit are based on the SIP; the plans, policies and water quality objectives and criteria of the 1995 Basin Plan, CTR (Federal Register Volume 65, No. 97), applicable Federal Regulations (40 CFR

Parts 122 and 131), National Toxics Rule (57 FR 60848, 22 December 1992; 40 CFR Part 131.36(b), "NTR"), National Toxics Rule Amendment (Federal Register Vol. 60, No. 86, 4 May 1995 pg. 22229-22237), and best professional judgment (BPJ) as defined by the guidance below. Where numeric effluent limitations have not been established in the Basin Plan, 40CFR122.44(d) specifies that water quality based effluent limits may be set based on U.S. EPA criteria and supplemented where necessary by other relevant information to attain and maintain narrative water quality criteria to fully protect designated beneficial uses and where adopted in accordance with State law.

20. **BPJ Guidance:** U.S. EPA guidance documents upon which BPJ was developed may include in part:

- Technical Support Document for Water Quality Based Toxics Control March 1991,
- U.S. EPA Region 9 Guidance For NPDES Permit Issuance February 1994,
- Policy and Technical Guidance on Interpretation and Implementation of Aquatic Life Metals Criteria October 1, 1993,
- Whole Effluent Toxicity (WET) Control Policy July 1994,
- National Policy Regarding Whole Effluent Toxicity Enforcement, August 14, 1995,
- Clarifications Regarding Flexibility in 40 CFR Part 136 Whole Effluent Toxicity (WET) Test Methods, April 10, 1996,
- Interim Guidance for Performance - Based Reductions of NPDES Permit Monitoring Frequencies April 19, 1996,
- U.S. EPA Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity Programs Final May 31, 1996,
- Draft Whole Effluent Toxicity (WET) Implementation Strategy February 19, 1997.

21. **Applicable Water Quality Objectives:** The Basin Plan specifies numeric water quality objectives (WQOs) as well as a narrative objective for toxicity in order to protect beneficial uses: "All waters shall be maintained free of toxic substances in concentrations that are lethal to or produce other detrimental responses in aquatic organisms". Effluent limitations and provisions contained in this Order are designed to implement these objectives, based on available information. The CTR promulgates numeric aquatic life criteria for 23 toxic pollutants, numeric human health criteria for 57 toxic pollutants and a compliance schedule which authorizes the State to issue schedules of compliance for new or revised NPDES permit limits based on the federal criteria when certain conditions are met. This Order also includes effluent limits for pollutants listed in the latest 303(d) report as impairing the quality of waters due, in part, to municipal point source discharges.

22. **CTR Receiving Water Salinity Policy:** The CTR states that the salinity characteristics (i.e., fresh water vs. marine water) of the receiving water shall be considered in establishing water quality objectives. Freshwater effluent limitations 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. Marine (saltwater) effluent limitations 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 fresh waters that support estuarine beneficial uses, effluent limitations shall be the lower of the marine or freshwater effluent limitation, based on ambient hardness, for each substance. CTR allows for an exception to this rule when "EPA approves the application of the freshwater or salt water criteria based on an appropriate biological assessment."

23. **Receiving Water Salinity:** The receiving waters for the discharges regulated by this Order are the waters of Lower San Francisco Bay. Data from Regional Monitoring Program (RMP) for San Bruno Shoal (Station BB15) and Redwood Creek (Station BA40) is used to determine the salinity of the receiving water. The San Bruno Shoal Station is north of the discharge point and the Redwood Creek Station is south of the discharge point. Based on the 1993 to 1997 salinity data for the two above referenced stations, the receiving water of subject discharge have salinities above 10 ppt more than 95% of the time. Therefore, the receiving water is marine in character.
24. **Technology Based Effluent Limits:** Effluent limits for conventional pollutants are technology based. Limits in this permit are the same as in the prior permit for the following constituents: Carbonaceous Biochemical Oxygen Demand (CBOD), Total Suspended Solids (TSS), settleable matter, oil and grease, and chlorine residual. Technology-based effluent limitations are put in place to ensure that full secondary treatment is achieved by the wastewater treatment facility. Federal regulations allow the parameter BOD to be substituted with the parameter CBOD. This permit includes CBOD limits only.
25. **Monitoring Requirements for Certain Priority Pollutants:** For priority pollutants that do not show a reasonable potential to exceed effluent limitations, this Order requires continued monitoring and an annual evaluation. If significant increases in the concentrations of the constituents are observed, the Discharger will be required to investigate the source of the increases and establish remedial measures if the increases pose a threat to water quality. A reopener provision is included in this Order that allows numeric limits to be added to this Order for any constituent that in the future exhibits reasonable potential to cause or contribute to an exceedance of a water quality standard. This determination will be made by the Board based on monitoring results.

Specific Basis

Constituents identified in the 303(d) List

26. On May 12, 1999, the U.S. EPA approved a revised list of impaired water bodies prepared by the State. The list (hereinafter referred to as the 303(d) list) was prepared in accordance with Section 303(d) of the Federal Clean Water Act to identify specific water bodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations on point sources. Lower San Francisco Bay is listed as an impaired water body. The pollutants impairing Lower San Francisco Bay include chlordane, copper, DDT, diazinon, dieldrin, dioxin compounds, exotic species, furan compounds, mercury, nickel, PCBs (non dioxin like) and dioxin-like PCBs. For Lower San Francisco Bay, the highest priority pollutant is mercury, based on the priorities shown on the list.

Total maximum Daily Loads (TMDLs) and Waste Load Allocations (WLAs)

27. Based on the 303(d) list of pollutants impairing Lower San Francisco Bay, the Board plans to adopt TMDLs for these pollutants no later than 2010, with the exception of dioxin and furan compounds. The Board defers development of the TMDL for dioxins and furans to the U.S. EPA. Future review of the 303(d) list for Lower San Francisco Bay may result in revision of the schedule and/or provide schedules for other pollutants.
28. The TMDLs will include waste load allocations (WLAs) and load allocations (LAs) for point sources and non-point sources, respectively, and are intended to result in the attainment of water quality standards in the water body. The final effluent limitations for this discharge will be based on WLAs that are derived from the TMDLs.

29. The following summarizes the Board's strategy to collect water quality data to develop TMDLs:
- a. **Data Collection:** The Board will request Dischargers to collectively assist in developing and implementing analytical techniques capable of detecting 303(d) listed pollutants to at least their respective levels of concern or water quality objectives. The Board will require Dischargers to characterize the pollutant loads from their facilities into the water quality limited water bodies. The result will be used in the development of TMDLs, but may also be used to update/revise the 303(d) list and/or change the water quality objectives for the impaired water bodies including San Francisco Bay Lower.
 - b. **Funding Mechanism:** The Board has received and anticipates continued receipt of resources from federal and state agencies for the development of TMDLs. To ensure timely development of TMDLs, the Board intends to supplement these resources by allocating development costs among Dischargers through the RMP or other appropriate funding mechanisms.

Interim Limits

30. In the interim, until final WQBELs are adopted by the Board, state and federal antibacksliding and antidegradation policies require that the Board retain effluent concentration limits from the Previous Order (or plant performance, whichever is more stringent) to ensure that the waterbody will not become further degraded. In addition to these interim concentration limits, interim performance-based mass limits are required to limit discharge of 303(d)-listed bioaccumulative pollutants' mass loads to their current levels. These interim mass limits are based on recent discharge data. Where pollutants have existing high detection limits (such as for PCBs total, Chlordane, DDT, Dieldrin, etc.), interim mass limits are not required because meaningful performance-based limits cannot be calculated for those pollutants with non-detectable concentrations. However, the dischargers are required to investigate alternative analytical procedures that result in lower detection limits. This may occur either through participation in new RMP special studies or through equivalent studies conducted jointly with other dischargers.

Alternative Final Limits

31. In the event that a TMDL is not adopted by this Regional Board by 2010, and an extension of the schedule has not been granted by the U.S. EPA, the Board will impose one of the following alternative final limits after the Discharger has had a reasonable time period to come into compliance with the alternative final limits:
- a. For a 303(d)-listed bioaccumulative pollutant, the final alternative limit will be no net loading. No net loading means that the actual loading from the discharge must be offset by at least equivalent loading of the same pollutant achieved through mass offset. In the absence of a TMDL, any loading to the impaired waterbody has the reasonable potential to cause or contribute to an excursion of the narrative toxicity criterion. Additionally, the existing numeric objective may not be adequate to ensure safe levels of the pollutant in sediment and/or fish. This is because in the case of fish tissue, the bioconcentration factor (BCF), on which the criterion was based, was measured in the laboratory and, therefore, reflects uptake from the water only. Bioaccumulative factors (BAFs) on the other hand, are measured in the field where the uptake in fish is through both food and water. Thus, the bioaccumulation rate in the system may be greater than the bioconcentration rate used to calculate the national water quality criteria. Another reason that the existing water quality objectives may not be adequate is that the criteria they are based on do not always account for routes of exposure, for site-specific circumstances that may

render the pollutant more bioavailable, for accumulation in sediment, or for concentrating effects resulting from evaporation.

- b. For 303(d)-listed non-bioaccumulative pollutants, the alternative final mass limit will be based on water quality objectives applied at the end of the discharge pipe (i.e., without a dilution factor used to calculate the limit.)

Reasonable Potential Analysis

32. As specified in Section 1.3 of the SIP, permits are required to include WQBELs for all pollutants discharges "which may 1) cause, 2) have the reasonable potential to cause, or 3) contribute to an excursion above any applicable priority pollutant criterion or objective." Using the method prescribed in the Section 1.3 of the SIP, Board staff has analyzed the effluent data to determine if the discharges which are the subject of this Permit and Order have a reasonable potential to cause or contribute to an excursion above any applicable priority pollutant criterion or objective ("Reasonable Potential Analysis" or "RPA").

- a. *Reasonable Potential Determination.* The RPA involves identifying the observed maximum effluent concentration (MEC) for each constituent based on effluent concentration data. There are two triggers in determining reasonable potential. First trigger, the MEC is compared with the lowest applicable WQO, which has been adjusted for pH, hardness, and translator data, if appropriate. If the MEC is greater than the (adjusted) WQO, then there is reasonable potential for that constituent to cause or contribute to an excursion above the WQO and a water-quality based effluent limitation (WQBEL) is required. The second trigger is activated, if the MEC is less than the adjusted WQO, then the observed maximum ambient concentration (B) for the pollutant is compared with the adjusted WQO. If B is greater than the adjusted WQO, then WQBEL is required. If B is less than the WQO, then a limit is only required under certain circumstances to protect beneficial uses. If a pollutant was not detected in any of the effluent samples and all of the detection levels are greater than or equal to the adjusted WQO, then the background concentration is compared with the adjusted WQO. For all parameters that have reasonable potential to cause or contribute to an exceedance of a WQO, numeric water quality-based effluent limitations (WQBELs) are required. WQBELs are based on U.S. EPA water quality criteria and the Basin Plan objectives. The RPA compares the effluent data with numeric and narrative WQOs in the Basin Plan and numeric standards from NTR, and CTR.
- b. *RPA Data.* The RPA was based on effluent monitoring data for 1997 through 1999 for metals. RPA for the toxic organic compounds with the exception of dioxin was based on data from a special study conducted by the Discharger in 1994 and 1995. RPA for dioxin was based on data obtained in 1994, 1995, and February and March 2000.

c. Discharges to Lower San Francisco Bay

(1) *Reasonable Potential.* Based on the RPA, the following constituents have been found to have reasonable potential to cause or contribute to an excursion above water quality objectives: copper, lead, mercury, nickel, zinc, cyanide, dioxin and furans, and tributyltin. Based on the RPA, numeric effluent limits are required to be included in the permit for these constituents.

(2) *No Reasonable Potential.* Based on the RPA, the following constituents have been found to not show reasonable potential to cause or contribute to excursion above applicable

water quality objectives: arsenic, cadmium, chromium, silver, selenium, and all the constituents under U.S. EPA methods 8270, 8240 and 8080. Based on the RPA and continued consistent plant performance, effluent limits for these constituents are not needed and are not included in this permit.

d. *Summary of Reasonable Potential Analysis (RPA) Determinations*

The WQOs, Maximum Observed Effluent Concentration and reasonable potential conclusions from the RPA are listed in the following table for each constituent analyzed. All the data are in µg/L.

Constituent	Maximum Observed Concentration or Lowest Detection Limit	Water Quality Objective	Reasonable Potential?
Arsenic	1.30	36	N
Cadmium	0.7	9.3	N
Chromium	30.00	50	N
Copper	65.00	3.1	Y
Lead	6.3	5.6	Y
Mercury	0.09	0.025	Y
Nickel	31.00	7.1	Y
Selenium	1.00	5	N
Silver	1.90	2.3	N
Zinc	300.00	58	Y
Acetone	200.00	No Obj.	CD
Acrolein	NA	780	CD
Acrylonitrile	NA	0.66	CD
Benzene	2.00	71	N
Bromodichloromethane	2.00	46	N
Bromoform	2.00	360	N
Bromo methane	2.00	No Obj.	CD
2-Butanone	130.00	No Obj.	CD
Carbon disulfide	2.00	No Obj.	CD
Carbon tetrachloride	2.00	4.4	N
Chlorobenzene	2.00	21,000	N
Chlorodibromomethane	2.00	34	N
Chloroethane	2.00	No Obj.	CD
2-Chloroethyl vinyl ether	10.00	No Obj.	CD
Chloroform	8.40	No Obj.	CD
Chloromethane	2.00	No Obj.	CD
1,1-Dichloroethane	2.00	No Obj.	CD
1,2-Dichloroethane	2.00	99	N
1,1-Dichloroethylene	2.00	3.2	N

Constituent	Maximum Observed Concentration or Lowest Detection Limit	Water Quality Objective	Reasonable Potential?
Cis-1, 2-Dichloroethene	2.00	No Obj.	CD
Trans-1, 2-Dichloroethene	2.00	140,000	N
Total-1, 2-Dichloroethene	NA	No Obj.	CD
1,2-Dichloropropane	2.00	39	N
1,3-Dichloropropane	2.00	No Obj.	CD
Cis-1, 3-Dichloropropene	2.00	No Obj.	CD
Trans-1, 3-Dichloropropene	2.00	No Obj.	CD
1,3-Dichloropropene	NA	1,700	CD
Ethylbenzene	2.00	29,000	N
2-Hexanone	10.00	No Obj.	CD
Methylenechloride (dichloromethane)	28.00	1,600	N
4-Methyl-2-pentanone	10.00	No Obj.	CD
Styrene	2.00	No Obj.	CD
1,1,2,2-Tetrachloroethane	2.00	11	N
Tetrachloroethene (Tetrachloroethylene)	6.70	8.85	N
Toluene	2.10	200,000	N
1,1,1-Trichloroethane	2.00	No Obj.	CD
1,1,2-Trichloroethane	2.00	42	N
Trichloroethene	2.00	81	N
Trichlorofluoromethane	2.00	No Obj.	CD
Vinyl acetate	5.00	No Obj.	CD
Vinyl chloride	2.00	525	N
Total Xylenes	2.00	No Obj.	CD
MTBE	24.00	No Obj.	CD
Acenaphthene	0.10	27,000	N
Acenaphthylene	0.10	No Obj.	CD
Aniline	NA	No Obj.	CD
Anthracene	0.10	110,000	N
Azobenzene	NA	No Obj.	CD
Benzdine	2.00	0.00054	DL
Benzoic acid	6.80	No Obj.	CD
Benzo(a)anthracene	0.04	0.049	N
Benzo(b)fluoranthene	0.10	0.049	DL
Benzo(k)fluoranthene	0.10	0.049	DL
Benzo(g,h,i)perylene	0.20	No Obj.	CD
Benzo(a)pyrene	0.06	0.049	DL
Benzyl alcohol	0.15	No Obj.	CD

Constituent	Maximum Observed Concentration or Lowest Detection Limit	Water Quality Objective	Reasonable Potential?
Bis(2-chloroethoxy)methane	0.15	No Obj.	CD
Bis(2-chloroethyl)ether	0.15	1.4	N
Bis(2-chloroisopropyl)ether	0.20	170,000	N
Bis(2-ethylhexyl)phthalate	4.6	9.9	N
4-Bromophenylphenylether	0.10	No Obj.	CD
Butylbenzylphthalate	0.41	5200	N
4-Chloroaniline	0.50	No Obj.	CD
2-Chloronaphthalene	0.10	4300	N
4-Chloro-3-methylphenol	0.14	No Obj.	CD
2-Chlorophenol	0.10	400	N
4-Chlorophenylether	NA	No Obj.	CD
4-Chlorophenyl phenylether	0.10	No Obj.	CD
Chrysene	0.04	0.049	N
Dibenz(a,h)anthracene	0.20	0.049	DL
Dibenzofuran	0.10	No Obj.	CD
Di-N-butylphthalate	6.00	12,000	N
1,2-Dichlorobenzene	1.60	17,000	N
1,3-Dichlorobenzene	0.12	2,600	N
1,4-Dichlorobenzene	0.67	2,600	N
3,3-Dichlorobenzidine	0.20	0.077	DL
2,4-Dichlorophenol	0.24	790	N
Diethyl phthalate	0.80	120,000	N
2,4-Dimethy phenol	0.10	2,300	N
Dimethylphthalate	0.20	2,900,000	N
4,6-Dinitro-2-methylphenol	0.50	765	N
2,4-Dinitrophenol	0.88	14,000	N
2,4-Dinitrotoluene	0.10	9.1	N
2,6-Dinitrotoluene	1.40	9.1	N
Di-N-octylphthalate	0.36	No Obj.	CD
1,2-Diphenylhydrazine	NA	0.54	CD
Fluoranthene	0.05	370	N
Fluorene	0.10	14,000	N
Hexachlorobenzene	0.04	0.00077	DL
Hexachlorobutadiene	0.10	50	N
Hexachlorocyclopentadiene	0.04	17,000	N
Hexachloroethane	0.06	8.9	N
Indeno(1,2,3-cd)pyrene	0.10	0.049	DL
Isophorone	0.10	600	N

Constituent	Maximum Observed Concentration or Lowest Detection Limit	Water Quality Objective	Reasonable Potential?
2-Meethyl naphthalene	0.10	No Obj.	CD
2-Methylphenol	0.10	No Obj.	CD
3-Methylphenol	NA	No Obj.	CD
4-Methylphenol	0.67	No Obj.	CD
Naphthalene	0.05	No Obj.	CD
2-Nitroaniline	0.20	No Obj.	CD
3-Nitroaniline	0.20	No Obj.	CD
4-Nitroaniline	0.20	No Obj.	CD
Nitrobenzene	0.10	1,900	N
2-Nitrophenol	0.46	No Obj.	CD
4-Nitrophenol	1.90	No Obj.	CD
N-Nitrosodimethylamine	NA	8.1	CD
N-Nitrosodiphenylamine	0.20	16	N
N-Nitroso-di-N-propylamine	0.10	1.4	N
Pentachlorophenol	0.20	8.2	N
Phenanthrene	0.10	No Obj.	CD
Phenol	2.20	4,600,000	N
Pyrene	0.07	11,000	N
1,2,4-Trichlorobenzene	0.10	No Obj.	CD
2,4,5-Trichlorophenol	0.10	No Obj.	CD
2,4,6-Trichlorophenol	0.33	6.5	N
1,2 Dichlorobenzene	2.00	17,000	N
1,3 Dichlorobenzene	2.00	2,600	N
1,4 Dichlorobenzene	13.00	2,600	N
2,4,6 Trichlorophenol	2.00	6.5	N
Aldrin	0.005	0.00014	DL
A-BHC	0.005	0.013	N
Benzene	2.00	71	N
B-BHC	0.025	0.046	N
Chlordane	0.025	0.00059	DL
Chloroform	5.60	No Obj.	CD
DDT	0.24	0.00059	DL
Dichloromethane (Methylenechloride)	31.00	1,600	N
Dieldrin	0.14	0.00014	DL
Endosulfan I	0.16	0.0087	DL
Endosulfan II	0.10	0.0087	DL
Endrin	0.12	0.0023	DL

Constituent	Maximum Observed Concentration or Lowest Detection Limit	Water Quality Objective	Reasonable Potential?
Fluoranthene	309.00	370	N
G-BHC (Lindane)	0.005	0.063	N
Halo Methanes	45.50	No Obj.	CD
Heptachlor	0.28	0.00021	DL
Heptachlor Epoxide	0.18	0.00011	DL
Hexachlorobenzene	2.00	0.00077	DL
PAHs	4.80	15	N
PCBs (Total)	1.40	0.0002	DL
Pentachlorophenol	50.00	8.2	N
Cyanide	12	1	Y
Phenol	2.00	4,600,000	N
TCDD Equivalents	0.00000015	See Finding 32.e below	
Toluene	2.00	200,000	N
Toxaphene	1.00	0.0002	DL
Tributyltin	0.02	0.005	Y

Table Definitions:

- CD = Cannot determine reasonable potential due to the absence of data
DL = Detection limit above water quality objective
N = No reasonable potential
NA = Data not available
No Obj. = No water quality objective available
Y = Reasonable potential

e. Reasonable Potential Analysis for Dioxin.

- (1) The CTR establishes a standard for 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD) of 0.14 picograms per liter (pg/l) for the protection of human health from consumption of aquatic organisms.
- (2) Although the CTR establishes a numeric standard for just one of the dioxin-like compounds, the preamble of the CTR states that California should use toxicity equivalents or TEQs in NPDES Permits where there is a reasonable potential for dioxin-like compounds to cause or contribute to a violation of a narrative criterion. The preamble further states U.S. EPA's intent to use the 1998 World Health Organization Toxicity Equivalence Factor (TEF)¹ scheme in the future and encourages California to use this scheme in State programs. Finally, the preamble states U.S. EPA's intent to adopt revised water quality criteria guidance subsequent to their health reassessment for dioxin-like compounds.

¹ The 1998 WHO scheme includes TEFs for dioxin-like PCBs. But since dioxin-like PCBs are already included within "Total PCBs" for which the CTR has established a specific standard, dioxin-like PCBs are not included in the TEF scheme used in this Order.

(3) The State Implementation Policy establishes the implementation policy for all toxic pollutants including dioxins and furans. The State Implementation Policy requires a limit for 2,3,7,8-TCDD if a limit is necessary, and requires monitoring for a minimum of 3 years by all major NPDES dischargers for the other sixteen dioxins and furans compounds.

(4) The Basin Plan specifies a narrative objective for bio-accumulative substances:

“Many pollutants can accumulate on particulates, in sediments, or bio-accumulate 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.”

This objective is applicable to dioxins and furans compounds. There is consensus in the scientific community that these compounds associate with particulates, accumulate in sediments, and bio-accumulate in the fatty tissue of fish and other organisms.

(5) The U.S. EPA's 303(d) listing determined that the narrative objective for bio-accumulative pollutants was not met because of the levels dioxins and furans in the fish tissue. The State dissents on this determination. Discharge data shows that there are a number of dioxins and furans present in the discharge. Since dioxins and furans do not readily break down, there is a reasonable potential for the Discharger to contribute to the impairment (determined by the U.S. EPA) of the narrative objective.

- f. *Organic Constituents with Limited Data.* Reasonable Potential cannot be determined for various organic constituents because accurate estimations are not possible for a majority of the constituents due to water quality objectives or effluent limitations that are lower than current analytical techniques can measure. The Discharger will continue to monitor for these constituents using analytical methods that provide the best detection limits reasonably feasible. If detection limits improve to the point where it is feasible to evaluate compliance with applicable water quality criteria, a reasonable potential analysis will be conducted to determine whether there is need to add numeric effluent limits to the permit or to continue monitoring.
- g. Based on the RP results, the effluent limitations for arsenic, cadmium, hexavalent chromium, selenium, silver, 1,2 dichlorobenzene, 1,3 dichlorobenzene, 1,4 dichlorobenzene, 2,4,6 trichlorophenol, aldrin, A-BHC, benzene, B-BHC, chlordane, chloroform, DDT, dichloromethane, dieldrin, endosulfan, endrin, fluoranthesen, G-BHC, halomethanes, heptachlor, heptachlor epoxide, hexachlorobenzene, PAHs, PCBs, pentachlorophenol, phenol, toluene, and toxaphene in the previous permit are excluded in this Order as they do not pose reasonable potential to cause, or contribute to an excursion above any numeric or narrative water quality objectives.
- h. *Monitoring.* For constituents that do not show a reasonable potential to cause or contribute to exceedance of applicable water quality objectives, effluent limits are not included in the permit but continued monitoring is required as identified in the self-monitoring program of the permit. If significant increases occur in the concentrations of these constituents to the extent that reasonable potential would occur, the Discharger will be required to investigate the source of the increases and establish remedial measures if the increases pose a threat to water quality.

- i. *Permit Reopener.* The permit includes a reopener provision to allow numeric effluent limits to be added for any constituent that in the future exhibits reasonable potential to cause or contribute to exceedance of a water quality objective. This determination, based on monitoring results, will be made by the Board and will be implemented as an amendment to the permit, through the public hearing process.

Copper

33. Copper:

a. Past Copper Effluent Limitations.

- (1) The Discharger's past permit, Order No. 93-066, specified a limit for copper of 17 µg/L. This was based on the State Plans (Enclosed Bays and Estuaries Plan and Inland Surface Waters Plan), which the Superior Court Decision invalidated in March 1994.
- (2) The SWRCB remand of the Basin Plan invalidated the 17 µg/L copper limit that was in the Discharger's 1993 permit.
- (3) On October 14, 1994, March 17, 1995, the Discharger first notified the RWQCB that the copper limit in the permit was not valid and requested a meeting with Board staff to pursue this matter. The Discharger made the same request again in March 17, 1995, August 15, 1995, September 15, 1995, August 13, 1996, September 17, 1996, September 16, 1997, November 17, 1997, and March 2, 1999.
- (4) U.S. EPA Region IX reported in September 1995 that "The Discharger has stated that a March 1994 court decision related to the State Water Quality Plans has invalidated many of the provisions in the Discharger's NPDES permit, including the daily average copper limit of 17 µg/L. However, after conversations with the San Francisco Bay Regional Water Quality Control Board (RWQCB), EPA is informed that the Discharger's revised copper limit, although not shown in the NPDES permit adopted by the RWQCB in July 1993, is approximately 37 µg/L".

b. Basis for Interim Limitations

- (1) Both the CTR and the SIP require a numeric interim limit when the compliance schedule exceeds one year. The SIP allows for the interim limit to be based on existing permit limitations or facility performance, whichever is more stringent. The SIP allows for deviation from this policy if antibacksliding provisions are met. The SIP also suggests that mass limits should be established for bioaccumulative pollutants.
- (2) The interim limit in this Order is based on facility performance because the existing permit limitation, although more stringent, is not appropriate for this Discharger (see Finding 33.a). Since the new final effluent limitation will be exempt from or will not trigger antibacksliding (see Finding 39), this case meets antibacksliding provisions. Thus, an interim limit based on facility performance is allowed.

- c. *Interim Limits.* As copper has been determined to be an impairing pollutant on the 303(d) list, and since a RPA has determined there is reasonable potential for the discharge to contribute to a water quality exceedance, a WQBEL is required in this permit. The final WQBEL will be consistent with the wasteload allocation derived from a TMDL. In the interim, this order establishes an interim daily maximum concentration limit of 28 µg/L. The Discharger shall also report mass quantities of copper each month on a year-round basis from both their influent and

effluent. This data shall be used by the Regional Board to develop a mass-emission study as part of a region-wide TMDL effort for copper. Currently, Regional Board staff is participating in studies throughout the Bay which may determine that a complete TMDL will not be required for copper, since site-specific copper objective may be appropriate. In the event that a TMDL is not adopted by 2010, and an extension of the schedule has not been granted by the U.S. EPA, the Board will impose an alternative final limit at the end of pipe.

Mercury

34. Mercury

- a. **Mercury Water Quality Objectives and TMDL.** For mercury, the national chronic criterion is based on protection of human health. The criterion is intended to limit the bioaccumulation of methyl-mercury in fish and shellfish to levels that are safe for human consumption. As described in the Gold Book, the fresh water criterion is based on the Final Residual Value of 0.012 µg/L derived from the bioconcentration factor (BCF) of 81,700 for methyl mercury with the fathead minnow, which assumes that essentially all discharged mercury is methylmercury. The saltwater criterion of 0.025 µg/L was similarly derived using the BCF of 40,000 obtained for methylmercury with the eastern oyster and the criterion is listed in the 1986 Basin Plan. The CTR adopted a dissolved mercury water quality objective of 0.05 µg/L for protection of human health. However, according to Footnote b in the CTR's Table of Criteria for Priority Toxic Pollutants, "criteria apply to California water except for those waters subject to objectives in Table III-2A and III-2B of the San Francisco Regional Water Quality Control Board's (SFRWQCB) 1986 Basin Plan, that were adopted by the SFRWQCB and the State Water Resources Control Board, approved by U.S. EPA, and which continue to apply. Although ambient background concentrations are below WQOs for protection of both fresh and salt-water aquatic species, the Lower San Francisco Bay is listed as impaired for mercury because of fish tissue level exceedances. These WQOs were meant to limit bioaccumulation of methyl-mercury in fish and shellfish. The Board intends to work toward the derivation of a TMDL that will lead towards overall reduction of mercury mass loadings in the watershed. Based on these studies, the final limit will be derived based on a TMDL/WLA.
- b. **Mercury as a Persistent, Bioaccumulative Pollutant.** Mercury is listed on the 303(d) list for impairing San Francisco Bay Lower due to fish tissue level exceedances. For pollutants that cause impairment due to accumulations in the sediment or food chain, and for which a TMDL has not been established, the final effluent limitation will be no net loading. This would mean, that if a TMDL is not established by the scheduled date or that date has not been extended, the Discharger will have the option of proposing a Mass Offset program that would offset their mercury loads with source reductions which are not already required elsewhere in the system.

The rationale for this is that there is no acceptable level of loading for bioaccumulative pollutants which have fish tissue and/or sediment as the basis for impairment, regardless of the concentration of that pollutant. Any loading of bioaccumulative pollutants has the reasonable potential to cause or contribute to an excursion of the narrative criteria, and is, therefore, unacceptable. Additionally, the narrative criterion, which for mercury is based on the existing numeric objective, may not be adequate to ensure safe levels of the pollutant in sediment and/or fish tissue. One reason for this is that, in the case of fish tissue, the bioconcentration factor (BCF), on which the criterion was based, was measured in the laboratory and, therefore, reflects uptake from the water only. Bioaccumulation factors (BAFs), on the other hand, are measured in

the field where the uptake in fish is through both food and water. Thus, the bioaccumulation rate in the system may be greater than the bioconcentration rate used to calculate the national water quality criteria, which is based on a laboratory-derived bioconcentration factor (BCF). Another reason that the water quality criteria may not be adequate is that the criteria do not always account for routes of exposure, for site-specific circumstances that may render the pollutant more bioavailable (such as biomethylating estuarine and wetland environments), for accumulation in sediment, or for concentrating effects resulting from evaporation. Mass based limits should be derived as the result of a TMDL analysis. In the absence of this analysis, however, the only WQBEL that would assure that the discharge does not cause or contribute to an exceedance of the narrative criteria is a net loading of zero.

- c. *Mercury Strategy.* Board staff is in the process of developing a plan to address control of mercury levels in San Francisco Bay including development of a TMDL. At present, it appears that the most appropriate course of action is to apply interim mass loading limits to these discharges, and focus mercury reduction efforts on more significant and controllable sources. While site-specific objectives and Total Maximum Daily Loads (TMDLs) are being developed, the Discharger will be held accountable for maintaining ambient conditions to the receiving water by complying with performance-based mass emission limits for mercury. This permit includes interim concentration and mass emission loading limits. The Discharger is required to maximize control over influent mercury sources, with consideration of relative costs and benefits. The Discharger is encouraged to continue working with other municipal dischargers to optimize both source control and pollution prevention efforts and to assess alternatives for reducing mercury loading to, and protecting beneficial uses of, receiving waters.
- d. *Effluent Concentration Limit.* This Order establishes deep-water interim monthly average concentration effluent limit for mercury of 0.06 µg/L, based on current plant performance. The interim limit shall apply to the discharge until a TMDL and WLA for mercury are completed. The final limit will be based on the WLA derived from the TMDL.
- e. *Mass Emission Limit.* A mass-based loading limit (mass emission limit) for mercury of 0.24 kilograms per month is established in this Order (Effluent Limitation B.8.a). This limit is the 99.7 percent value of calculated total mercury mass loading from the discharge, based on effluent data from 1997 through December 1999. The loadings were calculated using 12 month moving average flow and average monthly concentration. This mass limit is designed to hold the Discharger to current loadings until a TMDL is established and is intended to address anti-degradation concerns. The final effluent limit will be based on the WLA derived from the mercury TMDL. When a final WLA is approved for the Discharger, the permit may be reopened. If a TMDL is not established by 2010, and the date for completion is not extended, then the final WLA for mercury as a bioaccumulative substance is required to be no net loading, according to the above rationale.
- f. *Option for a Mass Offset.* This Order contains requirements to prevent potential degradation of 303(d)-listed waterbodies. Such requirements include the adoption of mass limits that are based on the treatment facility performance, provisions for aggressive source control and waste minimization, feasibility studies for wastewater reclamation, and treatment facility optimization. After implementing these efforts, the discharger may find that further net reductions of the total mass loadings of the 303(d) listed pollutants to the receiving water can be achieved through a mass offset program. This Order includes a provision for an optional mass offset program.

Dioxin – Basis for Interim Limitation

35. Basis for Final Dioxins and Furans Limitation

- a. A new limitation for dioxins and furans is needed because the current value of 0.14 pg/l TEQ is not appropriate for the Discharger for the following reasons:
 - (1) The root cause of the dioxin exceedances are not within the Discharger's control, and the next step of treatment will be overly burdensome and not cost effective relative to the benefits. The exceedances are caused by dioxins and furans compounds in domestic waste. The Discharger runs a well-maintained advance secondary treatment plant. Even with the advanced technology available, dioxin and furans compounds concentration cannot be further removed without significant upgrades to the facility. The Discharger's mass contribution is minor compared to other inputs to the Bay. This cost for further reduction seems overly burdensome and not cost effective at this time.
 - (2) The U.S. EPA's 303(d) listing highlights the need for a region wide cross media assessment of the problem. This integrated assessment should result in a more balanced, and more effective limitation for the Discharger.
- b. This permit establishes that the final effluent limitation for the Discharger will be based on the waste load allocated to the Discharger based an established TMDL.

36. Basis for Compliance Timeframe for Dioxin and Furans

- a. Since it is unknown what the final limitation should or will be until the U.S. EPA completes the TMDL, a compliance schedule for the final limit is appropriate. Both the CTR and the State Implementation Plan authorize compliance schedules. The State Implementation Plan provides for up to 15 years from the effective date of the Plan. Although the U.S. EPA did not establish a schedule for the TMDL, the Regional Administrator indicated a timeframe of up to 13 years in the 1999 letter approving the 303(d) list. Considering these factors, this Order specifies a 12-year compliance time schedule until the year 2012.
- b. In the event that the U.S. EPA does not establish a TMDL by 2012, and does not grant an extension of the schedule, the Board will impose an alternative final limit of no net loading as described in Finding 31 of this Order.

37. Basis for Interim Limitation for Dioxin and Furan

- a. The interim limitation specified in this Order is a modified TEQ approach in consideration of the State Implementation Plan requirements, analytical quantification limits, and facility performance.
- b. Both the CTR and the State Implementation Plan require a numeric interim limit when the compliance schedule exceeds 1 year. The State Implementation Plan allows for the interim limit to be based on facility performance or existing permit limitations, which ever is more stringent. The Plan allows for deviation from this policy if antibacksliding provisions are met. The Plan also suggests that mass limits should be established for bioaccumulative pollutants.

- c. The interim limit in this Order is based on facility performance because the existing permit limitation, although more stringent, is not appropriate for this Discharger (see Finding 35). Since the new final effluent limitation will be exempt from or will not trigger antibracksliding (see Finding 39), this case meets antibracksliding provisions. Thus, an interim limit based on facility performance is allowed.
- d. Because dioxins and furans are bioaccumulative, the interim limit in this Order is based on mass. Moving 12-month average flow is used to calculate the mass loading limit in order to account for effluent variations and stormwater contributions.
- e. Of the available discharge data, current facility performance is best represented by data from 1994, 1995, February and March 2000.
- f. A TEQ approach is used for the interim limit based on U.S. EPA's suggestion in the preamble to the CTR. Of the 17 dioxins and furans compounds, only two have been measured in the discharge. Specifically, they are 1,2,3,4,6,7,8-hepta CDD, and octa-CDD. The other 15 compounds are below detection in every sample for this time period. Meaningful performance-based limits cannot be calculated when all values are below detection. Therefore, the interim limit is based on just the 2 compounds measured and the 1998 WHO TEFs for those compounds. This approach of limiting a subset of parameters to control the whole set is based on the concept of indicator parameters. U.S. EPA relies heavily on this approach in establishing technology based effluent limitations which are based on performance.
- g. Although there is no specific performance limit for the other 15 compounds, the likelihood that the Discharger will increase its discharge of those compounds is not great. Firstly, the available data show a very consistent profile in the discharge. If the Discharger increases discharge of the other 15 compounds, the discharge will very likely increase discharge of the 2 that are limited, and so trigger a violation if the increase is not within past performance. Secondly, the available literature suggests that dioxins and furans are predominantly from laundry gray water and human waste. Unless, the quantity of those 15 compounds increases in those sources out of proportion to the 2 compounds that are listed, the discharge should not change.
- h. *Mass Emission Limit.* A mass-based loading limit (mass emission limit) for dioxin of 0.44 milligrams per month is established in this Order (Effluent Limitation B.9). This limit is the 99.7percent value of calculated total dioxin mass loading from the discharge, based on effluent data from 1994 through March 2000. The loadings were calculated using 12 months moving average flow and average monthly concentration. This mass limit is designed to hold the Discharger to current loadings until a TMDL is established and is intended to address anti-degradation concerns. The final effluent limit will be based on the WLA derived from the dioxin TMDL. When a final WLA is approved for the Discharger, the permit may be reopened. If a TMDL is not established by 2012, and the date for completion is not extended, then the final WLA for dioxin as a bioaccumulative substance is required to be no net loading, according to the above rationale.
- i. The analytical detection limits for the samples need to be improved. The interim limit was calculated using detection limit values and reported concentrations that were below the lowest calibration standard. Although the confidence of these concentrations is higher for the dioxins and furans analytical method because it uses isotope dilution, use of these data is contrary to the State Implementation Plan. The Plan specifies that data used for compliance shall not be based

on values below the lowest calibration standard. This Order specifies a requirement for the Discharger to investigate the feasibility of lowering the detection limits.

Cyanide and Tributyltin – Basis for Interim Limitation

38. Currently, there are no background data available for cyanide and tributyltin. Therefore, no final effluent limit can be calculated for these constituents using methods prescribed in the SIP. A performance based interim limit is included in the permit.

Antibacksliding and Antidegradation

39. Compliance with Antibacksliding and Antidegradation

- a. The limitations in this Order is in compliance with the Clean Water Act Section 402(o) prohibition against establishment of less stringent water quality-based effluent limitations for the following reasons:
 - (1) The revised final limitation will be in accordance with the TMDL and waste load allocation once they are established; hence, this amendment is exempt in accordance with Clean Water Act Section 303(d)(4)(A).
 - (2) The alternative final limitation of no net loading is more stringent than the limitation specified in the previous permit so it would be in compliance with antibacksliding.
 - (3) Antibacksliding does not apply to the interim limitations established under the time to come into compliance provision.
 - (4) Even if the antibacksliding and antidegradation policies apply to interim limitations under 402(o)(2)(c), a less stringent limitation is necessary because of events over which the Discharger has no control and for which there is no reasonable available remedy.
- b. The interim limits in this permit are in compliance with antidegradation because the interim limits hold the Discharger to current facility performance, because the interim limits meet compliance limits in the State Implementation Plan, and because the final limit is in compliance with anti-degradation requirements.

Whole Effluent Acute Toxicity

40. This Order includes effluent limits for whole-effluent acute toxicity. Currently, compliance evaluation is based on 96-hour flow-through bioassays. U.S. EPA promulgated updated test methods for acute toxicity bioassays on October 16, 1995, in 40 CFR Part 136. Dischargers have identified several practical and technical issues that need to be resolved before implementing the new procedures. The primary issue is that the use of younger, possibly more sensitive, fish may necessitate a reevaluation of permit limits. A provision is included in this order to allow the Discharger 12 months to implement the new test method. In an interim, the Discharger is required to continue using the current test protocols.

Whole Effluent Chronic Toxicity

41. Chronic Toxicity

- a. *Program History.* The Basin Plan contains a narrative toxicity objective stating that "All waters shall be maintained free of toxic substances in concentrations that are lethal to or produce other detrimental responses to aquatic organisms" and that "there shall be no chronic toxicity in ambient waters." The 1986, the Board initiated the Effluent Toxicity Characterization Program (ETCP), with the goal of developing and implementing toxicity limits for each Discharger based

on actual characteristics of both receiving waters and waste streams. Dischargers were required to monitor their effluent using critical life stage toxicity tests to generate information on toxicity test species sensitivity and effluent variability to allow development of appropriate chronic toxicity effluent limitations. Two rounds of effluent characterization were conducted by selected dischargers beginning in 1988 and in 1991. A second round was completed in 1995, and the Board is evaluating the need for a third round. Board guidelines for conducting toxicity tests and analyzing results were published in 1988 and last updated in 1991. The Discharger participated in the ETCP.

The Board adopted Order No. 92-104 in August 1992 amending the Discharger's permit, to include numeric chronic toxicity limits. However, due to the court decision which invalidated the California Enclosed Bays and Estuaries Plan and Inland Surface Waters Plan, on which Order No. 92-104 was based, the SWRCB stated, by letter dated November 8, 1993, that the Board will have to reconsider the order. This letter also committed to providing the regional boards with guidance on issuing permits in the absence of the State Plans (*Guidance for NPDES Permit Issuance*, February 1994).

- b. *SWRCB Toxicity Task Force Recommendations.* The SWRCB Toxicity Task Force provided several consensus-based recommendations in their October 1995 report to the SWRCB for consideration redrafting the State Plans. A key recommendation was that permits should include narrative rather than numeric limits. The numeric test values should then be used as toxicity "triggers" to first accelerate monitoring and then initiate Toxicity Reduction Evaluations (TRES).
- c. *Regional Board Program Update.* The Board intends to reconsider Order No. 92-104 as directed by the SWRCB, and to update, as appropriate, the Board's Whole Effluent Toxicity (chronic and acute) program guidance and requirements. This will be done based on analysis of Discharger routine monitoring and ETCP results, and in accordance with current U.S. EPA and SWRCB guidance. In the interim, decisions regarding the need for and scope of chronic toxicity requirements for individual dischargers will continue to be made based on BPJ as indicated in the Basin Plan.
- d. *Discharge Monitoring.* The Discharger participated in the second round of ETCP screening and variability testing in 1991-1993. During the course of ETCP monitoring, the Discharger did detect a pattern of acute and chronic toxicity with the species *Thalassiosira*. This permit requires the Discharger to initiate routine chronic toxicity monitoring using critical life stage tests.

The Discharger recently contacted four local aquatic toxicology laboratories and found that none are conducting chronic toxicity tests using *Thalassiosira*. This organism is not currently used because 1) the toxicology labs believe that nutrients and metals in the stock solutions affect the toxicity and 2) the organism exhibits poor growth in the control tests. This permit allows the discharger to propose screening phase monitoring during the first year in lieu of the semi-annual routine monitoring with *Thalassiosira*.

- e. *Permit Requirements.* In accordance with U.S. EPA and SWRCB Task Force guidance, and based on BPJ, this Permit includes requirements for chronic toxicity monitoring based on the Basin Plan narrative toxicity objective. 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 TRE as necessary.

- f. *Permit Reopener*. The Board will consider amending this Permit to include numeric toxicity limits if the Discharger fails to aggressively implement all reasonable control measures included in its approved TRE work plan, following detection of consistent significant non-artificial toxicity.

Pretreatment Program

42. The Discharger has implemented and is maintaining a U.S. EPA approved pretreatment program in accordance with Federal Pretreatment Regulations (40 CFR 403) and this Board's Order No. 95-015 and its amendments thereafter.

Pollutant Minimization/Pollution Prevention

43. Pollution Prevention Program:

- a. The Discharger has an approved Pretreatment Program and has established a Pollution Prevention Program under the requirements specified by the Regional Board.
- b. The Discharger's Pretreatment and Pollution Prevention Programs have resulted in a significant reduction of toxic pollutants discharged to the treatment plant and to the receiving waters.
- c. This reduction is reflected in its influent and effluent data.
- d. Section 2.4.5 of the SIP specifies under what situations and on which priority pollutant(s) (i.e., reportable priority pollutant(s)) the Discharger shall be required to conduct a Pollutant Minimization Program in accordance with Section 2.4.5.1.
- e. There will be some redundancy between the Pollution Prevention Program and the Pollutant Minimization Program, if required.
- f. To the extent where the requirements of the two programs overlap, the Discharger is allowed to continue/modify/expand its existing Pollution Prevention Program to satisfy the Pollutant Minimization Program requirements.

44. An **Operations and Maintenance Manual** is maintained by the Dischargers for purposes of providing plant and regulatory personnel with a source of information describing all equipment, recommended operation strategies, process control monitoring, and maintenance activities. In order to remain a useful and relevant document, the manual shall be kept updated to reflect significant changes in treatment facility equipment and operation practices.

45. **Ambient Water Quality Monitoring** Ambient, background data, is required, according to the SIP in order to complete the RP analysis and to determine final effluent limits, where applicable. Dischargers are required to investigate alternative analytical procedures that result in lower detection limits. This may occur either through participation in new RMP special studies or through equivalent studies conducted jointly with other dischargers.

Notification

46. This Order serves as an NPDES Permit, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code [California Environmental Quality Act (CEQA)] pursuant to Section 13389 of the California Water Code.

47. The Board notified the Discharger and interested agencies and persons of its intent to reissue waste discharge requirements for the discharge, and has provided them with an opportunity for a public hearing and to submit their written views and recommendations.

48. The Board, in a public hearing, heard and considered all comments pertaining to the discharge.

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

PROHIBITIONS

A. Prohibitions:

1. The discharge of treated wastewater at locations or in a manner different from that described in the Findings is prohibited, except as noted in Prohibition A.4.
2. The Discharger of average dry weather flow discharge greater than 29.0 MGD is prohibited. The average dry weather flow shall be determined over three consecutive dry weather months each year.
3. Discharge of wastewater into Lower San Francisco Bay, at any point where it does not receive an initial dilution of at least 10:1 is prohibited.
4. The bypass or overflow of untreated or partially treated wastewater to waters of the State, either at the treatment plant or from the collection system or pump stations tributary to the treatment plant, is prohibited, except as provided for bypasses under the conditions stated in 40 CFR 122.41(m)(4) and (n), and as follows. Taking portions of process units out of service and partial bypassing of Dual Media Filters performed in accordance with provisions of an Operational Plan submitted by the Discharger and approved by the Executive Officer shall not be considered "bypasses" nor violations of this permit.
5. Discharge of water, materials, or wastes other than stormwater, which are not otherwise authorized by an NPDES permit, to a storm drain system or water of the State is prohibited.

EFFLUENT LIMITATIONS

B. Effluent Limitations:

The term effluent in the following limitations means the treated wastewater effluent from the Discharger's wastewater treatment facility, as discharged to receiving waters.

1. Between May 1st and September 30th, the effluent shall not exceed the following limits:

Constituent		Units	Monthly Average	Weekly Average	Daily Maximum	Instantaneous Maximum
a.	Carbonaceous Biochemical Oxygen Demand (CBOD ₅)	mg/L	8	12	16	
b.	Turbidity	NTU	10		20	
c.	Total Suspended Solids (TSS)	mg/L	8	12	16	
d.	Oil & Grease	mg/L	10		20	
e.	Settleable Matter	ml/l-hr	0.1		0.2	
f.	Total Chlorine Residual ²	mg/L				0.0

2. Between October 1st and April 30th, the effluent shall not exceed the following limits:

Constituent		Units	Monthly Average	Weekly Average	Daily Maximum	Instantaneous Maximum
a.	Carbonaceous Biochemical Oxygen Demand (CBOD ₅)	mg/L	16	24	32	
b.	Turbidity	NTU	20		40	
c.	Total Suspended Solids (TSS)	mg/L	16	24	32	
d.	Oil & Grease	mg/L	10		20	
e.	Settleable Matter	ml/l-hr	0.1		0.2	
f.	Total Chlorine Residual ³	mg/L				0.0

3. **85% Percent Removal, CBOD and TSS:** The arithmetic mean of the carbonaceous biochemical oxygen demand (CBOD₅ 20°C) and total suspended solids (TSS) values, by weight, for effluent samples collected in each calendar month shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected at approximately the same times during the same period.

² Requirement defined as below the limit of detection in standard test methods as defined in the latest edition of Standard Methods for the Examination of Water and Wastewater. The Discharger may elect to use a continuous on-line monitoring system(s) for measuring flows, chlorine and sodium bisulfite dosage (including a safety factor) and concentration to prove that chlorine residual exceedances are false positives. If convincing evidence is provided, Board staff will conclude that these false positive chlorine residual exceedances are not violations of this permit limit. The Regional Board is considering a Basin Plan amendment for chlorine residual compliance determination. This permit may be reopened in the future to reflect any changes in the Basin Plan provisions relating to chlorine residual.

³ Same as Footnote 2 above.

4. **Fecal Coliform Bacteria:** The treated wastewater, at some point in the treatment process prior to discharge, shall meet the following limits of bacteriological quality⁴:
 - a. The five day log mean fecal coliform density shall not exceed 500MPN/100ml; and
 - b. The 90th percentile value of the last ten values shall not exceed 1100 MPN/100 mL.
5. **pH:** The pH of the effluent shall not be less than 6.0 nor greater than 9.0.

Pursuant to 40 CFR 401.7, pH effluent limitations under continuous monitoring, the Discharger shall be in compliance with the pH limitation specified herein, provided that both of the following conditions are satisfied: (i) The total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and (ii) the duration of any individual excursion from the range of pH values shall not exceed 60 minutes.

6. **Whole Effluent Acute Toxicity:** Representative samples of the effluent shall meet the following limits for acute toxicity. Compliance with these limits shall be achieved in accordance with Provision E.5 of this Order.
 - a. The survival of bioassay test organisms in 96-hour bioassays of undiluted effluent shall be:
 - (1) An 11-sample median value of not less than 90 percent survival; and
 - (2) An 11-sample 90th percentile value of not less than 70 percent survival.
 - b. Definition for Acute Toxicity Limit:
 - (1) 11-sample median limit: Any bioassay test showing survival of 90 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit, if five or more of the past ten or fewer bioassay tests also show less than 90 percent survival.
 - (2) 90th percentile limit: Any bioassay test showing survival of 70 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit, if one or more of the past ten or fewer bioassay tests also show less than 70 percent survival.

7. Chronic Toxicity:

- a. Definition: Compliance with the Basin Plan narrative chronic toxicity objective shall be demonstrated according to the following tiered requirements based on results from representative samples of the treated final effluent meeting test acceptability criteria:
 - (1) routine monitoring;

⁴ Basin Plan Table 4-2 and its footnotes allow fecal coliform limitations to be substituted for total coliform limitations provided that the Discharger demonstrates that there is no unacceptable adverse impact on the beneficial uses of the receiving waters.

In August 1996, the Discharger initiated a study to measure the effect of reduced chlorine residual on fecal coliform numbers in the effluent and receiving water. The Discharger submitted the results in January 1998, which concluded that there was no discernible relationship between the Discharger's effluent fecal coliform levels and off-shore fecal coliform levels. On October 21, 1998, Order 98-105 amended the Discharger's original permit, replacing total coliform limitations with fecal coliform limitations.

- (2) accelerated monitoring after exceeding a three sample median value of 10 chronic toxicity⁵ (TUc) or a single sample maximum of 20 TUc or greater. Accelerated monitoring shall consist of monitoring at frequency intervals of one half the interval given for routine monitoring in the SMP of this Order;
- (3) return to routine monitoring if accelerated monitoring does not exceed either "trigger" in "2", above;
- (4) initiate approved toxicity identification evaluation/toxicity reduction evaluation (TIE/TRE) work plan if accelerated monitoring confirms consistent toxicity above either "trigger" in "2", above;
- (5) return to routine monitoring after appropriate elements of TRE work plan are implemented and either the toxicity drops below "trigger" level in "2", above or, based on the results of the TRE, the Executive Officer authorizes a return to routine monitoring.

b. Test Species and Methods

The Discharger shall conduct routine monitoring with *Thalassiosira*, the species determined to be the most sensitive species during a chronic toxicity screening performed by the Discharger, except as noted below. Bioassays shall be conducted in compliance with approved protocol referenced else where in this order, with exceptions granted the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program.

The Discharger recently contacted four local aquatic toxicology laboratories and found that none are conducting chronic toxicity tests using *Thalassiosira*. This organism is not currently used because 1) the toxicology labs believe that nutrients and metals in the stock solutions affect the toxicity and 2) the organism exhibits poor growth in the control tests. This permit allows the Discharger to propose screening phase monitoring during the first year in lieu of the semi-annual routine monitoring to find an alternate more reliable compliance species. The screening proposal shall comply with the requirements of Attachment 1 to the Self Monitoring Program.

8. **Mercury- Mass Emission Limit:** Until TMDL and Waste Load Allocation (WLA) efforts for mercury provide enough information to establish a different WQBEL, the Discharger shall demonstrate that the total mercury mass loading from the discharge to San Francisco Bay Lower has not increased by complying with the following:

- a. Mass Emission Limit: The mass emission limit for mercury is 0.24 kilograms per month (kg/month). The total mercury mass load shall not exceed this limit.
- b. Compliance with this limit shall be evaluated using running annual average mass load. Running annual averages shall be calculated by taking the arithmetic average of the current monthly mass loading value (see sample calculation below) and the previous 11-month's values. Sample calculation:

⁵ A TUc equals 100 divided by the no observable effect level (NOEL). The NOEL is determined from IC, EC, or NOEC values. Monitoring and TRE requirements may be modified by the Executive Officer in response to the degree of toxicity detected in the effluent or in ambient waters related to the discharge. Failure to conduct the required toxicity tests or a TRE within a designated period shall result in the establishment of effluent limitations for chronic toxicity.

Flow (mgd) = Average of monthly plant effluent flows in mgd.

Constituent Concentration ($\mu\text{g/L}$) = Average of monthly effluent concentration measurements in $\mu\text{g/L}$. If more than one measurement is obtained in a calendar month, the average of these measurements is used as the monthly value for that month. If test results are less than the method detection limit used, the measurement value is assumed to be equal to the method detection limit.

Mass Loading (kg/month) = (Flow) x (Constituent Concentration) x (0.1151).

According to the antibacksliding rule in the Clean Water Act, Section 402(o), the permit may be modified to include a less stringent requirement following completion of a TMDL and WLA.

9. **Dioxin TEQ - Mass Emission Limit:** Until TMDL and Waste Load Allocation (WLA) efforts for dioxin provide enough information to establish a different WQBEL, the Discharger shall demonstrate that the dioxin TEQ mass loading from the discharge to San Francisco Bay Lower has not increased by complying with the following:
- a. Mass Emission Limit: The mass emission limit is 0.44 milligrams per month (mg/month) as TEQ⁶. The total mass load shall not exceed this limit.
 - b. Compliance with this limit shall be evaluated using running annual average mass load. Running annual averages shall be calculated by taking the arithmetic average of the current monthly mass loading value (see sample calculation below) and the previous 11-month's values. Sample calculation:

Flow (mgd) = Average of monthly plant effluent flows in mgd.

TEQ Concentration (pg/L) = Average of monthly effluent concentration measurements in pg/L as TEQ⁷. If more than one measurement is obtained in a calendar month, the average of these measurements is used as the monthly value for that month. If test results are less than the method detection limit used, the measurement value is assumed to be equal to the method detection limit.

Mass Loading (mg/month) = (Flow) x (Constituent Concentration) x (0.1151) x 0.000001.

These mass emission limit will be superseded upon completion of a TMDL and WLA.

According to the antibacksliding rule in the Clean Water Act, Section 402(o), the permit may be modified to include a less stringent requirement following completion of a TMDL and WLA.

⁶ Modified TEQ calculated by summing the products of the concentrations of 1,2,3,4,6,7,8 hepta CDD, and Octa-CDD by their respective 1998 WHO TEFs (0.01 and 0.0001, respectively).

⁷ Same as footnote 6.

10. **Toxic Substances:** The effluent shall not exceed the following limits (1):

Constituent	Daily Maximum	Monthly Average	Interim Daily Maximum	Interim Monthly Average	Units	Notes
a. Copper			28		µg/L	(1)
b. Lead	49	17.12			µg/L	(1)
c. Mercury				0.06	µg/L	(1) (2)
d. Nickel			20		µg/L	(1)
e. Cyanide			18 (3) (4)		µg/L	(1)
f. Tributyltin			0.026(4)		µg/L	(1)
g. Zinc	540	230			µg/L	(1)

Footnotes:

- (1) (a) Compliance with these limits is intended to be achieved through secondary treatment and, as necessary, pretreatment and source control.
- (b) All analyses shall be performed using current U.S. EPA methods, or equivalent methods approved in writing by the Executive Officer. Method Detection Limits, Practical Quantitation Limits, and quantitative levels will be taken into account in determining compliance with effluent limitations. The sample shall be deemed out of compliance with effluent limits when the reported value is greater than the effluent limitation and greater than the ML and MDL.
- (c) Limits apply to the average concentration of all samples collected during the averaging period (Daily = 24-hour period; Monthly = calendar month).
- (2) Mercury: The monthly average interim limit of 0.06 µg/L shall apply to the discharges until a TMDL and WLA for mercury are completed. Effluent mercury monitoring shall be performed by using sampling and analysis techniques that result in a ML of 0.002 µg/L, or lower.
- (3) Compliance with the cyanide limitation may be demonstrated by measurement of weak acid dissociable cyanide.
- (4) Final Effluent Limits could not be calculated because ambient background concentrations are not available in the RMP for Richardson Bay and Yerba Buena Stations. It is the intent of the Board that this data be generated through the RMP.

RECEIVING WATER LIMITATIONS

C. Receiving Water Limitations

1. The discharge of waste from the Discharger's treatment facility shall not cause the following conditions to exist in waters of the State at any place:
 - a. Floating, suspended, or deposited macroscopic particulate matter or foam;

- b. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;
 - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
 - d. Visible, floating, suspended, or deposited oil or other products or petroleum origin; and
 - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or which render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.
2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State at any place within one foot of the water surface:
- a. Dissolved Oxygen: 5.0 mg/L, minimum
The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, then the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.
 - b. Dissolved Sulfide: 0.1 mg/L, Maximum
 - c. pH: Variation from normal ambient pH by more than 0.5 pH units
 - d. Un-ionized Ammonia: 0.025 mg/L as N, annual median; and
0.16 mg/L as N, maximum
 - e. Nutrients: Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.
3. The discharge shall not cause a violation of any particular water quality standard for receiving waters adopted by the Board or the SWRCB as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

SLUDGE MANAGEMENT PRACTICES

D. Sludge Management Practices

- 1. All sludge treatment, processing, storage or disposal activities under the Discharger's control shall be in compliance with current state and federal regulations.

2. Sludge from this facility is treated by gravity thickening, anaerobic digestion and dewatering using filter presses.
3. Final biosolids disposal is by beneficial reuse or landfill. Approximately 50 percent of the annual biosolids production is air dried in drying/storage lagoons.
4. The Discharger is required to submit an annual report to the U.S. EPA regarding its sewage sludge disposal practices in accordance with the requirements of 40 CFR 503. The Discharger shall include a summary of this information in the Self Monitoring Program Annual Report submitted to the Board.
5. Sludge treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.
6. The treatment and temporary storage of sewage sludge at the Discharger's wastewater treatment facility shall not cause waste material to be carried from the sludge treatment and storage site and deposited in the Waters of the State.
7. The Board may amend this permit prior to expiration if changes occur in applicable state and federal sludge regulations.

PROVISIONS

E. Provisions

1. **Permit Compliance:** The Discharger shall comply with all sections of this Order starting February 1, 2001.
2. **Permit Rescission:** Requirements prescribed by this Order superseded the requirements prescribed by Order Nos. 93-066, 97-098 and 98-105. Order Nos. 93-066, 97-098 and 98-105 are rescinded on February 2, 2001.
3. **Self-Monitoring Program:** The Discharger shall comply with the Self-Monitoring Program (SMP, Attachment C) for this Order as adopted by the Board. Self-Monitoring Reports (SMRs) shall be received by the Board no later than 30 days after the end of the reporting month. An Annual Report shall also be submitted for each calendar year. The report shall be submitted to the Board by February 15 of the following year.
4. **Standard Provisions and Reporting Requirements:** The Discharger shall comply with all applicable items of the *Standard Provisions and Reporting Requirements for NPDES Surface Water Discharger Permits*, August 1993 (Attachment D), or any amendments thereafter. Where provisions or reporting requirements specified in this Order are different from equivalent or related provisions or reporting requirements given in "Standard Provisions", the specification of this Order shall apply.
5. **Acute Toxicity Compliance:** Compliance with acute toxicity requirements of this Order shall be achieved in accordance with the following:
 - a. From permit adoption date to **January 31, 2002:**

- (1) Compliance with the acute toxicity effluent limits of this Order shall be evaluated by measuring survival of test organisms exposed to 96 hour continuous flow-through bioassays.
 - (2) Test organisms shall be fathead minnows and three-spined sticklebacks unless specified otherwise in writing by the Executive Officer.
 - (3) All bioassays shall be performed according to the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms," 3rd Edition, with exceptions granted to the Discharger by the Executive Officer and the Environmental laboratory Accreditation Program (ELAP).
- b. From **February 1, 2002** on:
- (1) Compliance with the acute toxicity effluent limits of this Order shall be evaluated by measuring survival of test organisms exposed to 96 hour continuous flow-through bioassays, or static renewal bioassays. If the Discharger will use static renewal tests, they must submit a technical report by Sept 1, 2001, identifying the reasons why flow-through bioassay is not feasible using the approved EPA protocol (4th edition).
 - (2) Test organisms shall be fathead minnows or rainbow trout unless specified otherwise in writing by the Executive Officer.
 - (3) All bioassays shall be performed according to the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms," 4th Edition, with exceptions granted to the Discharger by the Executive Officer and the Environmental laboratory Accreditation Program (ELAP).

6. Whole Effluent Chronic Toxicity Requirements: TRE for Chronic Toxicity

In the event there is a consistent exceedance of either of the chronic toxicity monitoring triggers in the screening and variability phases, the discharger shall implement a TRE in accordance with a TRE work plan acceptable to the Executive Officer. The TRE shall be conducted in accordance with the following:

- a. The discharger shall prepare and submit to the Board for Executive Officer approval a TRE work plan. An initial generic work plan shall be submitted within 60 days of the date of adoption of this Order. The work plan shall be reviewed and updated as necessary in order to remain current and applicable to the discharge and discharge facilities.
- b. The TRE shall be initiated within 30 days of the date of completion of the accelerated monitoring test observed to exceed either evaluation parameter.
- c. The TRE shall be conducted in accordance with an approved work plan.
- d. The TRE needs to be specific to the discharge and discharger facility, and be in accordance with current technical guidance and reference materials including US EPA guidance materials. TRE shall be conducted as a tiered evaluation process, such as summarized below:
 - (1) Tier 1 consists of basic data collection (routine and accelerated monitoring).
 - (2) Tier 2 consists of evaluation of optimization of the treatment process including operation practices, and in-plant process chemicals.
 - (3) Tier 3 consists of a toxicity identification evaluation (TIE).
 - (4) Tier 4 consists of evaluation of options for additional effluent treatment processes.
 - (5) Tier 5 consists of evaluation of options for modifications of in-plant treatment processes.
 - (6) Tier 6 consists of implementation of selected toxicity control measures, and follow-up monitoring and confirmation of implementation success.

- e. The TRE may be ended at any stage if monitoring finds there is no longer consistent toxicity.
- f. The objective of the TIE shall be to identify the substance or combination of substances causing the observed toxicity. All reasonable efforts using currently available TIE methodologies shall be employed.
- g. As toxic substances are identified or characterized, the discharger shall continue the TRE by determining the source(s) and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with chronic toxicity evaluation parameters.
- h. Many recommended TRE elements parallel required or recommended efforts of source control, pollution prevention and storm water control programs. TRE efforts should be coordinated with such efforts. To prevent duplication of efforts, evidence of complying with requirements or recommended efforts of such programs may be acceptable to comply with TRE requirements.
- i. The Board recognizes that chronic toxicity may be episodic and identification of causes of and reduction of sources of chronic toxicity may not be successful in all cases. Consideration of enforcement action by the Board will be based in part on the discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.

Chronic Toxicity Monitoring Screening Phase Requirements, Critical Life Stage Toxicity Tests and definitions of terms used in the chronic toxicity monitoring are identified in Attachment 1 of the attached Self Monitoring Program. The Discharger shall comply with these requirements as applicable to the discharge.

7. Screening Phase for Chronic Toxicity

The Discharger shall conduct screening phase compliance monitoring as described in the Self-Monitoring Program under either of these two conditions:

- a. Subsequent to any significant change in the nature of the effluent discharged through changes in sources or treatment, except those changes resulting from reductions in pollutant concentrations attributable to pretreatment, source control, and waste minimization efforts; or
- b. Prior to Permit reissuance, except when the Discharger is conducting a TRE/TIE. Screening phase monitoring data shall be included in the application for Permit reissuance. The information shall be as recent as possible, but may be based on screening phase monitoring conducted within five years before the Permit expiration date.

The Discharger shall conduct screening phase compliance monitoring in accordance with a proposal submitted to, and acceptable to, the Executive Officer. The proposal shall contain, at a minimum, the elements specified in Part B of the Self-Monitoring Program of this Order, or alternatives as approved by the Executive Officer. The purpose of the screening is to determine the most sensitive test species for subsequent routine compliance monitoring for chronic toxicity.

8. **Optional Copper Translator Study and Schedule:** In order to develop information that may be used to establish a water quality based effluent limit based on dissolved copper criteria, the Discharger may utilize RMP data from stations nearest the Discharger's outfall and/or implement a sampling plan to collect data for development of a dissolved to total copper translator. If the Discharger chooses to proceed with the study, this work shall be performed in accordance with the following tasks:

a. Translator Study Plan.

The Discharger shall submit a study plan, acceptable to the Executive Officer, for collection of data that can be used for establishment of a dissolved to total copper translator. After Executive Officer approval or within 60 days of submission of the Study Plan, the Discharger shall begin implementing the study plan. The study plan shall provide for development of translators in accordance with U.S. EPA guidelines and any relevant portions of the Basin Plan, as amended.

b. Translator Final Report

The Discharger shall conduct the translator study by utilizing field sampling data approximate to the discharge point and in the vicinity of the discharge point and shall submit a report, acceptable to the Executive Officer, documenting the results of the copper translator study, which may also include any other site specific information that the Discharger would like the Board to consider in development of a water quality based effluent limitation for copper.

If the discharger chooses to conduct the copper translator study, the study shall be completed 2 years from the adoption of this Order.

9. **Optional Mass Offset:** If the Discharger wishes to pursue a mass offset program, a mass offset plan for reducing 303(d) listed pollutants to the same receiving waterbody needs to be submitted for Board approval. The Board will consider any proposed mass offset plan and amend this Order accordingly.
10. **Regional Monitoring Program:** The Discharger shall continue to participate in the Regional Monitoring Program (RMP) for trace substances in San Francisco Bay in lieu of more extensive effluent and receiving water self-monitoring requirements that may be imposed.
11. **Pretreatment Program:** The Discharger shall implement and enforce its approved pretreatment program in accordance with Federal Pretreatment Regulations (40 CFR 403), pretreatment standards promulgated under Section 308(b), 307(c), and 307(d) of the Clean Water Act, and this Board's Order 95-015 with all amendments and revisions thereafter. The Discharger's responsibilities include, but are not limited to:
- a. Enforcement of National Pretreatment Standards in accordance with 40 CFR 403.5 and 403.6;
 - b. Implementation of its pretreatment program in accordance with legal authorities, policies, procedures and financial provisions described in the General Pretreatment regulations (40 CFR 403) and the Discharger's approved pretreatment program;
 - c. Submission of reports to U.S. EPA, the SWRCB and the Board as described in Board Order 95-015 and its amendments or revisions thereafter.

The Discharger shall implement its approved pretreatment program and the program shall be an enforceable condition of this permit. If the Discharger fails to perform the pretreatment functions, the Regional Water Quality Control Board (RWQCB), the State Water Resources

Control Board (SWRCB), or U.S. Environmental Protection Agency (U.S. EPA) may take enforcement actions against the Discharger as authorized by the Clean Water Act.

12. POLLUTANT MINIMIZATION/POLLUTION PREVENTION

- a. The Discharger shall continue to implement and improve its existing Pollution Prevention Program in order to reduce pollutant loadings to the treatment plant and therefore to the receiving waters. The Program shall include tributyltin as a target pollutant, if tributyltin is detected at concentration greater than the effluent limit and lesser than Minimum Level.
- b. The Discharger shall submit an annual report, acceptable to the Executive Officer, no later than August 30th of each calendar year. For annual reports due August 30th, annual reports shall cover July of the preceding year through June of the current year.

Annual report shall include at least the following information:

- (1) A brief description of its treatment plant, treatment plant processes and service area.
- (2) A discussion of the current pollutants of concern. Periodically, the Discharger shall analyze its own situation to determine which pollutants are currently a problem and/or which pollutants may be potential future problems. This discussion shall include the reasons why the pollutants were chosen.
- (3) *Identification of sources for the pollutants of concern.* This discussion shall include how the Discharger intends to estimate and identify sources of the pollutants of concern. The Discharger should also identify sources or potential sources not directly within the ability or authority of the Discharger to control such as pollutants in the potable water supply and air deposition.
- (4) *Identification of tasks to reduce the sources of the pollutants of concern.* This discussion shall identify and prioritize tasks to address the Discharger's pollutants of concern. Tasks can target its industrial, commercial, or residential sectors. The Discharger may implement tasks themselves or participate in group, regional, or national tasks that will address its pollutants of concern. The Discharger is strongly encouraged to participate in group, regional, or national tasks that will address its pollutants of concern whenever it is efficient and appropriate to do so. A time line shall be included for the implementation of each task.
- (5) *Implementation and continuation of outreach tasks for Discharger's employees.* The Discharger shall implement outreach tasks for City and/or District employees. The overall goal of this task is to inform employees about the pollutants of concern, potential sources, and how they might be able to help reduce the discharge of pollutants of concerns into the treatment plant. The Discharger may provide a forum for employees to provide input to the Program.
- (6) *Implementation and continuation of a public outreach program.* The Discharger shall implement a public outreach program to communicate pollution prevention to its service area. Outreach may include participation in existing community events such as county fairs, initiating new community events such as displays and contests during Pollution Prevention Week, implementation of a school outreach program, conducting plant tours, and providing public information in newspaper articles or advertisements, radio, television stories or spots, newsletters, utility bill inserts, and web site. Information shall be specific to the target audiences. The Discharger should coordinate with other agencies as appropriate.

- (7) *Discussion of criteria used to measure the Program's and tasks' effectiveness.* The Discharger shall establish criteria to evaluate the effectiveness of its Pollution Prevention Program. This shall also include a discussion of the specific criteria used to measure the effectiveness of each of the tasks in item b. (4), b. (5), and b. (6).
- (8) *Documentation of efforts and progress.* This discussion shall detail all of the Discharger's activities in the Pollution Prevention Program during the reporting year.
- (9) *Evaluation of the Program and tasks' effectiveness.* This Discharger shall utilize the criteria established in b. (7) to evaluate the Program's and tasks' effectiveness
- (10) *Identification of specific tasks and time schedules for future efforts.* Based on the evaluation, the Discharger shall detail how it intends to continue or change its tasks in order to more effectively reduce the amount of pollutants to the treatment plant, and subsequently in its effluent.

- c. To the extent where the requirements of the Pollution Prevention Program and the Pollutant Minimization Program overlap, the Discharger is allowed to continue/modify/expand its existing Pollution Prevention Program to satisfy the Pollutant Minimization Program requirements.
- d. These Pollution Prevention/Pollutant Minimization Program requirements are not intended to fulfill the requirements in The Clean Water Enforcement and Pollution Prevention Act of 1999 (Senate Bill 709).

13. **Special Study – Dioxin Study:** In accordance with the SIP, major dischargers shall conduct effluent monitoring for the seventeen 2, 3, 7, 8-TCDD congeners listed below. The purpose of the monitoring is to assess the presence and amounts of the congeners being discharged to inland surface waters, enclosed bays, and estuaries for the development of a strategy to control these chemicals in a future multi-media approach. Major dischargers are required to monitor the effluent once during the dry season and once during the wet season for a period of three consecutive years.

<u>Isomer Group</u>	<u>Toxicity Equivalence Factor</u>
2,3,7,8-tetra CDD	1.0
1, 2,3,7,8-penta CDD	1.0
1, 2, 3, 4, 7, 8-HexaCDD	0.1
1, 2, 3, 6, 7, 8-HexaCDD	0.1
1, 2, 3, 7, 8,9-HexaCDD	0.1
1, 2, 3, 4, 6, 7, 8-HeptaCDD	0.01
octa CDD	0.0001
2,3,7,8-Tetra CDF	0.1
1,2,3,7,8-Penta CDF	0.05
2,3,4,7,8-Penta CDF	0.5
1, 2, 3, 4, 7, 8-HexaCDF	0.1
1, 2, 3, 6, 7, 8-HexaCDF	0.1
1, 2, 3, 7, 8, 9-HexaCDF	0.1
2, 3, 4, 6, 7, 8-HexaCDF	0.1
1, 2, 3, 4, 6, 7, 8-HeptaCDF	0.01
1, 2, 3, 4, 7, 8,9-HeptaCDF	0.01
octa CDF	0.0001

- | <u>Task</u> | <u>Compliance Date</u> |
|---|--|
| a. Sampling Plan | July 31, 2001 |
| Submit a proposed sampling plan, acceptable to the Executive Officer, to sample the effluent for seventeen congeners. This submittal shall include a proposed plan and time schedule for performing the work. | |
| b. Implement Plan | 30 days after approval of study |
| Following approval by the Executive Officer, commence work in a timely fashion in accordance with the sampling plan. | |
| c. Final Report | July 1, 2004 |
| Submit a report, to the Board, documenting the work performed in the sampling plan for the seventeen congeners. | |

14. Ambient Background Receiving Water Study

The discharger shall take background ambient receiving water samples. This information is required to perform the RPA and to determine the effluent limitations.

A sampling plan shall be submitted to the Executive Officer for approval, prior to sampling. The discharger may choose to coordinate with other POTWs in the area in order to effectively acquire and the same information required of them.

- | <u>Task</u> | <u>Compliance Date</u> |
|--|---|
| a. Sampling Plan | One year after permit adoption |
| Submit a proposed sampling plan, acceptable to the Executive Officer, to sample background, ambient receiving waters upstream from the facility. This submittal shall include a proposed plan and time schedule for performing the work. | |
| b. Implement Plan | Schedule according to the Sampling Plan |
| Commence work in a timely fashion in accordance with the sampling plan. | |
| c. Annual Report | Annually until completion and not to exceed January 17, 2004 |

Submit a report, to the Board, documenting the work performed in the sampling plan. Information included, but not limited to, in report are as follows: constituent sampled for, sampling results, location of the samples, time the samples were taken, sample methodology used in the lab analysis, QA/QC data, and map showing the location of the sampling site(s) in relation to the location of the discharger.

Background ambient samples are required for constituents that have a reasonable potential, have an incomplete RPA for the constituent, or have an incomplete RPA with an interim limit. The constituents that fall in these categories are labeled yes ("Y"), cannot be

determine due to the absence of data ("CD"), or detection limit above water quality objective (DL), in the RP column in the Fact Sheet. No background ambient water samples are required from constituents that do not have a reasonable potential.

15. Operations and Maintenance Manual, Review and Status Reports:

- a. The Discharger shall maintain an Operations and Maintenance Manual (O & M Manual) as described in the findings of this Order for the Discharger's wastewater facilities. The O & M Manual shall be maintained in useable condition and available for reference and use by all applicable personnel.
- b. The Discharger shall regularly review, and revise or update as necessary, the O & M Manual(s) in order for the document(s) to remain useful and relevant to current equipment and operation practices. Reviews shall be conducted annually, and revisions or updates shall be completed as necessary. For any significant changes in treatment facility equipment or operation practices, applicable revisions shall be completed within 90 days of completion of such changes.
- c. Annually, the Discharger shall submit to the Board a report describing the current status of its O & M Manual review and updating. This report shall include an estimated time schedule for completion of any revisions determined necessary, a description of any completed revisions, or a statement that no revisions are needed. This report shall be submitted in accordance with Provision E.18 below.

16. Contingency Plan, Review and Status Reports:

- a. The Discharger shall maintain a Contingency Plan as required by Board Resolution 74-10 (attachment E), and as prudent in accordance with current municipal facility emergency planning. The discharge of pollutants in violation of this Order where the Discharger has failed to develop and/or adequately implement a contingency plan will be the basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.
- b. The Discharger shall regularly review, and update as necessary, the Contingency Plan in order for the plan to remain useful and relevant to current equipment and operation practices. Reviews shall be conducted annually, and updates shall be completed as necessary.
- c. Annually, the Discharger shall submit to the Board a report describing the current status of its Contingency Plan review and update. This report shall include a description or copy of any completed revisions, or a statement that no changes are needed. This report shall be submitted in accordance with Provision E.18 below.

17. Annual Status Reports: The reports identified in Provisions E.16.c and E.17.c above shall be submitted to the Board annually, by **June 30 of each year**. Modification of report submittal dates may be authorized, in writing, by the Executive Officer.

18. TMDL Status Review: Regional Board staff shall review the status of TMDL development. This permit may be reopened in the future to reflect any changes in the progress of TMDL development.

19. **New Water Quality Objectives:** As new or revised water quality objectives come into effect for the San Francisco Bay estuary and contiguous water bodies (whether statewide, regional or site-specific), effluent limitations in this permit will be modified as necessary to reflect updated water quality objectives. Adoption of effluent limitations contained in this permit is not intended to restrict in any way future modifications based on legally adopted water quality objectives.

20. **Change in Control or Ownership:**

- a. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Board.
- b. To assume responsibility of and operations under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order (see Standard Provisions & Reporting Requirements, August 1993, Section E.4.). Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code.

21. **Permit Reopener:** The Board may modify, or revoke and reissue, this Order and Permit if present or future investigations demonstrate that the discharge(s) governed by this Order will or have the potential to cause or contribute to adverse impacts on water quality and/or beneficial uses of the receiving waters.

In addition, the Board shall notice a reconsideration of this permit within 60 days of the date of the final judgment by the San Francisco Superior Court in *WaterKeepers Northern California, et al.*, Case No. 312513, for the purpose of modifying the permit to make it consistent with the judgment of the Court in this matter where any term, limitation, or provision is inconsistent with the judgment. The permit shall be modified within the time period established by the Court in this matter.

22. **NPDES Permit:** This Order shall serve as a National Pollutant Discharge Elimination System (NPDES) permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after the date of its adoption provided the U.S. EPA Regional Administrator has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

23. **Order Expiration and Reapplication:**

- a. This Order expires five years from the date of adoption, on February 1, 2006.
- b. In conformance with Title 23, section 2235.1, of the California Code of Regulations and the applicable federal regulations, the Discharger must file a report of waste discharge no later than 180 days before the expiration date of this Order as application for reissue of this permit and waste discharge requirements.

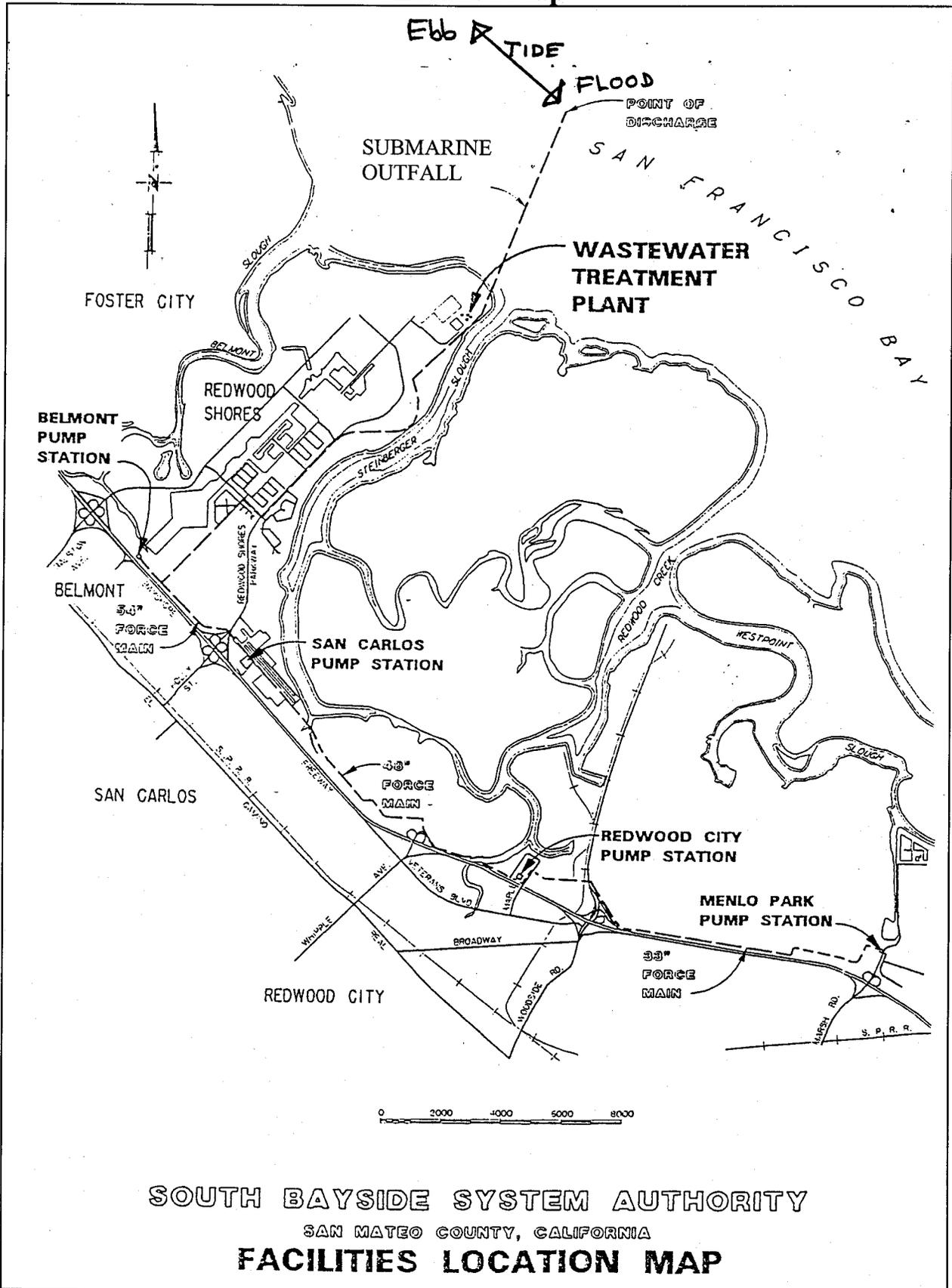
I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on January 24, 2001.


LORETTA K. BARSAMIAN
Executive Officer

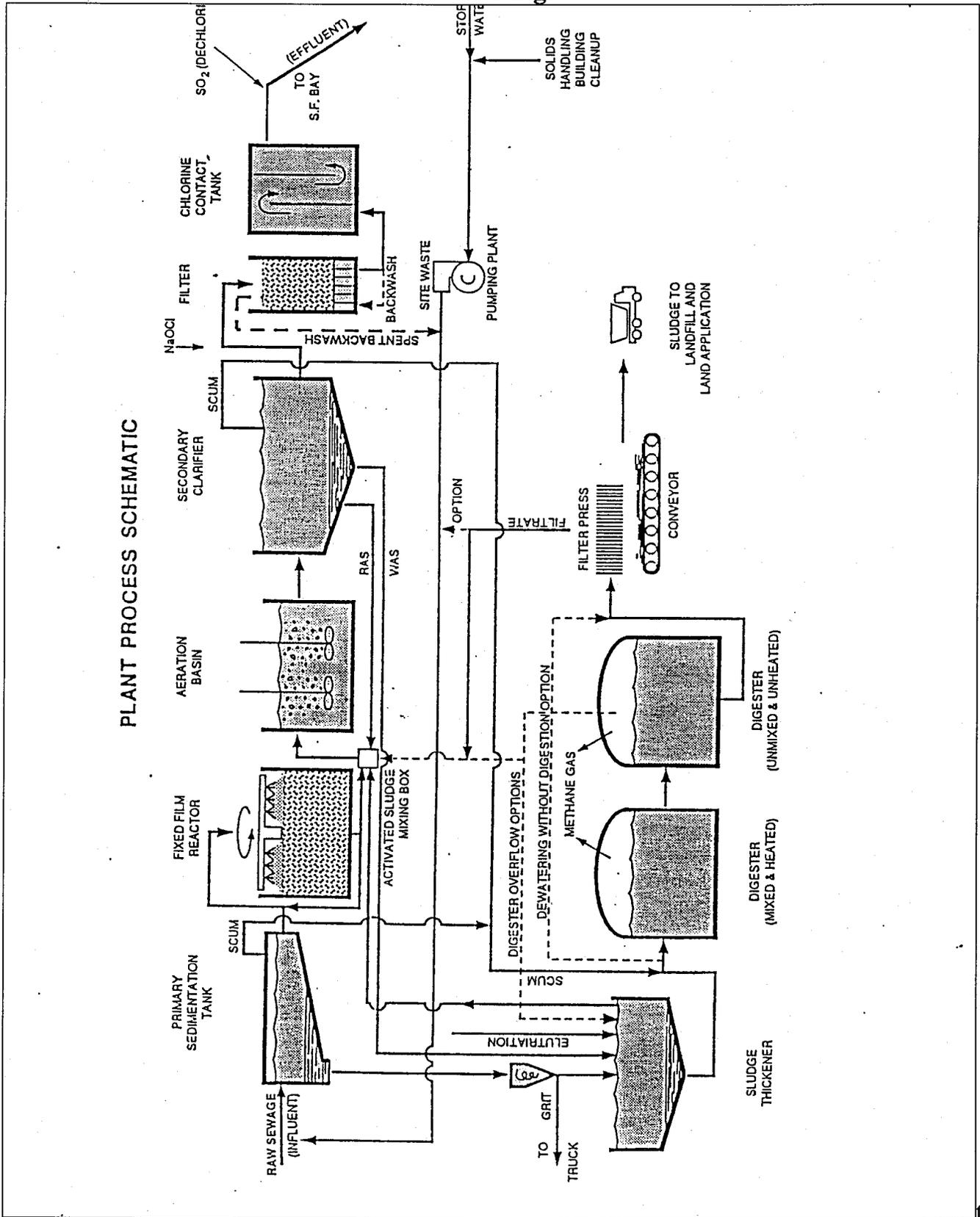
Attachments:

- A. Location Map
- B. Process Diagram
- C. Self Monitoring Program
- D. Standard Provisions and Reporting Requirements for NPDES Surface Water Discharger Permits, August 1993
- E. Resolution 74-10

Attachment A Location Map



Attachment B Process Diagram



Attachment C

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

SELF-MONITORING PROGRAM

FOR

SOUTH BAYSIDE SYSTEM AUTHORITY

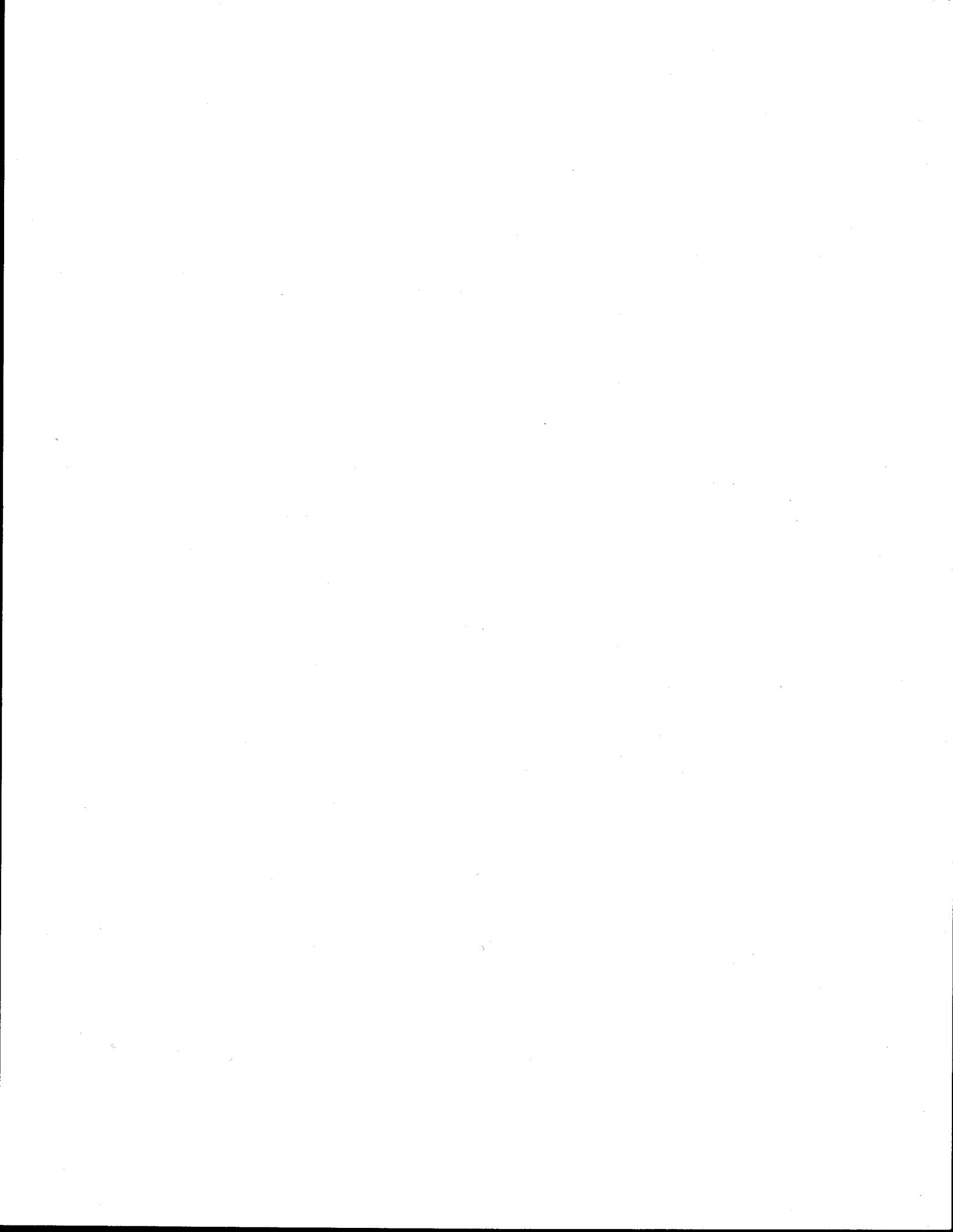
**REDWOOD CITY
SAN MATEO COUNTY**

**NPDES PERMIT NO. CA0038369
ORDER 01-012**

**Part A
Adopted August 1993**

and

**Part B
Adopted January 24, 2001**



August 1993

SELF-MONITORING PROGRAM

Part A NPDES PERMITS

A. BASIS AND PURPOSE

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13268, 13383 and 13387(b) of the California Water Code and this Regional Board's Resolution No. 73-16.

The principal purposes of a monitoring program by a waste discharger, also referred to as self-monitoring program, are: (1) to document compliance with waste discharge requirements and prohibitions established by this Regional Board, (2) to facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of effluent or other limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards, and (4) to prepare water and wastewater quality inventories.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed in accordance with the 40 CFR 136 or other methods approved and specified by the Executive Officer of this Regional Board (See Part B).

Water and waste analyses shall be performed by a laboratory approved for these analyses by the State Department of Health Services (DOHS) or a laboratory waived by the Executive Officer from obtaining a certification for these analyses by the DOHS. The director of the laboratory whose name appears on the certification or his/her laboratory supervisor who is directly responsible for analytical work performed shall supervise all analytical work including appropriate quality assurance/quality control procedures in his or her laboratory and shall sign all reports of such work submitted to the Regional Board.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. SPECIFICATIONS FOR SAMPLING AND ANALYSES

The Discharger is required to perform sampling and analyses according to the schedule in Part B in accordance with the following conditions:

1. Influent

Composite samples of influent shall be collected on varying days selected at random and shall not include any plant recirculation or other side stream wastes. Deviation from this must be approved by the Executive Officer.

2. Effluent

- a. Composite samples of effluent shall be collected on days coincident with influent composite sampling unless otherwise stipulated. At least one sampling day in each seven shall reflect one day of weekend discharge, one day of peak loading and during major unit operation shutdown or startup. The Executive Officer may approve an alternative sampling plan if it is demonstrated to the EO's satisfaction that expected operating conditions for the facility warrant a deviation from the standard sampling plan.
- b. Grab samples of effluent shall be collected during periods of maximum peak flows and shall coincide with effluent composite sample days.
- c. Fish bioassay samples shall be collected on days coincident with effluent composite sampling.
 - 1) Bioassay tests should be performed on effluent samples after chlorination-dechlorination.
 - 2) Total ammonia nitrogen shall be analyzed and un-ionized ammonia calculated whenever fish bioassay test results fail to meet the specified percent survival.
- d. If two consecutive samples of a constituent monitored on a weekly or monthly basis in a 30 day period exceed the monthly average effluent limit for any parameter, (or if the required sampling frequency is once per month and the monthly sample exceeds the monthly average limit), the sampling frequency shall be increased to daily until the additional sampling shows that the most recent 30-day moving average is in compliance with the monthly average limit.
- e. If any maximum daily limit is exceeded, the sampling frequency shall be increased to daily until two samples collected on consecutive days show compliance with the maximum daily limit.
- f. If the final or intermediate results of any single bioassay test indicate a threatened violation (i.e. the percentage of surviving test organisms is less than the required survival percentage), a new test will begin and the Discharger shall investigate the cause of the mortalities and report the finding in the next self-monitoring report.
- g. Chlorine residual analyzers shall be calibrated against grab samples as frequently as necessary to maintain accurate control and reliable operation. If an effluent violation is detected, grab samples shall be collected at least every 30 minutes until compliance is achieved.
- h. When any type of bypass occurs, composite samples shall be collected on a daily basis for all constituents at all affected discharge points which have effluent limits for the duration of the bypass.

3. Storm Water

If all storm water is not directed back to the headworks during the wet season (October 1 to April 30) the Discharger shall:

- a. Conduct visual observations of the storm water discharge locations on at least one storm event per month that produces significant storm water discharge to observe the presence of floating and suspended materials, oil and grease, discoloration, turbidity, and odor, etc.
- b. Measure (or estimate) the total volume of storm water discharge and collect and analyze grab samples of storm water discharge from at least two storm events that produce significant storm water discharge for: oil and grease, pH, total suspended solids (TSS), specific conductance, and toxic chemicals and other pollutants that have a reasonable potential to be present in storm water discharge in significant quantities.

The grab sample(s) shall be taken during the first thirty minutes of the discharge. If the collection of the grab sample(s) during the first 30 minutes is impracticable, grab sample(s) can be taken during the first hour of the discharge, and the Discharger shall explain in the annual monitoring report why the grab sample(s) could not be taken in the first 30 minutes.

- c. Testing for the presence of non-storm water discharges shall be conducted no less than twice during the dry season (May to September) at all storm water discharge locations. Tests may include visual observations of flows, stains, sludge, odors, and other abnormal conditions; dye tests; TV line surveys; and/or analysis and validation of accurate piping schematics. Records shall be maintained of the description of the method used, date of testing, locations observed, and test results.
- d. Samples shall be collected from all locations where storm water is discharged. Samples must represent the quality and quantity of storm water discharged from the facility. If a facility discharges storm water at multiple locations, the Discharger may sample a reduced number of locations if it is established and documented in the monitoring program that storm water discharges from different locations are substantially identical.
- e. Records of all storm water monitoring information and copies of all reports required by this permit shall be retained for a period of at least three years from the date of sample, observation, or report.

4. Receiving Waters:

- a. Receiving water samples shall be collected on days coincident with composite sampling of effluent.
- b. Receiving water samples shall be collected at each station on each sampling day during the period within 1 hour following low slack water. Where sampling at lower slack water period is not practical, sampling shall be performed during higher slack water period. Samples shall be collected within the discharge plume and down current of the discharge point so as to be representative, unless otherwise stipulated.

- c. Samples shall be collected within one foot below the surface of the receiving water body, unless otherwise stipulated.

5. Bottom Sediment Samples and Sampling and Reporting Guidelines

- a. Bottom sediment sample means: (1) a separate grab sample taken at each sampling station for the determination of selected physical-chemical parameters, or (2) four grab samples collected from different locations in the immediate vicinity of a sampling station while the boat is anchored and analyzed separately for macroinvertebrates.

Physical-chemical sample analyses include as a minimum:

- 1) pH
- 2) TOC (Total Organic Carbon)
- 3) Grease analysis:
 - (a) Mg grease per kg sediment
 - (b) Percent fraction of hydrocarbon in grease
- 4) Selected metals (depending on industrial input) mg/kg dry wt (and soluble metals in mg/l).
- 5) Particle size distribution, i.e., % sand, % silt-clay
- 6) Depth of water at sampling station in meters
- 7) Water salinity and temperature in the water column within one meter of the bottom.

D. STANDARD OBSERVATIONS

1. Receiving Water

- a. Floating and suspended materials of waste origin (to include oil, grease, algae, and other macroscopic particulate matter, presence or absence, source, and size of affected area.
- b. Discoloration and turbidity: description of color, source, and size of affected area.
- c. Odor: presence or absence, characterization, source, distance of travel, and wind direction.
- d. Evidence of beneficial water use: presence of water-associated waterfowl or wildlife, fishermen, and other recreational activities in the vicinity of the sampling stations.
- e. Hydrographic condition:

- 1) Time and height of corrected high and low tides (corrected to nearest NOAA location for the sampling date and time of sample and collection).
 - 2) Depth of water columns and sampling depths.
- f. Weather conditions:
- 1) Air temperatures.
 - 2) Wind – direction and estimated velocity.
 - 3) Total precipitation during the previous five days and on the day of observation.

2. Wastewater Effluent

- a. Floating and suspended material of waste origin (to include oil, grease, algae, and other macroscopic particulate matter): presence or absence
- b. Odor: presence or absence, characterization, source, distance of travel.

3. Beach and Shoreline

- a. Material of waste origin: presence or absence, description of material, estimated size of affected area, and source.
- b. beneficial use: estimate number of people sunbathing, swimming, water-skiing, surfing, etc.

4. Land Retention or Disposal Area

This applies both to liquid and solid wastes confined or unconfined.

- a. For each impoundment determine amount of the freeboard at lowest point of dikes confining liquid wastes.
- b. Evidence of leaching liquid from area of confinement and estimated size of affected area. Show affected area on a sketch and volume of flow (gpm, etc.)
- c. Odor: presence or absence, characterization, source, and distance of travel.
- d. Estimated number of waterfowl and other water-associated birds in the disposal area and vicinity.

5. Periphery of Waste Treatment and/or Disposal Facilities

- a. Odor: presence or absence, characterization, source, and distance of travel.
- b. Weather condition: wind direction and estimated velocity

E. RECORDS TO BE MAINTAINED

1. Written reports, strip charts, calibration and maintenance records, and other records shall be maintained by the Discharger and accessible (at the waste treatment plant), and retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board or Regional Administrator of the U.S. EPA, Region IX. Such records shall show the following for each sample:
 - a. Identity of sampling and observation stations by number.
 - b. Date and time of sampling and/or observations.
 - c. Method of composite sampling (See Section G -Definition of Terms)
 - d. Type of fish bioassay test (96 hour static or flow-through bioassay)
 - e. Date and time that analyses are started and completed, and name of personnel performing the analyses.
 - f. Complete procedure used, including method of preserving sample and identity and volumes of reagents used. A reference to specific section of Standard Methods is satisfactory.
 - g. Calculations of results.
 - h. Results of analyses and/or observations.
2. A tabulation shall be maintained showing the following flow data for influent and effluent stations and disposal areas:
 - a. Total waste flow or volume, for each day.
 - b. Maximum and minimum daily flows for each month.
3. A tabulation shall be maintained showing the following information for all other plant wastes and disposal areas:
 - a. Total monthly volume of grit, skimming, and undigested sludge (in cubic yards or cubic feet) from each treatment unit and the disposal site location
 - b. Total monthly volume and solids content of dewatered sludge from each treatment unit (in cubic yards or cubic feet) and the disposal site location.
4. A tabulation reflecting bypassing and accidental waste spills shall be maintained showing information items listed in Sections E -1 and E-2 for each occurrence.

5. A chronological log for each month shall be maintained of the effluent disinfection and bacterial analyses, showing the following:
 - a. Date and time each sample is collected and waste flow rate at time of collection.
 - b. Chlorine residual, contact time, and dosage (in kilograms per day and parts per million).
 - c. Coliform count for each sample
 - d. Moving median coliform of the number of samples specified by waste discharge requirements.

F. REPORTS TO BE FILED WITH THE REGIONAL BOARD

1. Spill Reports

A report shall be made of any spill of oil or other hazardous material. Spills shall be reported to this Regional Board, at (510) 286-1255 on weekdays during office hours from 8 AM to 5 PM, and to the Office of Emergency Services at (800) 852-7550 during non office hours, and the U.S. Coast Guard at (415) 437-3091 (if the spill is into navigable waters) by telephone immediately after occurrence. A written report shall be filed with the Regional Board within five (5) working days and shall contain information relative to:

- a. Nature of waste or pollutant,
- b. quantity involved,
- c. duration of incident,
- d. cause of spill,
- e. SPCC Spill Prevention and Containment Plan in effect, if any,
- f. estimated size of affected area,
- g. nature of effects (i.e., fish kill, discoloration of receiving water, etc.),
- h. corrective measures that have been taken or planned, and a schedule of these activities, and
- i. persons notified.

2. Reports of Plant Bypass, Treatment Unit Bypass and Permit Violation

In the event the Discharger violates or threatens to violate the conditions of the waste discharge requirements and prohibitions or intends to experience a plant bypass or treatment unit bypass due to:

- a. Maintenance work, power failures, or breakdown of waste treatment equipment, or
- b. accidents caused by human error or negligence, or
- c. other causes, such as acts of nature,

The Discharger shall notify the Regional Board office by telephone as soon as he or his agents have knowledge of the incident and confirm this notification in writing within 7 working days of the telephone notification . The written report shall include time and date, duration and estimated volume of waste bypassed, method used in estimating volume and person notified of the incident. The report shall include pertinent information explaining reasons for the noncompliance and shall indicate what steps were taken to prevent the problem from recurring.

In addition, the waste Discharger shall promptly accelerate his monitoring program to analyze the discharge at least once every day (Section C.2.h). Such daily analyses shall continue until such time as the effluent limits have been attained, until bypassing stops or until such time as the Executive Officer determines to be appropriate. The results of such monitoring shall be included in the regular Self-Monitoring Report.

- 3. The Discharger shall file a written technical report to be received at least 30 days prior to advertising for bid (60 days prior to construction) on any construction project which would cause or aggravate the discharge of waste in violation of requirements; said reports shall describe the nature, cost, and scheduling of all actions necessary to preclude such discharge. In no case will any discharge of wastes in violation of permit and order be permitted unless notification is made to the Executive Officer and approval obtained from the Regional Board.

4. Self-Monitoring Reports

Written reports shall be filed regularly for each calendar month (unless specified otherwise) and filed no later than the fifteenth day of the following month. The reports shall be comprised of the following:

- a. Letter of Transmittal:

A letter transmitting self-monitoring reports should accompany each report. Such a letter shall include:

- 1) Identification of all violations of waste discharge requirements found during the reporting period,
- 2) Details of the magnitude, frequency, and dates of all violations,
- 3) The cause of the violations, and
- 4) Discussion of the corrective actions taken or planned and the time schedule for completion. If the Discharger has previously submitted a detailed time schedule

for correcting requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory.

Monitoring reports and the letter transmitting reports shall be signed by a principal executive officer or ranking elected official of the Discharger, or by a duly authorized representative of that person.

The letter shall contain the following certification:

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

b. Compliance Evaluation Summary

Each report shall be accompanied by a compliance evaluation summary sheet prepared by the Discharger. The report format will be prepared using the example shown in Part B. The Discharger will prepare the format using those parameters and requirement limits for receiving water and effluent constituents specified in his permit.

c. Map or Aerial Photograph

A map or aerial photograph shall accompany the report showing sampling and observation station locations.

d. Results of Analyses and Observations

Tabulations of the results from each required analysis specified in **Part B** by date, time, type of sample, detection limit and station, signed by the laboratory director. The report format will be prepared using the examples shown in Part B.

- 1) If the Discharger monitors any pollutant more frequently than required by this permit using test procedures approved under 40 CFR Part 136 or as specified in this Permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Self-Monitoring Report.
- 2) Calculations for all limitations that require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

e. Effluent Data Summary

Summary tabulations of the data shall include for each constituent total number of analyses, maximum, minimum, and average values for each period. The report format

will be the NPDES Discharge Monitoring Report, U.S. EPA Form 3320-1. Flow data shall be included. The original is to be submitted to:

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

f. Flow Data

The tabulation pursuant to Section F-2.

5. Annual Reporting

By January 30 of each year, the Discharger shall submit an annual report to the Regional Board covering the previous calendar year. The report shall contain:

- a. Both tabular and graphical summaries of the monitoring data during the previous year.
- b. A comprehensive discussion of the compliance record and the corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements.
- c. List of Approved Analyses
 - 1) Listing of analyses for which the Discharger is approved by the State Department of Health Services.
 - 2) List of analyses performed for the Discharger by another approved laboratory (and copies of reports signed by the laboratory director of that laboratory shall also be submitted as part of the report).
 - 3) List of "waived" analyses, as approved.
The report format shall be prepared by using the examples shown in Part B.

G. DEFINITION OF TERMS

1. A grab sample is defined as an individual sample collected in a short period of time not exceeding 15 minutes. Grab samples shall be collected during normal peak loading conditions for the parameter of interest, which may or may not be during hydraulic peaks. It is used primarily in determining compliance with daily maximum limits and instantaneous maximum limits. Grab samples represent only the condition that exists at the time the wastewater is collected.
2. A composite sample is defined as a sample composed of individual grab samples mixed in proportions varying not more than plus or minus five percent from the instantaneous rate (or highest concentration) of waste flow corresponding to each grab sample collected at regular

intervals not greater than one hour, or collected by the use of continuous automatic sampling devices capable of attaining the proportional accuracy stipulated above throughout the period of discharge for 8 consecutive or of 24 consecutive hours, whichever is specified in Table 1 of Part B

3. A flow sample is defined as the accurate measurement of the average daily flow volume using a properly calibrated and maintained flow measuring device.
4. Duly authorized representative is one whose:
 - a. Authorization is made in writing by a principal executive officer or ranking elected official;
 - b. Authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as general partner in a partnership, sole proprietor in a sole proprietorship, the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)
5. Average values for daily and monthly values is obtained by taking the sum of all daily values divided by the number of all daily values measured during the specified period.
6. Median of an ordered set of values is that value below and above which there is an equal number of values, or which is the arithmetic mean of the two middle values, if there is no one middle value.
 - a. A 5-day median value for coliform bacteria is the third highest count of 5 daily counts obtained from 5 consecutive sampling days. A 7-day median value is the fourth highest of 7 daily counts obtained from 7 consecutive sampling days.
 - b. A 5-day moving median value for coliform bacteria is the median value calculated for each consecutive sampling day based upon the period from the sample day and the previous 4 sampling days.
 - c. A 7-day moving median is calculated for each consecutive sampling day based upon the period from the sample day and the previous 6 sampling days. Moving median values for the beginning of the month shall be calculated using the previous month's counts (i.e. the last four counts for a 5-day moving median and the last seven counts for a 7-day moving median from the previous month).
7. A 6-month median means a moving median of daily values for any 180 day period in which daily values represent flow-weighted average concentrations within a daily or 24-hour period. For intermittent discharges, the daily value shall be considered to equal zero for days on which no discharge occurred.
8. The geometric mean is anti log of log mean. Used for determining compliance with bacteriological standards, the log mean is calculated with the following equation:

$$\text{Log Mean} = \frac{1}{N} \sum_{i=1}^N \text{Log } C_i$$

in which "N" is the number of days samples that were analyze during the period and "C_i" is the concentration of bacteria (MPN/100 ml) found on each day of sampling.

9. Daily Maximum limit is the total discharge in a calendar day for pollutants measured by mass or the average measurement obtained for other pollutants.
10. Instantaneous Maximum is defined as the highest measurement obtained for the calendar day, as determined by a grab sample.
11. A depth-integrated sample is defined as a water or waste sample collected by allowing a sampling device to fill during a vertical traverse in the waste or receiving water body being sampled and shall be collected in such a manner that the collected sample will be representative of the waste or water body at that sampling point.
12. Bottom sediment sampling and reporting guidelines mean those guidelines developed by the Regional Board staff to provide for standard bottom sampling, laboratory, and reporting procedures.

January 17, 2001

SELF-MONITORING PROGRAM

Part B

I. DESCRIPTION OF SAMPLING AND OBSERVATION STATIONS

A. INFLUENT

Station

Description

A-001 At any point in the treatment facilities headworks at which all waste tributary to the treatment system is present, and preceding any phase of treatment, and exclusive of any return flows or process side streams.

B. EFFLUENT

Station

Description

E-001 At any point in the outfall from the treatment facilities between the point of discharge and the point at which all waste tributary to that outfall is present (may be the same as E-001D).

E-001-D At any point in the disinfection facilities for Waste E-001, at which point adequate contact with the disinfectant is assured.

C. OVERFLOWS AND BYPASSES

Station

Description

OV-1 Bypass or overflows from manholes, pump stations, or collection systems.

II. SCHEDULE OF SAMPLING, ANALYSES AND OBSERVATIONS

The schedule of sampling, analysis and observation shall be that given in Table 1 below.

Table 1
SCHEDULE of SAMPLING, ANALYSES and OBSERVATIONS [1]

Sampling Station			A-001	E-001D		OV
Type of Sample			C-24	G	C-24	O
Parameter	Units	Notes	[1]			
Flow Rate	mgd	[2]			Cont/D	Est V
PH	pH units				2/W	
Temperature	°C			D		
Dissolved Oxygen	mg/L			D		
CBOD ₅ 20°C	mg/L		2/W		2/W	
TSS	mg/L		2/W		2/W	
Oil & Grease	mg/L	[3]		2/Y		
Settleable Matter	ml/1-hr				2/W	
Fecal Coliform	MPN / 100 ml			2/W		
Sulfides	mg/L					
Unionized Ammonia	mg/L					
Chlorine Residual	mg/L	[4]			Cont. or 1/H	
Acute Toxicity	% Survival	[5]			M	
Chronic Toxicity	TUc	[6]			2/Y	
Copper	µg/L & kg/mo				M	
Mercury	µg/L & kg/mo				M	
Metals	µg/L	[7]			Q	
Cyanide	µg/L				M	
Dioxin (TEQ)	µg/L	[8]			2/Y	
Tributyltin	µg/L				2/Y	
Table 2 Constituents Except Copper, Mercury, Metals, Cyanide, Dioxin and Tributyltin	µg/L	[9]			2/Y	
Visual Observations						

LEGEND FOR TABLE 1

Sampling Stations:

A = treatment facility influent
 E = treatment facility effluent
 OV = overflow and bypass points
 P = treatment facility perimeter points
 O = observation

Types of Samples

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

Frequency of Sampling

Cont. = continuous
 Cont/D = continuous monitoring & daily reporting
 D = once each day
 E = each occurrence
 H = once each hour (at about hourly intervals)
 M = once each month
 Q = once each calendar quarter (at about three month intervals)
 W = once each week
 Y = once each calendar year
 2/Y = twice each calendar year (at about 6 months intervals)
 3/W = three times each calendar week (on separate days)
 5/W = five times each calendar week (on separate days)

Parameter and Unit Abbreviations

BOD₅ 20°C = Biochemical Oxygen Demand, 5-day, at 20 °C
 D.O. = Dissolved Oxygen
 Est V = Estimated Volume (gallons)
 Metals = multiple metals; See SMP Section VI.G.
 PAHs = Polynuclear Aromatic Hydrocarbons; See SMP Section VI.H.
 TSS = Total Suspended Solids
 mgd = million gallons per day
 mg/L = milligrams per liter
 ml/L-hr = milliliters per liter, per hour
 µg/L = micrograms per liter
 kg/d = kilograms per day
 kg/mo = kilograms per month
 MPN/100 ml = Most Probable Number per 100 milliliters

FOOTNOTES FOR TABLE 1

- [1] Additional details regarding sampling, analyses and observations are given in Section VI of this SMP, *Specifications for Sampling, Analyses and Observations* (SMP Section VI).
- [2] Flow Monitoring. See SMP Section: III. B
- [3] Oil & Grease Monitoring. See SMP Section: III. C
- [4] Chlorine Residual Monitoring. See SMP Section: III. D
- [5] Acute Toxicity Monitoring. See SMP Section: III. E
- [6] Chronic Toxicity Monitoring. See SMP Section III. F; and Provision E.6, E.7
- [7] Metals See SMP Section: III. G
- [8] Dioxin See SMP Section: III. H
- [9] Table 2 Selected Constituents See SMP Section: IV

III. SPECIFICATIONS for SAMPLING, ANALYSES and OBSERVATIONS

Sampling, analyses and observations, and recording and reporting of results shall be conducted in accordance with the schedule given in Table 1 of this SMP, and in accordance with the following specifications, as well as all other applicable requirements given in this SMP. All analyses shall be conducted using analytical methods that are commercially and reasonably available, and that provide quantification of sampling parameters and constituents sufficient to evaluate compliance with applicable effluent limits.

A. Influent Monitoring.

Influent monitoring identified in Table 1 of this SMP is the minimum required monitoring. Additional sampling and analyses may be required in accordance with Pretreatment Program or Pollution Prevention/Source Control Program requirements.

B. Flow Monitoring.

Flow monitoring indicated as continuous monitoring in Table 1 shall be conducted by continuous measurement of flows, and reporting of the following measurements:

1. Effluent (E-001):

a. Daily:

- (1) Average Daily Flow (mgd)
- (2) Maximum Daily Flow(mgd)
- (3) Minimum Daily Flow (mgd).

b. Monthly: The same values as given in a. above, for the calendar month.

C. Oil & Grease Monitoring.

Each Oil & Grease sample event shall consist of a composite sample comprised of three grab samples taken at equal intervals during the sampling date, with each grab sample being collected in a glass container. The grab samples shall be mixed in proportion to the instantaneous flow rates occurring at the time of each grab sample, within an accuracy of plus or minus 5 %. Each glass container used for sample collection or mixing shall be thoroughly rinsed with solvent rinsings as soon as possible after use, and the solvent rinsings shall be added to the composite sample for extraction and analysis.

D. Disinfection Process Monitoring.

Chlorine Residual Monitoring

During all times when chlorination is used for disinfection of the effluent, effluent chlorine residual concentrations shall be monitored continuously, or by grab samples taken hourly. Chlorine residual concentrations shall be monitored and reported for sampling points both prior to and following dechlorination. Total chlorine dosage (kg/day) shall be recorded on a daily basis.

E. Acute Toxicity Monitoring.

The following parameters shall be monitored on the sample stream used for the acute toxicity bioassays, at the start of the bioassay test and daily for the duration of the bioassay test, and the results reported: pH, temperature, dissolved oxygen, and ammonia nitrogen.

F. Chronic Toxicity Monitoring:

See **also**, Provision E.6, E.7 and Self-Monitoring Program - Attachment 1 of this Order.

1. *Chronic Toxicity Monitoring Requirements*

- a. Sampling. The Discharger shall collect 24-hour composite samples of treatment plant effluent at Sampling Station E-001, for critical life stage toxicity testing as indicated below. For toxicity tests requiring renewals, 24-hour composite samples collected on consecutive days are required.
- b. Test Species: Chronic toxicity shall be monitored by using critical life stage test(s) and the most sensitive test specie(s) identified by screening phase testing or previous testing conducted under the ETCP. Test specie(s) shall be approved by the Executive Officer. Two test species may be required if test data indicate that there is alternating sensitivity between the two species.
- c. Frequency:
 - (1) Routine Monitoring: Twice per year, beginning in 2001 (Screening Phase monitoring may be substituted for first year routine monitoring).
 - (2) Accelerated Monitoring: Quarterly, or as otherwise specified by the Executive Officer.
- d. Conditions for Accelerated Monitoring: The Discharger shall conduct accelerated monitoring when either of the following conditions are exceeded:
 - (1) three sample median value of 10 TUc, or
 - (2) single sample maximum value of 20 TUc.
- e. Methodology: Sample collection, handling and preservation shall be in accordance with U.S. EPA protocols. The test methodology used shall be in accordance with the references cited in this Permit, or as approved by the Executive Officer. A concurrent reference toxicant test shall be performed for each test.
- f. Dilution Series: The Discharger shall conduct tests at 100%, 85%, 70%, 50%, and 25%. The "%" represents percent effluent as discharged.

2. *Chronic Toxicity Reporting Requirements*

- a. Routine Reporting: Toxicity test results for the current reporting period shall include, at a minimum, for each test:
 - (1) sample date(s)
 - (2) test initiation date
 - (3) test species
 - (4) end point values for each dilution (e.g. number of young, growth rate, percent survival)
 - (5) NOEC value(s) in percent effluent
 - (6) IC15, IC25, IC40, and IC50 values (or EC15, EC25 ... etc.) in percent effluent
 - (7) TUc values (100/NOEC, 100/IC25, and 100/EC25)
 - (8) Mean percent mortality (\pm s.d.) after 96 hours in 100% effluent (if applicable)
 - (9) NOEC and LOEC values for reference toxicant test(s)
 - (10) IC50 or EC50 value(s) for reference toxicant test(s)
 - (11) Available water quality measurements for each test (ex. pH, D.O., temperature, conductivity, hardness, salinity, ammonia)

- b. Compliance Summary: The results of the chronic toxicity testing shall be provided in the most recent self-monitoring report and shall include a summary table of chronic toxicity data from at least eleven of the most recent samples. The information in the table shall include the items listed above under Section F.2.a, item numbers 1, 3, 5, 6(IC₂₅ or EC₂₅), 7, and 8.

G. Metals:

1. The parameter 'Metals' in this SMP means all of the following constituents:
 - a. Arsenic
 - b. Cadmium
 - c. Chromium VI
 - d. Lead
 - e. Nickel
 - f. Selenium
 - g. Silver
 - h. Zinc

2. Sampling and Analysis.

The Discharger may analyze for total chromium instead of Chromium VI.

H. Dioxin and Furan:

The Discharger shall determine compliance with the interim limitation of 0.44 milligram/month specified in Effluent Limitations B.9 for the two congeners using the laboratory reported concentration and method detection limits (as determined by the procedure found in 40 CFR 136). The reported concentration may be based on analytical data below the lowest calibration standard. This is a temporary exemption from the State Implementation Plan policy against using such data for compliance purposes. This Permit requires the Discharger to investigate the feasibility of lowering the quantification limits to alleviate this conflict. The Part A provisions for accelerated sampling and special reporting apply to violation of this interim limit.

With each sampling event, the Discharger shall also determine and report the results of the other congeners of 2,3,7,8-TCDD, or the method detection limits as determined by the procedure found in 40 CFR 136.

IV. SELECTED CONSTITUENTS MONITORING

- A. Effluent monitoring shall include evaluation for all constituents listed in Table 2 below by sampling and analysis of final effluent.
- B. Analyses shall be conducted using the lowest commercially available and reasonably achievable detection levels. The objective is to provide quantification of constituents sufficient to allow evaluation of observed concentrations with respect to respective water quality objectives.

V. Monitoring Methods and Minimum Detection Levels

- A. Except as provided in C., below, the Discharger may use the methods listed in the Table 2 below or alternate test procedures that have been approved by the U.S. EPA Regional Administrator pursuant to 40 CFR 136.4 and 40 CFR 136.5 (revised as of May 14, 1999); or
- B. Where no methods are specified for a given pollutant in the Table 2 below, methods approved by the SWRCB or RWQCB.
- C. The Discharger shall use the following methods and MLs for determination of compliance⁸ for priority pollutant effluent limits contained in this permit:

Analyte	units	SBSA ML*	Method
Copper	ug/l	2	graphite furnace AA
Nickel	ug/l	3	graphite furnace AA
Lead	ug/l	2	graphite furnace AA
Zinc	ug/l	20	graphite furnace AA
Mercury	nano-g/l	0.5	EPA 1631
Cyanide	ug/l	3	colorimetric
Tributyltin	ug/l	0.04	GC

*Discharger shall be deemed out of compliance with an effluent limitation if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported ML.

⁸ Discharger shall be deemed out of compliance with an effluent limitation if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported ML.

Table 2 (j)

CTR #	Constituent (a)	Minimum Level (µg/L) (b)											
		GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	DCP
1.	Antimony					10	5	50	0.5	5	0.5		1000
2.	Arsenic				20		2	10	2	2	1		1000
3.	Beryllium					20	0.5	2	0.5	1			1000
4.	Cadmium				10	0.5	10	0.25	0.5				1000
5a.	Chromium (III) (c)												
5b.	Chromium (VI)				10	5							1000
6.	Copper (d)					25	5	10	0.5	2			1000
7.	Lead					20	5	5	0.5	2			10,000
8.	Mercury (e)								0.5			0.2	
9.	Nickel					50	5	20	1	5			1000
10.	Selenium						5	10	2	5	1		1000
11.	Silver					10	1	10	0.25	2			1000
12.	Thallium					10	2	10	1	5			1000
13.	Zinc					20		20	1	10			
14.	Cyanide				5								
15.	Asbestos (c, f)												
16.	2, 3, 7, 8-TCDD (Dioxin) (c, h)												
17.	Acrolein	2.0	5										
18.	Acrylonitrile	2.0	2										
19.	Benzene	0.5	2										
20.	Bromoform	0.5	2										
21.	Carbon Tetrachloride	0.5	2										
22.	Chlorobenzene	0.5	2										
23.	Chlorodibromomethane	0.5	2										
24.	Chloroethane	0.5	2										
25.	2-Chloroethylvinyl Ether	1	1										
26.	Chloroform	0.5	2										
27.	Dichlorobromomethane	0.5	2										
28.	1,1-Dichloroethane	0.5	1										
29.	1,2-Dichloroethane	0.5	2										
30.	1, 1-Dichloroethylene or 1,1 Dichloroethene	0.5	2										
31.	1, 2-Dichloropropane	0.5	1										
32.	1, 3 -Dichloropropylene or 1,3-Dichloropropene	0.5	2										
33.	Ethylbenzene	0.5	2										
34.	Methyl Bromide	1.0	2										
35.	Methyl Chloride or Chloromethane	0.5	2										
36.	Methylene Chloride or Dichloromethane	0.5	2										
37.	1,1, 2,2-Tetrachloroethane	0.5	1										
38.	Tetrachloroethylene	0.5	2										
39.	Toluene	0.5	2										
40.	1,2-Trans- Dichloroethylene	0.5	1										
41.	1,1,1-Trichloroethane	0.5	2										
42.	1,1,2-Trichloroethane	0.5	2										
43.	Trichloroethylene or Trichloroethene	0.5	2										

CTR #	Constituent (a)	Minimum Level (µg/L) (b)											
		GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	DCP
44.	Vinyl Chloride	0.5	2										
45.	2-Chlorophenol	2	5										
46.	2, 4 Dichlorophenol	1	5										
47.	2,4-Dimethylphenol	1	2										
48.	2-Methyl-4,6-Dinitrophenol or Dinitro-2-methylphenol	10	5										
49.	2,4-Dinitrophenol	5	5										
50.	2-Nitrophenol		10										
51.	4-Nitrophenol	5	10										
52.	4-chloro-3-methylphenol	5	1										
53.	Pentachlorophenol	1	5										
54.	Phenol	1	1		50								
55.	2, 4, 6 Trichlorophenol	10	10										
56.	Acenaphthene	1	1	0.5									
57.	Acenaphthylene		10	0.2									
58.	Anthracene		10	2									
59.	Benzydine		5										
60.	Benzo(a)Anthracene or 1,2 Benzanthracene	10	5										
61.	Benzo(a)Pyrene		10	2									
62.	Benzo(b)Fluoranthene or 3,4 Benzofluoranthene		10	10									
63.	Benzo(ghi)Perylene		5	0.1									
64.	Benzo(k)Fluoranthene		10	2									
65.	Bis(2-Chloroethoxy) Methane		5										
66.	Bis(2-Chloroethyl) Ether	10	1										
67.	Bis(2-Chloroisopropyl) Ether	10	2										
68.	Bis(2-Ethylhexyl) Phthalate	10	5										
69.	4-Bromophenyl Phenyl Ether	10	5										
70.	Butylbenzyl Phthalate	10	10										
71.	2-Chloronaphthalene		10										
72.	4-Chlorophenyl Phenyl Ether		5										
73.	Chrysene		10	5									
74.	Dibenzo(a,h) Anthracene		10	0.1									
75.	1, 2 Dichlorobenzene (volatile)	0.5	2										
	1, 2 Dichlorobenzene (semi-volatile)	2	2										
76.	1, 3 Dichlorobenzene (volatile)	0.5	2										
	1, 3 Dichlorobenzene (semi-volatile)	2	1										
77.	1, 4 Dichlorobenzene (volatile)	0.5	2										
	1, 4 Dichlorobenzene (semi-volatile)	2	1										
78.	3,3'-Dichlorobenzidine		5										
79.	Diethyl Phthalate	10	2										
80.	Dimethyl Phthalate	10	2										

CTR #	Constituent (a)	Minimum Level (µg/L) (b)											
		GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYDRIDE	CVAA	DCP
81.	Di-n-Butyl Phthalate		10										
82.	2,4-Dinitrotoluene	10	5										
83.	2,6-Dinitrotoluene		5										
84.	Di-n-Octyl Phthalate		10										
85.	1,2-Diphenylhydrazine		1										
86.	Fluoranthene	10	1	0.05									
87.	Fluorene		10	0.1									
88.	Hexachlorobenzene	5	1										
89.	Hexachlorobutadiene	5	1										
90.	Hexachlorocyclopentadiene	5	5										
91.	Hexachloroethane	5	1										
92.	Indeno(1,2,3-cd)Pyrene		10	0.05									
93.	Isophorone	10	1										
94.	Naphthalene	10	1	0.2									
95.	Nitrobenzene	10	1										
96.	N-Nitrosodimethylamine	10	5										
97.	N-Nitrosodi-n-Propylamine	10	5										
98.	N-Nitrosodiphenylamine	10	1										
99.	Phenanthrene		5	0.05									
100.	Pyrene		10	0.05									
101.	1,2,4-Trichlorobenzene	1	5										
102.	Aldrin	0.005											
103.	α-BHC	0.01											
104.	β-BHC	0.005											
105.	γ-BHC (Lindane)	0.02											
106.	δ-BHC	0.005											
107.	Chlordane	0.1											
108.	4,4'-DDT	0.01											
109.	4,4'-DDE	0.05											
110.	4,4'-DDD	0.05											
111.	Dieldrin	0.01											
112.	Endosulfan (alpha)	0.02											
113.	Endosulfan (beta)	0.01											
114.	Endosulfan Sulfate	0.05											
115.	Endrin	0.01											
116.	Endrin Aldehyde	0.01											
117.	Heptachlor	0.01											
118.	Heptachlor Epoxide	0.01											
119-125	PCBs (g)	0.5											
126.	Toxaphene	0.5											
127.	Tributyltin (c)												
128.	Chlorpyrifos (c, i)												
129.	Diazinon (c, i)												

Notes:

- a.) Factors may be applied to the ML depending on the specific sample preparation steps employed. Dischargers are to instruct laboratories to establish calibration standards so that the ML value is the lowest calibration. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

- b.) Laboratory techniques are defined as follows: GC = Gas Chromatography; GCMS = Gas Chromatography/Mass Spectrometry; LC = High Pressure Liquid Chromatography; Color = Colorimetric; FAA = Flame Atomic Absorption; GFAA = Graphite Furnace Atomic Absorption; Hydride = Gaseous Hydride Atomic Absorption; CVAA = Cold Vapor Atomic Absorption; ICP = Inductively Coupled Plasma; ICPMS = Inductively Coupled Plasma/Mass Spectrometry; SPGFAA = Stabilized Platform Graphite Furnace Atomic Absorption (i.e. U.S. EPA 200.9); DCP = Direct Current Plasma.
- c.) The SIP does not contain an ML for this constituent.
- d.) For copper, the Discharger may also use the following laboratory techniques with the relevant minimum level: GFAA with a minimum level of 5 µg/L and SPGFAA with a minimum level of 2 µg/L.
- e.) Use sampling and analytical methods for mercury monitoring. ML for compliance purposes is as listed in table above until the SWRCB adopts alternative minimum level.
- f.) The Discharger does not need to sample for this constituent because sampling is not required for receiving waters without a municipal beneficial use designation.
- g.) PCBs refer to PCB 1016, 1221, 1232, 1242, 1248, 1254 and 1260.
- h.) Use Method 1613 for TCDD analysis and test for seventeen congeners.
- i.) The detection limit goals for these constituents are 0.03 µg/L.
- j.) Dischargers shall be deemed out of compliance with an effluent limitation if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported ML.

VI. REPORTING REQUIREMENTS

A. General Reporting Requirements are described in Section E of the Board's "*Standard Provisions and Reporting Requirements for NPDES Surface Water Discharge Permits*", dated August 1993.

B. Monthly Self-Monitoring Report (SMR) Requirements are described in Section F.4 of the attached *Self-Monitoring Program, Part A*, dated August 1993.

C. Modification of Self-Monitoring Program, Part A (Part A):

1. Section E.1 of Part A shall be modified as follows:

- a. Written reports, electronic records, strip charts, equipment calibration and maintenance records, and other records pertinent to demonstrating compliance with waste discharge requirements including self-monitoring program requirements, shall be maintained by the Discharger in a manner and at a location (e.g., wastewater treatment plant or Discharger offices) such that the records are accessible to Board staff. These records shall be retained by the Discharger for a minimum of three years. The minimum period of retention shall be extended during the course of any unresolved litigation regarding the subject discharges, or when requested by the Board or by the Regional Administrator of the U.S. EPA, Region IX. Records to be maintained shall include the following:

(1) Parameter Sampling and Analyses, and Observations.

For each sample, analysis or observation conducted, records shall include the following:

(i) Parameter

- (ii) Identity of sampling or observation station, consistent with the station descriptions given in this SMP.
- (iii) Date and time of sampling or observation.
- (iv) Method of sampling (grab, composite, other method)
- (v) Date and time analysis started and completed, and name of personnel or contract laboratory performing the analysis.
- (vi) Reference or description of procedure(s) used for sample preservation and handling, and analytical method(s) used.
- (vii) Calculations of results.
- (viii) Analytical method detection limits and related quantitation parameters.
- (ix) Results of analyses or observations.

(2) Flow Monitoring Data.

For all required flow monitoring (e.g., influent and effluent flows), records shall include the following:

- (i) Total flow or volume, for each day.
- (ii) Maximum, minimum and average daily flows for each calendar month.

(3) Wastewater Treatment Process Solids.

- (i) For each treatment process unit which involves solid removal from the wastewater stream, records shall include the following:
 - 1. Total volume and/or mass quantification of solids removed from each unit (e.g., grit, skimmings, undigested sludge), for each calendar month; and
 - 2. Final disposition of such solids (e.g., landfill, other subsequent treatment unit).
- (ii) For final dewatered sludge from the treatment plant as whole, records shall include the following:
 - 1. Total volume and/or mass quantification of dewatered sludge, for each calendar month;
 - 2. Solids content of the dewatered sludge; and
 - 3. Final disposition of dewatered sludge (point of disposal location and disposal method).

B. Disinfection Process.

For the disinfection process, records shall be maintained documenting process operation and performance, including the following:

- 1. For bacteriological analyses:
 - a. Date and time of each sample collected
 - b. Wastewater flow rate at the time of sample collection

- c. Results of sample analyses (coliform count)
 - d. Required statistical parameters of cumulative coliform values (e.g., moving median or log mean for number of samples or sampling period identified in waste discharge requirements).
 2. For chlorination process, at least daily average values for the following:
 - a. Chlorine residual in contact basin (mg/L)
 - b. Chlorine dosage (kg/day)
2. Section F.1 of Part A shall be modified as follows:
 - a. A report shall be made of any spill of oil or other hazardous material.
 - b. The spill shall be reported by telephone as soon as possible and no later than 24 hours following occurrence or Discharger's knowledge of occurrence. Spills shall be reported by telephone as follows:
 - (1) During weekdays, during office hours of 8 am to 5 pm, to the Regional Board:
Current phone number: (510) 622 - 2300.
Current Fax number: (510) 622 - 2460
 - (2) During non-office hours, to the State Office of Emergency Services:
Current phone number: (800) 852 - 7550.
 - c. A written report shall be submitted to the Regional Board within five (5) working days following telephone notification, unless directed otherwise by Board staff. A report submitted by facsimile transmission is acceptable for this reporting. The written report shall include the following:
 - (1) Date and time of spill, and duration if known.
 - (2) Location of spill (street address or description of location).
 - (3) Nature of material spilled.
 - (4) Quantity of material involved.
 - (5) Receiving water body affected.
 - (6) Cause of spill.
 - (7) Observed impacts to receiving waters (e.g., discoloration, oil sheen, fish kill).
 - (8) Corrective actions that were taken to contain, minimize or cleanup the spill.
 - (9) Future corrective actions planned to be taken in order to prevent recurrence, and time schedule of implementation.
 - (10) Persons or agencies contacted.

3. Section F.4 of Part A shall be modified as follows:

For each calendar month, a self-monitoring report (SMR) shall be submitted to the Board in accordance with the following:

- a. The report shall be submitted to the Board no later than 30 days from the last day of the reporting month.

b. *Letter of Transmittal*

Each report shall be submitted with a letter of transmittal. This letter shall include the following:

- (1) Identification of all violations of effluent limits or other discharge requirements found during the monitoring period;
- (2) Details of the violations: parameters, magnitude, test results, frequency, and dates;
- (3) The cause of the violations;
- (4) Discussion of corrective actions taken or planned to resolve violations and prevent recurrence, and dates or time schedule of action implementation. If previous reports have been submitted that address corrective actions, reference to such reports is satisfactory.
- (5) Signature: The letter of transmittal shall be signed by the Discharger's principal executive officer or ranking elected official, or duly authorized representative, and shall include the following certification statement:

"I certify under penalty of law that this document and all attachments have been prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. The information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

c. *Compliance Evaluation Summary*

Each report shall include a compliance evaluation summary. This summary shall include, for each parameter for which effluent limits are specified in the Permit, the number of samples taken during the monitoring period, and the number of samples in violation of applicable effluent limits.

d. *Results of Analyses and Observations.*

- (1) Tabulations of all required analyses and observations, including parameter, sample date and time, sample station, and test result.
- (2) If any parameter is monitored more frequently than required by this permit and SMP, the results of this additional monitoring shall be included in the monitoring report, and the data shall be included in data calculations and compliance evaluations for the monitoring period.
- (3) Calculations for all effluent limits that require averaging of measurements shall utilize an arithmetic mean, unless specified otherwise in this permit or SMP.

e. *Data Reporting for Results Not Yet Available.*

The Discharger shall make all reasonable efforts to obtain analytical data for required parameter sampling in timely manner. The Board recognizes that certain analyses require additional time in order to complete analytical processes and result reporting. For cases

where required monitoring parameters require additional time to complete analytical processes and reporting, and results are not available in time to be included in the SMR for the subject monitoring period, such cases shall be described in the SMR. Data for these parameters, and relevant discussions of any observed violations, shall be included in the next following SMR.

4. Section C.2.e of Part A shall be modified as follows:

If any maximum daily limit is exceeded, the sampling frequency shall be increased to daily until two samples collected on consecutive days show compliance with the maximum daily limit. If the maximum daily limit for tributyltin is exceeded, the sampling frequency may be increased to weekly instead of daily, until two consecutive samples show compliance with the maximum daily limit.

D. Reporting Data in Electronic Format.

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

1. *Reporting Method:* The Discharger shall submit SMRs electronically via the process approved by the Executive Officer in a letter dated December 17, 1999, Official Implementation of Electronic Reporting System (ERS).
2. *Modification of reporting requirements:* Reporting requirements F.4. in the attached *Self-Monitoring program, Part A*, dated August 1993, shall be modified as follows. In the future, the Board intends to modify Part A to reflect these changes.

a. Monthly Report Requirements:

Monthly Reporting Requirements: For each calendar month, a self-monitoring report (SMR) shall be submitted to the Board in accordance with the following:

(1) The report shall be submitted to the Board no later than 30 days from the last day of the reporting month.

(2) *Letter of Transmittal*

Each report shall be submitted with a letter of transmittal. This letter shall include the following:

- (i) Identification of all violations of effluent limits or other discharge requirements found during the monitoring period;
- (ii) Details of the violations: parameters, magnitude, test results, frequency, and dates;
- (iii) The cause of the violations;
- (iv) Discussion of corrective actions taken or planned to resolve violations and prevent recurrence, and dates or time schedule of action implementation. If previous reports have been submitted that address corrective actions, reference to such reports is satisfactory.
- (v) Signature: The letter of transmittal shall be signed by the Discharger's principal executive officer or ranking elected official, or duly authorized representative, and shall include the following certification statement:

"I certify under penalty of law that this document and all attachments have been prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. The information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

(3) *Compliance Evaluation Summary*

Each report shall include a compliance evaluation summary. This summary shall include, the number of samples in violation of applicable effluent limits.

(4) *Results of Analyses and Observations.*

- (i) Tabulations of all required analyses and observations, including parameter, sample date, sample station, and test result.
- (ii) If any parameter is monitored more frequently than required by this permit and SMP, the results of this additional monitoring shall be included in the monitoring report, and the data shall be included in data calculations and compliance evaluations for the monitoring period.
- (iii) Calculations for all effluent limits that require averaging of measurements shall utilize an arithmetic mean, unless specified otherwise in this permit or SMP.

(5) *Data Reporting for Results Not Yet Available.*

The Discharger shall make all reasonable efforts to obtain analytical data for required parameter sampling in timely manner. The Board recognizes that certain analyses require additional time in order to complete analytical processes and result reporting. For cases where required monitoring parameters require additional time to complete analytical processes and reporting, and results are not available in time to be included in the SMR for the subject monitoring period, such cases shall be described in the SMR. Data for these parameters, and relevant discussions of any observed violations, shall be included in the next following SMR.

b. Annual Report Requirements:

An Annual Report shall be submitted for each calendar year. The report shall be submitted to the Board by February 15 of the following year. This report shall include the following:

- (1) Summaries of monitoring data collected during the calendar year that characterizes treatment plant performance and compliance with waste discharge requirements.
- (2) A comprehensive discussion of treatment plant performance and compliance with waste discharge requirements. This discussion should include any corrective actions taken or planned such as changes to facility equipment or operation practices which may be needed to achieve compliance, and any other actions taken or planned that are intended to improve performance and reliability of the Discharger's wastewater collection, treatment or disposal practices.

VII. SELF-MONITORING PROGRAM CERTIFICATION

I, Loretta K. Barsamian, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

- A. Has been developed in accordance with the procedure set forth in this Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Board Order No. 01-012.
- B. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the Discharger, and revisions will be ordered by the Executive Officer.
- C. Is effective as of February 1, 2001.



LORETTA K. BARSAMIAN
Executive Officer

Attachment 1: Chronic Toxicity – Definition of Terms and Screening Phase Requirements

**SELF MONITORING PROGRAM
ATTACHMENT 1**

CHRONIC TOXICITY - DEFINITION OF TERMS & SCREENING PHASE REQUIREMENTS

I. Definition of Terms

- A. No observed effect level (NOEL) for compliance determination is equal to IC₂₅ or EC₂₅. If the IC₂₅ or EC₂₅ cannot be statistically determined, the NOEL shall be equal to the NOEC derived using hypothesis testing.
- B. Effective concentration (EC) is a point estimate of the toxicant concentration that would cause an adverse effect on a quantal, "all or nothing," response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Kärber. EC₂₅ is the concentration of toxicant (in percent effluent) that causes a response in 25% of the test organisms.
- C. Inhibition Concentration (IC) is a point estimate of the toxicant concentration that would cause a given percent reduction in a non-lethal, non-quantal biological measurement, such as growth. For example, an IC₂₅ is the estimated concentration of toxicant that would cause a 25% reduction in average young per female or growth. IC values may be calculated using a linear interpolation method such as U.S. EPA's Bootstrap Procedure.
- D. No observed effect concentration (NOEC) is the highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specific time of observation. It is determined using hypothesis testing.

II. Chronic Toxicity Screening Phase Requirements

- A. The Discharger shall perform screening phase monitoring:
 - 1. Subsequent to any significant change in the nature of the effluent discharged through changes in sources or treatment, except those changes resulting from reductions in pollutant concentrations attributable to pretreatment, source control, and waste minimization efforts, or
 - 2. Prior to Permit reissuance. Screening phase monitoring data shall be included in the NPDES Permit application for reissuance. The information shall be as recent as possible, but may be based on screening phase monitoring conducted within 5 years before the permit expiration date.
- B. Design of the screening phase shall, at a minimum, consist of the following elements:
 - 1. Use of test species specified in Tables 1 and 2 (attached), and use of the protocols referenced in those tables, or as approved by the Executive Officer;
 - 2. Two stages:
 - a. Stage 1 shall consist of a minimum of one battery of tests conducted concurrently. Selection of the type of test species and minimum number of tests shall be based on Table 3 (attached); and

- b. Stage 2 shall consist of a minimum of two test batteries conducted at a monthly frequency using the three most sensitive species based on the Stage 1 test results and as approved by the Executive Officer.
3. Appropriate controls; and
4. Concurrent reference toxicant tests.

C. The Discharger shall submit a screening phase proposal to the Executive Officer for approval. The proposal shall address each of the elements listed above.

TABLE 1.1

CRITICAL LIFE STAGE TOXICITY TESTS FOR ESTUARINE WATERS

SPECIES (Scientific Name)	EFFECT	TEST DURATION	REFERENCE
Alga (<i>Skeletonema costatum</i>) (<i>Thalassiosira pseudonana</i>)	growth rate	4 days	1
Red alga (<i>Champia parvula</i>)	number of cystocarps	7-9 days	3
Giant kelp (<i>Macrocystis pyrifera</i>)	percent germination; germ tube length	48 hours	2
Abalone (<i>Haliotis rufescens</i>)	abnormal shell development	48 hours	2
Oyster (<i>Crassostrea gigas</i>)	abnormal shell development; percent survival	48 hours	2
Mussel (<i>Mytilus edulis</i>)	abnormal shell development; percent survival	48 hours	2
Echinoderms (Urchins: <i>Strongylocentrotus purpuratus</i>) (Sand dollar: <i>Dendraster excentricus</i>)	percent fertilization	1 hour	2
Shrimp (<i>Mysidopsis bahia</i>)	percent survival; growth	7 days	3
Shrimp (<i>Holmesimysis costata</i>)	percent survival; growth	7 days	2
Top smelt (<i>Atherinops affinis</i>)	percent survival; growth	7 days	2
Silversides (<i>Menidia beryllina</i>)	larval growth rate; percent survival	7 days	3

1. American Society for Testing Materials (ASTM). 1990. Standard Guide for conducting static 96-hour toxicity tests with microalgae. Procedure E 1218-90. ASTM Philadelphia, PA.
2. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms. EPA/600/R-95/136. August 1995

3. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. EPA/600/4-90/003. July 1994

**TABLE 1.2
CRITICAL LIFE STAGE TOXICITY TESTS FOR FRESH WATERS**

SPECIES (Scientific Name)	EFFECT	TEST DURATION	REFERENCE
Fathead Minnow (<i>Pimephales promelas</i>)	survival; growth rate	7 days	4
Water Flea (<i>Ceriodaphnia dubia</i>)	survival; number of young	7 days	4
Alga (<i>Selenastrum capricornutum</i>)	cell division rate	4 days	4

Toxicity Test Reference:

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

**TABLE 1.3
TOXICITY TEST REQUIREMENTS FOR STAGE ONE SCREENING PHASE**

REQUIREMENTS	RECEIVING WATER CHARACTERISTICS		
	Discharges to Coast	Discharges to San Francisco Bay‡	
	Ocean	Marine	Freshwater
Taxonomic Diversity:	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish
Number of tests of each salinity type:			
Freshwater (†):	0	1 or 2	3
Marine:	4	3 or 4	0
Total number of tests:	4	5	3

† The fresh water species may be substituted with marine species if:

- 1) The salinity of the effluent is above 10 parts per thousand (ppt) greater than 95% of the time, or
- 2) The ionic strength (TDS or conductivity) of the effluent at the test concentration used to determine compliance is documented to be toxic to the test species.

‡ Marine refers to receiving water salinities greater than 10 ppt at least 95% of the time during a normal water year.

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

Attachment D

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD SAN FRANCISCO BAY REGION

August 1993

STANDARD PROVISIONS AND REPORTING REQUIREMENTS

For

NPDES SURFACE WATER DISCHARGE PERMITS

A. GENERAL PROVISIONS

1. Neither the treatment nor the discharge of pollutants shall create a pollution, contamination, or nuisance as defined by Section 13050 of the California Water Code.
2. All discharges authorized by this Order shall be consistent with the terms and conditions of this Order.
3. Duty to Comply
 - a. If a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Clean Water Act, or amendments thereto, for a toxic pollutant which is present in the discharge authorized herein and such standard or prohibition is more stringent than any limitation upon such pollutant in a Board adopted Order, Discharger must comply with the new standard or prohibition. The Board will revise or modify the Order in accordance with such toxic effluent standard or prohibition and so notify the Discharger.
 - b. If more stringent applicable water quality standards are approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Discharger must comply with the new standard. The Board will revise and modify this Order in accordance with such more stringent standards.
 - c. The filing of a request by the Discharger for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. [40 CFR 122.41(f)]
4. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of this order and permit which has a reasonable likelihood of adversely affecting public health or the environment, including such accelerated or additional monitoring as requested by the Board or Executive Officer to determine the nature and impact of the violation. [40 CFR 122.41(d)]

5. Pursuant to U.S. Environmental Protection Agency regulations the Discharger must notify the Regional Board as soon as it knows or has reason to believe (1) that they have begun or expect to begin, use or manufacture of a pollutant not reported in the permit application, or (2) a discharge of toxic pollutants not limited by this permit has occurred, or will occur, in concentrations that exceed the limits specified in 40 CFR 122.42(a).
6. The discharge of any radiological, chemical, or biological warfare agent waste is prohibited.
7. All facilities used for transport, treatment, or disposal of wastes shall be adequately protected against overflow or washout as the result of a 100-year frequency flood.
8. Collection, treatment, storage and disposal systems shall be operated in a manner that precludes public contact with wastewater, except where excluding the public is inappropriate, warning signs shall be posted.

9. Property Rights

This Order and Permit does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, nor protect the Discharger from liabilities under federal, state or local laws, nor create a vested right for the discharge to continue the waste discharge or guarantee the Discharger a capacity right in the receiving water. [40 CFR 122.41(g)]

10. Inspection and Entry

The Board or its authorized representatives shall be allowed:

- a. Entry upon premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of the order and permit;
- b. Access to and copy at, reasonable times, any records that must be kept under the conditions of the order and permit;
- c. To inspect at reasonable times any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under the order and permit; and
- d. To photograph, sample, and monitor, at reasonable times for the purpose of assuring compliance with the order and permit or as otherwise authorized by the Clean Water Act, any substances or parameters at any locations. [40 CFR 122.41(i)]

11. Permit Actions

This Order and Permit may be modified, revoked and reissued, or terminated in accordance with applicable State and/or Federal regulations. Cause for taking such action includes, but is not limited to any of the following:

- a. Violation of any term or condition contained in the Order and Permit;

- b. Obtaining the Order and Permit by misrepresentation, or by failure to disclose fully all relevant facts;
- c. Endangerment to public health or environment that can only be regulated to acceptable levels by order and permit modification or termination; and
- d. Any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

12. Duty to Provide Information

The Discharger shall furnish, within a reasonable time, any information the Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit. The Discharger shall also furnish to the Board, upon request, copies of records required to be kept by its permit. [40 CFR 122.41(h)]

13. **Bypass** (the intentional diversion of waste streams from any portion of a treatment facility) is prohibited. The Board may take enforcement action against the Discharger for plant bypass unless:

- a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage. (Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.);
- b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment down time. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
- c. The Discharger submitted advance notice of the need for a bypass to the Board. If the Discharger knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass. The Discharger shall submit notice of an unanticipated bypass as required by 40 CFR 122.41(l)(6) (24 hour notice), as required in paragraph E.6.d.

The Discharger may allow a bypass to occur that does not cause effluent limitations to be exceeded, but only if it is for essential maintenance to assure efficient operation.

14. Availability

A copy of this permit shall be maintained at the discharge facility and be available at all times to operating personnel.

15. Continuation of Expired Permit

This permit continues in force and effect until a new permit is issued or the Board rescinds the permit. Only those Dischargers authorized to discharge under the expiring permit are covered by the continued permit.

B. STANDARD STORM WATER PROVISIONS

These provisions apply to facilities which do not direct all storm water flows to the wastewater treatment plant headworks.

1. The Storm Water Pollution Prevention Plan (SWPP Plan) shall be designed in accordance with good engineering practices and shall address the following objectives:
 - a. to identify pollutant sources that may affect the quality of storm water discharges; and
 - b. to identify, assign, and implement control measures and management practices to reduce pollutants in storm water discharges.

The SWPP Plan may be combined with the existing spill prevention plan as required in accordance with Provision E.5. The SWPP Plan shall be retained on-site and made available upon request of a representative of the Board.

2. Source Identification

The SWPP Plan shall provide a description of potential sources which may be expected to add significant quantities of pollutants to storm water discharges, or which may result in non-storm water discharges from the facility. The SWPP Plan shall include, at a minimum, the following items:

- a. A topographical map (or other acceptable map if a topographical map is unavailable), extending one-quarter mile beyond the property boundaries of the facility, showing: the wastewater treatment facility process areas, surface water bodies (including springs and wells), and the discharge point(s) where the facility's storm water discharges to a municipal storm drain system or other points to waters of the State. The requirements of this paragraph may be included in the site map required under the following paragraph if appropriate.
- b. A site map showing:
 - i. Storm water conveyance, drainage, and discharge structures;
 - ii. An outline of the storm water drainage areas for each storm water discharge point;
 - iii. Paved areas and buildings;
 - iv. Areas of pollutant contact with storm water or release to storm water, actual or potential, including but not limited to outdoor storage, and process areas, material loading, unloading, and access areas, and waste treatment, storage, and disposal areas;
 - v. Location of existing storm water structural control measures (i.e., berms, coverings, etc.);
 - vi. Surface water locations, including springs and wetlands;
 - vii. Vehicle service areas.
- c. A narrative description of the following:
 - i. Wastewater treatment process activity areas;
 - ii. Materials, equipment, and vehicle management practices employed to minimize contact of significant materials of concern with storm water discharges;

- iii. Material storage, loading, unloading, and access areas;
 - iv. Existing structural and non-structural control measures (if any) to reduce pollutants in storm water discharge;
 - v. Methods of on-site storage and disposal of significant materials.
- d. A list of pollutants that have a reasonable potential to be present in storm water discharge in significant quantities.

3. Storm Water Management Controls

The SWPP Plan shall describe the storm water management controls appropriate for the facility and a time schedule for fully implementing such controls. The appropriateness and priorities of controls in the SWPP Plan shall reflect identified potential sources of pollutants. The description of storm water management controls to be implemented shall include, as appropriate:

a. Storm Water Pollution Prevention Personnel

Identify specific individuals (and job titles) who are responsible for developing, implementing, and reviewing the SWPP Plan.

b. Good Housekeeping

Good housekeeping requires the maintenance of clean, orderly facility areas that discharge storm water. Material handling areas shall be inspected and cleaned to reduce potential for pollutants to enter the storm drain conveyance system.

c. Spill Prevention and Response

Identify areas where significant materials can spill into or otherwise enter the storm water conveyance systems and their accompanying drainage points. Specific material handling procedures, storage requirements, cleanup equipment and procedures should be identified, as appropriate. The necessary equipment to implement a clean up shall be available and personnel trained in proper response, containment and cleanup of spills. Internal reporting procedures for spills of significant materials shall be established.

d. Source Control

Source controls, such as elimination or reduction of the use of toxic pollutants, covering of pollutant source areas, sweeping of paved areas, containment of potential pollutants, labeling all storm drain inlets with "No Dumping" signs, isolation/separation of industrial from non-industrial pollutant sources so that runoff from these areas does not mix, etc.

e. Storm Water Management Practices

Storm water management practices are practices other than those which control the sources of pollutants. They include treatment/conveyance structures such as drop inlets, channels, retention/detention basins, treatment vaults, infiltration galleries, filters, oil/water separators, etc. Based on assessment of the potential of various sources to contribute pollutants to storm water discharges in significant quantities, additional storm water management practices to

remove pollutants from storm water discharges shall be implemented and design criteria shall be described.

f. Sediment and Erosion Control

Measures to minimize erosion around the storm water drainage and discharge points such as riprap, revegetation, slope stabilization, etc. shall be described and implemented.

g. Employee Training

Employee training programs shall inform all personnel responsible for implementing the SWPP Plan. Training should address spill response, good housekeeping, and material management practices. New employee and refresher training schedules should be identified.

h. Inspections

All inspections shall be done by trained personnel. Material handling areas shall be inspected for evidence of, or the potential for, pollutants entering storm water discharges. A tracking or follow up procedure shall be used to ensure appropriate response has been taken in response to an inspection. Inspections and maintenance activities shall be documented and recorder. Inspection records shall be retained for five years.

i. Records

A tracking and follow-up procedure shall be described to ensure that adequate response and corrective actions have been taken in response to inspections.

4. An annual facility inspection shall be conducted to verify that all elements of the SWPP Plan are accurate and up to date. This results of this review shall be reported in the annual report to the Board on October 1 of each year.

C. SLUDGE MONITORING AND REPORTING

1. When sewage sludge is either sent to a landfill or applied to land as a soil amendment it should be monitored as follows:

- a. Sewage sludge disposal shall be monitored at the following frequency:

Metric tons sludge/365 days	Frequency
0-290	Once per year
290-1500	Quarterly
1500-15,000	Six times per year
Over 15,000	Once per month

(Metric tons are on a dry weight basis)

- b. Sludge shall be monitored for the following constituents:

Land Application: As, Cd, Cr, Cu, Hg, Mo, Ni, Pb, Se, Zn
Municipal Landfill: Paint filter test (pursuant 40 CFR 258)
Sludge-only Landfill: As, Cd, Ni, (if no liner and leachate system)

2. The sludge must meet the following requirements prior to land application. The Discharger must either demonstrate compliance or, if it sends the sludge to another party for further treatment and/or distribution, must give the recipient the information necessary to assure compliance.
 - a. Exceptional quality sludge: Sludge that meets the pollutant concentration limits in Table III of 40 CFR Part 503.13, Class A pathogen limits, and one of the vector attraction reduction requirements in 503.33(b)(1)-(b)(8) is exceptional quality sludge and does not have to be tracked further for compliance with general requirements (503.12) and management practices (503.14).
 - b. Sludge used for agricultural land, forest, or reclamation shall meet the pollutant limits in Table I (ceiling concentrations) and Table II or Table III (cumulative loadings or pollutant concentration limits) of 503.13. It shall also meet the general requirements (503.12) and management practices (503.14) (if not exceptional quality), Class A or Class B pathogen levels with associated access restrictions (503.32) and one of the 10 vector attraction reduction requirements in 503.33(b)(1)-(b)(10).
 - c. Sludge used for lawn or home gardens must meet exceptional quality sludge limits.
 - d. Sludge that is sold or given away in a bag or other container shall meet the pollutant limits in either Table III or Table IV (pollutant concentration limits or annual pollutant loading rate limits) of 503.13. If Table IV is used, a label or information sheet must be attached that explains Table IV (see 503.14). The sludge must also meet the Class A pathogen limits and one of the vector attraction reduction requirements in 503.33(b)(1)-(b)(8).

D. TREATMENT RELIABILITY

1. The Discharger shall, at all times, properly operate and maintain all facilities and systems of treatment disposal and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with this order and permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. All of these procedures shall be described in an Operation and Maintenance Manual. The Discharger shall keep in a state of readiness all systems necessary to achieve compliance with the conditions of this order and permit. All systems, both those in service and reserve, shall be inspected and maintained on a regular basis. Records shall be kept of the tests and made available to the Board. [40 CFR 122.41(e)]
2. Safeguard to electric power failure:
 - a. The Discharger shall, within ninety (90) days of the effective date of this permit, submit to the Board for approval a description of the existing safeguards provided to assure that, should there be reduction, loss, or failure of electric power, the Discharger shall comply with the terms and conditions of its Order. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures or other means. A description of the safeguards provided shall include an analysis of the frequency, duration, and impact of

power failures experienced over the past five years on effluent quality and on the capability of the Discharger to comply with the terms and conditions of the Order. The adequacy of the safeguards is subject to the approval of the Regional Board.

- b. Should the Board not approve the existing safeguards, the Discharger shall, within ninety (90) days of having been advised by the Board that the existing safeguards are inadequate, provide to the Board and the U.S. Environmental Protection Agency a schedule of compliance for providing safeguards such that in the event of reduction, loss, or failure of electric power, the permittee shall comply with the terms and conditions of this permit. The schedule of compliance shall, upon approval of the Board Executive Officer, become a condition of the Order.
 - c. If the Discharger already has approved plan(s), the plan shall be revised and updated as specified in the plan or whenever there has been a material change in design or operation. A revised plan shall be submitted to the Board within ninety (90) days of the material change.
3. POTW facilities subject to this order and permit shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Division 4, Chapter 14, Title 23 of the California Code of Regulations.

E. GENERAL REPORTING REQUIREMENTS

1. Signatory Requirements

- a. All reports required by the order and permit and other information requested by the Board or U.S. EPA Region 9 shall be signed by a principal executive officer or ranking elected official of the Discharger, or by a duly authorized representative of that person. [40 CFR 122.22(b)]
- b. Certification

All reports signed by a duly authorized representative under Provision E.1.a. shall contain the following certification:

"I certify under penalty of law that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. [40 CFR 122.22(d)]

2. Should the Discharger discover that it failed to submit any relevant facts or that it submitted incorrect information in any report, it shall promptly submit the missing or correct information. [40 CFR 122.41(l)(8)]

3. False Reporting

Any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall be subject to enforcement procedures as identified in Section F of these Provisions.

4. Transfers

- a. This permit is not transferable to any person except after notice to the Board. The Board may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act.
- b. Transfer of control or ownership of a waste discharge facility under an National Pollutant Discharge Elimination System permit must be preceded by a notice to the Board at least 30 days in advance of the proposed transfer date. The notice must include a written agreement between the existing Discharger and proposed Discharger containing specific dates for transfer of responsibility, coverage, and liability between them. Whether an order and permit may be transferred without modification or revocation and reissuance is at the discretion of the Board. If order and permit modification or revocation and reissuance is necessary, transfer may be delayed 180 days after the Board's receipt of a complete application for waste discharge requirements and an NPDES permit.

5. Spill Prevention and Contingency Plans

The Discharger shall file with the Board, for Executive Officer review and approval within ninety (90) days after the effective date of this Order, a technical report or a statement that the existing plan(s) was reviewed and updated, as appropriate, on preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. The technical report or updated revisions should:

- a. Identify the possible sources of accidental loss, untreated or partially treated waste bypass, and polluted drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.
- b. Evaluate the effectiveness of present facilities and procedures and state when they became operational.
- c. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

This Board, after review of the technical report or updated revisions, may establish conditions which it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions may be incorporated as part of this Order, upon notice to the Discharger. If the Discharger already has an approved plan(s) he shall update them as specified in the plan(s).

6. Compliance Reporting

a. Planned Changes

The Discharger shall file with the Board a report of waste discharge at least 120 days before making any material change or proposed change in the character, location or volume of the discharge.

b. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final compliance dates contained in any compliance schedule shall be submitted within 10 working days following each scheduled date unless otherwise specified within this order and permit. If reporting noncompliance, the report shall include a description of the reason for failure to comply, a description and schedule of tasks necessary to achieve compliance and an estimated date for achieving full compliance. A final report shall be submitted within 10 working days of achieving full compliance, documenting full compliance

c. Anticipated Non-compliance

All POTWs must provide adequate notice to the Board of:

- i. Any introduction of new pollutants into the POTW from an indirect Discharger that would be subject to Sections 301 or 306 of the Clean Water Act if it were directly discharging those pollutants.
- ii. Any substantial or material change in the volume or character of pollutants being introduced into that POTW by an input source at the time of issuance of the permit.

Adequate notice shall include information on the quality and quantity of influent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

d. Non-compliance Reporting (Twenty-four hour reporting:)

- i. The Discharger shall report any noncompliance that may endanger health or the environment. All pertinent information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five working days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
- ii. The following shall be included as information that must be reported within 24 hours under this paragraph:

(1) Any unanticipated bypass that exceeds any effluent limitation in the permit.

(2) Any upset that exceeds any effluent limitation in the permit.

(3) Violation of a maximum daily discharge limitation for any of the pollutants listed in this permit to be reported within 24 hours.

(4) The Board may waive the above-required written report on a case-by-case basis.

F. ENFORCEMENT

1. The provision contained in this enforcement section shall not act as a limitation on the statutory or regulatory authority of the Board.
2. Any violation of the permit constitutes violation of the California Water Code and regulations adopted hereunder and the provisions of the Clean Water Act, and is the basis for enforcement action, permit termination, permit revocation and reissuance, denial of an application for permit reissuance; or a combination thereof.
3. The Board may impose administrative civil liability, may refer a Discharger to the State Attorney General to seek civil monetary penalties, may seek injunctive relief or take other appropriate enforcement action as provided in the California Water Code or federal law for violation of Board orders.
4. It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this order and permit.
5. A Discharger seeking to establish the occurrence of any upset (See Definitions, G. 24) has the burden of proof. A Discharger who wishes to establish the affirmative defense of any upset in an action brought for noncompliance shall demonstrate, through properly signed contemporaneous operating logs, or other relevant evidence that:
 - a. an upset occurred and that the permittee can identify the cause(s) or the upset;
 - b. the permitted facility was being properly operated at the time of the upset;
 - c. the Discharger submitted notice of the upset as required in paragraph E.6.d.; and
 - d. the Discharger complied with any remedial measures required under A.4.

No determination made before an action for noncompliance, such as during administrative review of claims that noncompliance was caused by an upset, is final administrative action subject to judicial review.

In any enforcement proceeding, the Discharger seeking to establish the occurrence of any upset has the burden of proof. [40 CFR 122.41(n)]

G. DEFINITIONS

1. Bypass means the intentional diversion of waste streams from any portion of treatment facility.

2. Daily discharge means:
 - a. For flow rate measurements, the average flow rate measured during a calendar day or during any 24-hour period reasonably representative of the calendar day for purposes of sampling.
 - b. For pollutant measurements, the concentration or mass emission rate measured during a calendar day or during any 24-hour period reasonably representative of the calendar day for purposes of sampling.
3. Daily Maximum Limit means the maximum acceptable daily discharge. For pollutant measurements, unless otherwise specified, the results to be compared to the daily maximum limit are based on composite samples.
4. DDT and Derivatives shall mean the sum of the p,p' and o,p' isomers of DDT, DDD (TDE), and DDE.
5. Duly authorized representative is one whose:
 - a. Authorization is made in writing by a principal executive officer or ranking elected official;
 - b. Authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as general manager in a partnership, manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and
 - c. Written authorization is submitted to the U.S. EPA Region 9. If an authorization becomes no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements above must be submitted to the Board and U.S. EPA Region 9 prior to or together with any reports, information, or applications to be signed by an authorized representative.
6. Hazardous substance means any substance designated under 40 CFR 116 pursuant to Section 311 of the Clean Water Act.
7. HCH shall mean the sum of the alpha, beta, gama (Lindane), and delta isomers of hexachlorocyclohexane.
8. Inadequately Treated Waste is wastewater receiving partial treatment but failing to meet discharge requirements.
9. Incompatible pollutants are:
 - a. Pollutants which create a fire or explosion hazard in the POTW;
 - b. Pollutants which will cause corrosive structural damage to the POTW, or wastewaters with pH lower than 5.0 pH units, unless the facilities are specifically designed to accommodate such wastewater;

- c. Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW resulting in interference;
 - d. Any pollutant, including oxygen-demanding pollutants (e.g., BOD) released into the wastewater system at a flow rate and/or pollutant concentration which will cause interference with the POTW.
 - e. Heat in amounts which will inhibit biological activity in the POTW and result in interference, or heat in such quantities that the temperature at the POTW treatment plant exceeds 40°C (104°F) unless the works is designed to accommodate such heat or the Board approves alternate temperature limits.
10. Indirect discharger means a non-domestic discharger introducing pollutants into a publicly owned treatment and disposal system.
11. Initial dilution is the process which results in the rapid and irreversible turbulent mixing of wastewater with receiving water around the point of discharge.
12. Mass emission rate is obtained from the following calculation for any calendar day:

$$\text{Mass emission rate (lb/day)} = \frac{8.345}{N} (\sum_{i=1}^N Q_i C_i)$$

$$\text{Mass emission rate (kg/day)} = \frac{3.785}{N} (\sum_{i=1}^N Q_i C_i)$$

In which 'N' is the number of samples analyzed in any calendar day. 'Q_i' and 'C_i' are the flow rate (MGD) and the constituent concentration (mg/L), respectively, which are associated with each of the 'N' grab samples which may be taken in any calendar day. If a composite sample is taken, 'C_i' is the concentration measured in the composite sample and 'Q_i' is the average flow rate occurring during the period over which samples are composited. The daily concentration measured over any calendar day of all constituents shall be determined from the flow-weighted average of the same constituents in the combined waste streams as follows:

$$C_d = \text{Average daily concentration} = \frac{1}{Q_t} (\sum_{i=1}^N Q_i C_i)$$

In which 'N' is the number of component waste streams. 'Q' and 'C' are the flow rate (MGD) and the constituent concentration (mg/L), respectively, which are associated with each of the 'N' waste streams. 'Q_t' is the total flow rate of the combined waste streams.

13. Maximum allowable mass emission rate, whether for a 24-hour, weekly 7-day, monthly 30-day, or 6-month period, is a limitation expressed as a daily rate determined with the formulas in

paragraph above, using the effluent concentration limit specified in the order and permit for the period and the specified allowable flow. (Refer to Section C of Part A of Self-Monitoring Program for definitions of limitation period)

14. Overflow is defined as the intentional or unintentional spilling or forcing out of untreated or partially treated wastes from a transport system (e.g. through manholes, at pump stations, and at collection points) upstream from the plant headworks or from any treatment plant facilities.
15. POTW means Publicly Owned Treatment Works.
16. POTW Removal efficiency is expressed as the percentage of the ratio of pollutants removed by the treatment facilities to pollutants entering the treatment facilities. Removal efficiencies of a treatment plant shall be determined using monthly averages of pollutant concentration of influent and effluent samples collected at about the same time and using the following equation (or its equivalent):

$$\text{Removal Efficiency (\%)} = 100 \times [1 - (\text{Effluent Conc.} / \text{Influent Conc.})]$$

When preferred, the Discharger may substitute mass loadings and mass emissions for the concentrations.
17. Priority pollutants are those constituents referred to in 40 CFR S122, Appendix D and listed in the U.S. EPA NPDES Application Form 2C, (dated 6/80) Items V-3 through V-9.
18. Sludge means the solids, semi-liquid suspensions of solids, residues, screenings, grit, scum, and precipitates separated from, or created in wastewater by the unit processes of a treatment system. It also includes but is not limited to, all supernatant, filtrate, centrate, decantate, and thickener overflow/underflow in the solids handling parts of the wastewater treatment system.
19. Storm Water means storm water runoff, snow melt runoff, and surface runoff and drainage. It excludes infiltration and runoff from agricultural land.
20. Toxic pollutant means any pollutant listed as toxic under Section 307(a)(1) of the Clean Water Act or under 40 CFR S401.15.
21. Total Identifiable Chlorinated hydrocarbons (TICH) shall be measured by summing the individual concentrations of DDT, DDD, DDE, aldrin, BHC, chlordane, endrin, heptachlor, lindane, dieldrin, PCBs and other identifiable chlorinated hydrocarbons.
22. Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass or overflow. It does not mean economic loss caused by delays in production.
23. Untreated waste is defined as raw wastewater.
24. Upset means an exceptional incident in which there is unintentional temporary noncompliance with effluent technology based permit limitations in the order and permit because of factors beyond the reasonable control of the Discharger. It does not include noncompliance to the extent

caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

25. Waste, waste discharge, discharge of waste, and discharge are used interchangeably in this order and permit. The requirements of this order and permit are applicable to the entire volume of water, and the material therein, which is disposed of to surface and ground waters of the State of California.

Attachment E

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

RESOLUTION NO. 74-10

POLICY REGARDING WASTE DISCHARGER'S RESPONSIBILITIES TO DEVELOP AND IMPLEMENT CONTINGENCY PLANS TO ASSURE CONTINUOUS OPERATION OF FACILITIES FOR THE COLLECTION, TREATMENT, AND DISPOSAL OF WASTE

WHEREAS, this Regional Board has adopted policies and requirements stating its intent to protect the beneficial water uses within the San Francisco Bay Region and prohibiting the discharge of untreated or inadequately treated wastes; and

WHEREAS, conditions including process failure, power outage, employee strikes, physical damage caused by earthquakes, fires, vandalism, equipment and sewer line failures, and strikes by suppliers of chemicals, etc., or maintenance services can result in the discharge of untreated or inadequately treated wastes; and

WHEREAS, the development and implementation of contingency plans for the operation of waste collection, treatment, and disposal facilities under such conditions should insure that facilities remain in, or are rapidly returned to, operation in the event of such an incident and measures are taken to clean up the effects of untreated or inadequately treated wastes.

NOW, THEREFORE BE IT RESOLVED, that this Regional Board will require each discharger as a provision of its NPDES Permit to submit within 120 days after the adoption of the permit a contingency plan acceptable to the Regional Board's Executive Officer to include at least the following:

- A. Provision of personnel for continued operation and maintenance of sewerage facilities during employee strikes or strikes against contractors providing services.
- B. Maintenance of adequate chemicals or other supplies and spare parts necessary for continued operation of sewerage facilities.
- C. Provisions of emergency standby power.
- D. Protection against vandalism
- E. Expeditious action to repair failures of or damage to equipment and sewer lines.
- F. Report of spills and discharges of untreated or inadequately treated wastes including measures taken to clean up the effects of such discharges
- G. Programs for maintenance replacement and surveillance of physical condition of equipment, facilities, and sewer lines.

BE IT FURTHER RESOLVED, pursuant to Section 13267 and 13268, dischargers with NPDES Permits now in effect are required to develop and submit a contingency plan as described above, by December 1, 1974.

BE IT FURTHER RESOLVED, that the discharge of pollutants in violation of an NPDES Permit where a discharger has failed to develop and implement a contingency plan as described above will be the basis for considering the discharge a willful and negligent violation of the Permit and action pursuant to Section 13387 of the California Water Code.

BE IT FURTHER RESOLVED, that it is the intent of the Regional board to eventually require all waste dischargers in the San Francisco Bay Region to develop contingency plans, and those not specifically covered by this resolution are urged to voluntarily develop and implement plans including the above named elements.

I, Fred H. Dierker, Executive officer, do hereby certify the foregoing is a full, true and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on July 16, 1974.

A handwritten signature in cursive script, reading "Fred H. Dierker", is written over a solid horizontal line.

FRED H. DIERKER
Executive Officer



California Regional Water Quality Control Board
San Francisco Bay Region



Winston H. Hickox
Secretary for
Environmental
Protection

Internet Address: <http://www.swrcb.ca.gov>
1515 Clay Street, Suite 1400, Oakland, California 94612
Phone (510) 622-2300 • FAX (510) 622-2460

Gray Davis
Governor

Date: JAN 31 2001
File: 2179.7037(JCH)
Certified Mail No. 70993220000146712665

Mr. James B. Bewley
South Bayside System Authority
1400 Radio Road
Redwood City, CA 94065

Dear Mr. Bewley:

The Regional Board adopted Order No. 01-012 at its regular monthly meeting on Wednesday January 24, 2001. I have enclosed the adopted order which reissues the NPDES permit for South Bayside System Authority.

If you have any questions regarding this letter, please contact Judy C. Huang at (510) 622-2363 or E-mail her at jch@rb2.swrcb.ca.gov.

Sincerely,

Loretta K. Barsamian
Executive Officer

Enclosure