

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

ORDER NO. 00-089  
NPDES PERMIT NO. CA 0038008  
*Adopted August 16, 2000*  
*Modified May 11, 2001*

REISSUING WASTE DISCHARGE REQUIREMENTS FOR:

CITY OF LIVERMORE  
LIVERMORE  
ALAMEDA COUNTY

AND

LIVERMORE-AMADOR VALLEY WATER MANAGEMENT AGENCY  
ALAMEDA COUNTY

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

1. The City of Livermore (hereinafter 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 through a common outfall under the National Pollutant Discharge Elimination System (NPDES).

**Facility Description**

2. The discharger owns and operates the wastewater treatment plant, located in Livermore, Alameda County. The facility has capacity to provide secondary level treatment for 8.5 million gallons per day (mgd) of domestic, commercial, and industrial wastewater from Livermore. The average dry weather flow for 1998 at the treatment plant was 6.26 mgd.
3. The treatment facility consists of grit removal, primary clarification, activated sludge, secondary clarification, and disinfection. Approximately 93% of the present annual flow is discharged to the Livermore-Amador Valley Water Management Agency (LAVWMA) export system. The remaining 7% is further treated and used for irrigation of the Las Positas Golf Course, landscape irrigation at the Livermore Airport and within the treatment plant. These reclamation activities are regulated under separate waste discharge requirements. Sludge is anaerobically digested, dewatered by belt filter presses and is being used as alternative landfill cover.
4. The City of Livermore is preparing a Specific Plan and EIR for a proposed North Livermore development that may encompass up to 33,200 people and generate an ADWF of 3.4 mgd. The North Livermore development and other planned development are projected to result in an ultimate buildout wastewater flow of approximately 11.1 mgd. The City is preparing a wastewater treatment plant master plan that will identify the improvements needed and the timing of those improvements, to accommodate flows above the currently permitted ADWF capacity of 8.5 mgd. If the discharger chooses to pursue a capacity increase for the treatment plant, the discharger will need to prepare and

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submit to the Board documentation that the increased discharge will not result in degradation of receiving waters, or adverse impacts on beneficial uses of receiving waters, in accordance with State and Federal regulations. This analysis may be conducted in coordination with other dischargers. Other information that the discharger will need to submit, includes, but may not be limited to, documentation of compliance with CEQA, an evaluation of plans for increased water reuse, and engineering reports documenting adequate reliability, capacity, and performance of the improvements.

5. The Board issued a Master Water Recycling Permit (Order No. 93-159) to Livermore, Dublin San Ramon Services District, and the Zone 7 Water Agency in December 1993. That permit identifies the various technical reports that must be submitted by a permittee for Executive Officer approval prior to commencing operation of a recycled water irrigation, groundwater recharge, or other Title 22 approved project. Livermore has constructed a 0.75 mgd reverse osmosis facility for demineralization of tertiary recycled water. In accordance with the Master Permit, the discharger submitted an "Engineering Report for Groundwater Recharge with Recycled Water" in May 1996 to the Board and the Department of Health Services. In August the discharger completed a Mitigated Negative Declaration for this proposed demineralized recycled water groundwater injection recharge project. DHS is expected to complete its review of the proposed project later in 2000. Board staff will review the recommendations of DHS and make a determination of whether the project can proceed in accordance with Order No. 93-159.
6. The Basin Plan Implementation Plan (pp. 4-21 to 4-24) describes the issue of and need to manage excess salt loading to the main groundwater basin in the Livermore-Amador Valley. The Master Permit requires development of a Salt Management Plan (SMP) to minimize the trend toward increasing main basin groundwater salinity due to natural conditions and imported water usage, and to fully mitigate the effects of salt loading due to water recycling. In August 1999 the Zone 7 Water Agency Board of Directions approved a Resolution supporting the Year 2000-2002 Salt Management Implementation Plan and associated goals, and authorized the Zone 7 General Manager to proceed with the SMP. This plan includes use of demineralized recycled water from the discharger's reverse osmosis facility as one of the tools for offsetting salt loading to the main basin. The intent of the Zone 7 plan is to offset salt loading from all current sources, including current recycled water irrigation at the Livermore Gold Course, through a combination of increased conjunctive use, groundwater demineralization with brine export, and recycled water demineralization. As indicated in Provision 4 of the Master Permit, it is the Board's intent to rescind Order No. 90-102 and regulate all of Livermore's water recycling projects under the Master Permit, following submittal and Executive Officer approval of the Salt Management Program.
7. Livermore, DSRSD, Zone 7 and/or other entities in the Livermore-Amador Valley are likely to implement one or more groundwater demineralization projects in the future to help control salt loading and resultant groundwater degradation, and to help maintain and improve potable water quality. The currently preferred option for disposal of this concentrate is directly to the LAVWMA/EBDA export pipeline. Concentrate typically does not require discharge to the sewer collection system and treatment plant since it is essentially brackish water with low levels of naturally occurring trace elements from the local groundwater. Any sewer discharge would also reduce Joint Powers Agreement limited influent capacity. Board staff find that discharge of concentrate to the Livermore Interceptor would be consistent with the terms and conditions of this

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Order as long as the combined stream is in compliance with all applicable effluent limitations as measured at the joint EBDA monitoring location. The discharger shall notify the Board prior to allowing any such concentrate discharge and the Executive Officer will amend the Self-Monitoring Program to include appropriate monitoring requirements.

8. The Basin Plan states that "Groundwater recharge or conveyance via ephemeral streams or waters of the State is an essential component of the proposed valley-wide, year-round water recycling and groundwater quality management program." Stream recharge projects can provide multiple environmental benefits in addition to groundwater recharge to enhance local water supply and improve groundwater quality including improving riparian and aquatic habitat and extending the length of time each year that an otherwise ephemeral stream can support aquatic life beneficial uses. The discharger is conducting technical and environmental studies to develop the information necessary to support an application for dry season stream recharge with demineralized recycled water along Arroyo Mocho in South Livermore in the vicinity of Isabel Avenue.
9. The Board will consider amending this NPDES permit to allow dry season releases of demineralized recycled water to Arroyo Mocho, that are contained within the Livermore-Amador Valley, following submittal of documentation by the discharger of, at a minimum, compliance with CEQA requirements, compliance with Master Permit and Title 22 groundwater recharge requirements, compliance with Basin Plan and other NPDES requirements, and compliance with Department of Fish and Game requirements.

#### **Discharge Description**

10. The discharger transports the treated effluent to the LAVWMA export pump station where it combines with the City of Livermore's treated effluent. The combined wastewaters flow to two flow-equalization basins, receive additional chlorination and are pumped via LAVWMA's pipeline to the East Bay Dischargers Authority (EBDA) system. EBDA transports LAVWMA treated wastewater jointly with the treated wastewater from its member agencies to its dechlorination station near the San Leandro Marina (Marina Dechlorination Facility) and thence to its deepwater outfall in Lower San Francisco Bay west of the Oakland Airport at longitude 122° 17' 42" W, latitude 37° 41' 40" N. The outfall's diffuser is located 37,000 feet from shore; it discharges 23.5 feet below the surface (MLLW); and it is designed to provide minimum initial dilution of greater than 10:1 at all times, and about 45:1 for 45% of the time. EBDA is responsible for the combined transport, dechlorination, and discharge of LAVWMA's treated wastewater by contractual agreement.
11. LAVWMA is responsible for transporting effluent from its member agencies to the EBDA system. It is not empowered to take actions to secure member agency compliance with requirements. The discharger and LAVWMA will be referred to hereafter as the discharger.
12. LAVWMA is a joint powers agency created in 1974 for wastewater management planning for the service areas of Livermore, Pleasanton, and Dublin-San Ramon Services District (DSRSD). By contractual agreement, DSRSD is responsible for operating and maintaining LAVWMA's export pump station and pipeline facilities and for performing and submitting the self-monitoring requirements for the LAVWMA facilities.

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13. Both EBDA and LAVWMA are Joint Exercise of Powers Agencies which exist under Joint Exercise of Powers Agreements (JEPA) to operate treated wastewater transport and disposal facilities. Since LAVWMA and its tributary agencies are not signatories to the EBDA JEPA, the EBDA-LAVWMA agreement empowers EBDA to monitor discharges by LAVWMA into the EBDA system and requires LAVWMA, as a condition of continuing service, to comply with all requirements prescribed by the Board at the individual treatment plants, except residual chlorine, for which EBDA will be responsible.
14. This discharge is presently governed by Waste Discharge Requirements in Order No. 94-073 adopted by the Board on June 15, 1993, which allows discharge in to Lower San Francisco Bay. Separate waste discharge requirements (NPDES Permits) for DSRSD and EBDA will be reissued with this Order.
15. LAVWMA's export pump station can export up to 41.2 mgd of treated wastewater, or 21.5 mgd more than its contracted capacity of 19.7 mgd in the EBDA system. LAVWMA is allowed to discharge up to 21.5 mgd to San Lorenzo Creek during peak wet weather periods pursuant to separate Board Order.
16. The discharger has implemented and is maintaining an USEPA approved pretreatment program in accordance with Federal pretreatment regulations (40 CFR 403) and this Board's Order No. 95-015.

#### **Applicable Plans, Policies, and Regulations**

17. *Basin Plan*: The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on June 21, 1995. 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, 1995 and November 13, 1995, respectively. A summary of the regulatory provisions is contained in Title 23 of the California Code of Regulations, Section 3912. The Basin Plan identifies beneficial uses and water quality objectives (WQOs) for waters of the state in the Region, including surface waters and groundwaters. The Basin Plan also identifies effluent limitations and discharge prohibitions intended to protect beneficial uses. This Order implements the plans, policies and provisions of the Board's Basin Plan.
18. *California Toxic Rule*: On May 18, 2000, the US 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 discharges.
19. *State Implementation Plan (SIP)*: On March 2, 2000, the State Water Resources Control Board (State Board) adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*. This policy prescribes the plans for implementing the water quality standards in the CTR. This policy is generally referred to as the State Implementation Plan (SIP). The SIP was subsequently adopted by the Office of Administrative Law on April 28, 2000.

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20. Effluent limitations and toxic effluent standards are established pursuant to Sections 301 through 305, and 307 of the Federal Water Pollution Control Act and amendments thereto are applicable to the discharge herein.

#### **Beneficial Uses**

21. The beneficial uses identified in the Basin Plan for Lower San Francisco Bay are as follows:

- Industrial Service Supply
- Navigation
- Water Contact Recreation
- Non-contact Water Recreation
- Ocean Commercial and Sport Fishing
- Wildlife Habitat
- Preservation of Rare and Endangered Species
- Fish Migration
- Fish Spawning
- Shellfish Harvesting
- Estuarine Habitat

#### **Regulatory Basis for Effluent Limit and Discharge Requirements**

22. 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,
- USEPA 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,
- Draft National Guidance for the Permitting, Monitoring, and Enforcement of Water Quality-based Effluent Limitations set Below Analytical Detection/Quantitation Levels March 18, 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,
- USEPA Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity Programs Final May 31, 1996,
- Draft Whole Effluent Toxicity (WET) Implementation Strategy February 19, 1997.

23. *Water Quality Objectives and Effluent Limits.* WQOs and effluent limitations in this permit are based on the State Water Resources Control Board's "Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California" (the State Implementation Plan or SIP); the plans, policies and water quality objectives and criteria of the 1995 Basin Plan,

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California Toxics Rule (Federal Register Volume 65, No. 97), *Quality Criteria for Water* (EPA 440/5-86-001, 1986 and subsequent amendments "Gold Book"), 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 as defined in the Basin Plan. 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 USEPA criteria and supplemented where necessary by other relevant information to attain and maintain narrative water quality criteria to fully protect designated beneficial uses.

24. *Applicable Water Quality Objectives.* The Basin Plan 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". The Basin Plan also directs that ambient conditions shall be maintained until site-specific objectives are developed. 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.
25. *Regional Monitoring Program.* 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. 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.
26. *Monitoring Requirements for Certain Metals.* For constituents 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.
27. *303(d)-Listed Pollutants.* On May 12, 1999, the USEPA approved a revised list of impaired waterbodies 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 one of these impaired water bodies. The pollutants impairing Lower San Francisco Bay include copper, mercury, nickel, exotic species, PCBs total, dioxin and furan compounds, chlordane, DDT, Dieldrin, Diazinon, and dioxin-like PCBs. For the Lower San Francisco Bay the highest priority pollutant is mercury.

### **Total Maximum Daily Loads and Waste Load Allocations**

28. Based on the 303(d) list of pollutants impairing Lower San Francisco Bay, the Board plans to adopt Total Maximum Daily Loads (TMDLs) for these pollutants no later than 2015. However, future review of the 303(d) list for Lower San Francisco Bay may result in revision of the schedules and/or provide schedules for other pollutants.
29. The TMDLs will establish waste load allocations (WLAs) and load allocations for point sources and non-point sources, respectively. The purpose of TMDLs is to achieve the water quality standards for the waterbody. The final effluent limitations for this discharge will be based on WLAs that are derived from the TMDLs.
30. The following summarizes the Board's strategy to collect water quality data and to develop TMDLs:
  - a. Data collection – The Board will request dischargers 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 waterbodies. The results 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 impaired waterbodies.
  - b. Funding mechanism – The Board has received, and anticipates continuation to receive, 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

### **Reasonable Potential**

31. When a discharge causes, has the reasonable potential to cause, or contributes to a receiving water excursion above a narrative or numeric criteria within a State water quality standard, federal law and regulations, as specified in 40 CFR 122.44(d) (1) (i), require the establishment of WQBELs that will protect water quality. Pollutants exhibiting RP in the discharge authorized by this Order are identified below. The Board plans to adopt TMDLs that will include WLAs for the 303(d)-listed pollutants, except dioxins and furans. When each TMDL is complete, the Board will adopt a WQBEL consistent with the corresponding WLA. If authorized, a time schedule may be included in the revised permit to require compliance with the final WQBELs.

### **Interim Limits**

32. In the interim, until final WQBELs are adopted, state and federal antibacksliding and antidegradation policies require that the Board retain effluent concentration limits from the Previous Order (or the

bases for those limits as derived from the current Basin Plan, 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 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, Dioxins and Furans, 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. One exception to this is dioxin and furans. 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 USEPA, the Board will impose one of the following 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 (RP) Analysis**

33. As specified in 40 CFR 122.44(d) (1) (i), permits are required to include limits for all pollutants "which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard." Using the method described in the SIP, Regional Board staff and the discharger have analyzed the effluent data to determine if the discharge has reasonable potential to cause or contribute to an exceedance of a State water quality standard ("RP Analysis"). The RP analysis compares the effluent data with the Basin Plan, CTR, USEPA's NTR, 1998, and USEPA's Quality Criteria for Water, 1986 (Gold Book).

- 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 USEPA 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 WQOs from the USEPA Gold Book, NTR, and CTR.
- b. *RPA Data.* The RPA was based on effluent monitoring data for 1997 through 1999 for metals, semi-volatile organic, organic compounds, and polycyclic aromatic hydrocarbons (PAHs). RPA for dioxin and furan compounds was based on data obtained between 1997 through 1999.
- c. *Discharges to the lower San Francisco Bay*

*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, selenium, silver, zinc, and cyanide and Benzo(a)Anthracene, Bis(2-Ethylhexyl)Phthalate, Chrysene, Dibenzo(a,h)Anthracene, and Indeno(1,2,3-cd)Pyrene. Based on the RPA, numeric effluent limits are required to be included in the permit for these constituents.

*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, and 2,3,7,8 TCDD, all the constituents under EPA methods 8270, 8240 and 8080 (except those mentioned above). 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, or lowest detection limit if the constituent was not detected, and reasonable potential conclusions from the RPA are listed in the following table for each constituent analyzed. All the data are in  $\mu\text{g/L}$ .

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Constituent	Maximum Observed Concentration, or Lowest Detection Level if not detected	Water Quality Objective	Reasonable Potential
Antimony	7.7	4,300	N
Arsenic	13	36	N
Beryllium	0.605	No Obj.	CD
Cadmium	4.6	9.3	N
Chromium	9.0	50	N
Copper	23.00	3.7	Y
Lead	9.30	5.60	Y
Mercury	0.14	0.025	Y
Nickel	21.00	7.1	Y
Selenium	6.7	5	Y
Silver	7.5	2.3	Y
Zinc	120.00	58	Y
Thallium	7.7	6.3	CD
Cyanide	21	1	Y
2,3,7,8 TCDD or Dioxin	0.00000034	0.000000014	DL
Acrolein	20	780	N
Acrylonitrile	1	0.66	N
Benzene	0.05	71	N
Bromoform	0.78	360	N
Carbon tetrachloride	0.14	4.4	N
Chlorobenzene	0.05	21,000	N
Chlorodibromomethane	0.63	34	N
Chloroethane	0.19	No Obj.	CD
2-Chloroethyl vinyl ether	0.1	No Obj.	CD
Chloroform	10.0	No Obj.	CD
Dichlorobromomethane	0.15	46	N
1,1-Dichloroethane	0.07	No Obj.	CD
1,2-Dichloroethane	0.06	99	N
1,1-Dichloroethylene	0.05	3.2	N
1,2-Dichloropropane	0.12	39	N
1,3-Dichloropropylene	0.07	1,700	N
Ethylbenzene	0.08	29,000	N
Methyl Bromide	0.21	4,000	N

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Methyl Chloride	0.1	No Obj.	CD
Methylene Chloride	5.6	1,600	N
1,1,2,2-Tetrachloroethane	0.03	11.00	N
Tetrachloroethene (Tetrachloroethylene)	0.11	8.85	N
Toluene	3.8	200,000	N
1,2-Trans-Dichloroethylene	0.14	140,000	N
1,1,1-Trichloroethane	0.08	No Obj.	CD
1,1,2-Trichloroethane	0.03	42	N
Trichloroethene	0.11	81	N
Vinyl chloride	0.07	525	N
2-Chlorophenol	0.2	400	N
2,4-Dichlorophenol	0.5	790	N
2,4-Dimethylphenol	0.63	2,300	N
2-Methyl-4,6-Dinitrophenol	0.98	765	N
2,4-Dinitrophenol	0.98	14,000	N
2-Nitrophenol	0.12	No Obj.	CD
4-Nitrophenol	2.0	No Obj.	CD
3-Methyl 4-Chlorophenol	0.2	No Obj.	CD
Pentachlorophenol	2.0	7.9	N
Phenol	0.82	4,600,000	N
2,4,6-Trichlorophenol	0.32	6.5	N
Acenaphthene	0.0446	2,700	N
Acenaphthelene	0.4	No Obj.	CD
Anthracene	1.8	110,000	N
Benzidine	4.9	0.00054	CD
Benzo(a)anthracene	0.65	0.049	Y
Benzo(b)fluoranthene	0.0079	0.049	N
Benzo(k)fluoranthene	0.041	0.049	N
Benzo(g,h,i)perylene	0.42	No Obj.	CD
Benzo(a)pyrene	0.0079	0.049	N

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Constituent	Maximum Observed Concentration, or Lowest Detection Level if not detected	Water Quality Objective	Reasonable Potential
Bis(2-chloroethoxy)methane	0.098	No Obj.	CD
Bis(2-chloroethyl)ether	0.2	1.40	N
Bis(2-chloroisopropyl)ether	0.098	170,000	N
Bis(2-ethylhexyl)phthalate	14.0	9.9	Y
4-Bromophenylphenylether	0.98	No Obj.	CD
Butylbenzylphthalate	0.54	5,200	N
2-Chloronaphthalene	0.2	4,300	N
4-Chlorophenyl phenylether	0.2	No Obj.	CD
Chrysene	5.90	0.05	Y
Dibenz(a,h)anthracene	0.72	0.05	Y
1,2-Dichlorobenzene	0.29	170,000	N
1,3-Dichlorobenzene	0.29	2,600	N
1,4-Dichlorobenzene	0.36	2,600	N
3,3-Dichlorobenzidine	0.098	0.08	DL
Diethyl phthalate	0.098	120,000	N
Dimethylphthalate	0.098	2,900,000	N
Di-n-Butyl Phthalate	0.24	12,000	N
2,4-Dinitrotoluene	0.098	9.1	N
2,6-Dinitrotoluene	0.20	No Obj.	CD
Di-N-octylphthalate	0.2	No Obj.	CD
1,2-Diphenylhydrazine	NA	0.54	CD
Fluoranthene	0.64	370	N
Fluorene	1.2	14,000	N
Hexachlorobenzene	0.02	0.00077	DL
Hexachlorobutadiene	0.39	50	N
Hexachlorocyclopentadiene	0.98	17,000	N
Hexachloroethane	0.39	8.9	N
Indeno(1,2,3-cd)pyrene	1.00	0.049	Y
Isophorone	0.11	600	N
Naphthalene	0.369	No Obj.	CD
Nitrobenzene	0.098	1,900	N
N-Nitrosodimethylamine	0.2	8.1	N

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Constituent	Maximum Observed Concentration, or Lowest Detection Level if not detected	Water Quality Objective	Reasonable Potential
N-Nitrosodiphenylamine	0.18	16	N
N-Nitroso-di-N-propylamine	0.098	1.4	N
Phenanthrene	4.3	No Obj.	CD
Pyrene	0.0479	11,000	N
1,2,4-Trichlorobenzene	0.29	No Obj.	CD
Aldrin	0.00208	0.00014	DL
A-BHC	0.00129	0.013	N
B-BHC	0.00455	0.046	N
G-BHC (Lindane)	0.00119	0.063	N
D-BHC	0.00396	No Obj.	CD
Chlordane	0.0139	0.00059	DL
4,4'-DDT	0.00208	0.00059	DL
4,4'-DDE	0.00109	0.00059	DL
4,4'-DDD	0.00792	0.00084	DL
Dieldrin	0.00129	0.00014	DL
Endosulfan I	0.00099	0.01	N
Endosulfan II	0.00139	0.01	N
Endosulfan sulphate	0.00564	240	N
Endrin	0.00208	0.0023	N
Endrin Aldehyde	0.00168	0.81	N
Heptachlor	0.00287	0.00021	DL
Heptachlor Epoxide	0.00495	0.00011	DL
Aroclor 1016	0.0198	0.00017	DL
Aroclor 1221	0.139	0.00017	DL
Aroclor 1232	0.0594	0.00017	DL
Aroclor 1242	0.0198	0.00017	DL
Aroclor 1248	0.099	0.00017	DL
Aroclor 1254	0.0792	0.00017	DL
Aroclor 1260	0.0891	0.00017	DL
Toxaphene	0.071	0.0002	DL
Tributyltin	0.002	0.005	N

**Table Definitions:**

CD	=	Cannot determine reasonable potential
DL	=	Detection limit is above water quality objective
N	=	No reasonable potential
NA	=	Data not available
No Obj.	=	No water quality objective available
Y	=	Reasonable potential Exists

- e. *Organic Constituents with Limited Data.* Reasonable Potential cannot be determined for various organic constituents because accurate estimations are not possible for some of the constituents. For these constituents, the water quality objectives or effluent limitations are less than detection levels of current analytical techniques. 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.
- f. *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 but continued monitoring is required as identified in the self-monitoring program. If significant increases occur in the concentrations of these constituents, 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.
- g. *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.
- h. The discharge 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.

**Bases for Effluent Limitations**

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 ug/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 USEPA, and which continue to apply. Although ambient background concentrations are below WQOs for protection of both fresh and salt-water aquatic species, the Central 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, they have clearly not succeeded in accomplishing this. 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 on the 303(d) list for impairing the San Francisco Bay due to fish tissue level exceedances. At the same time, municipal dischargers are generally not considered to be significant contributors to the mercury loading to the San Francisco Bay. Nevertheless, 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 this Board by 2015 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.
- c. 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 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.
- d. *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.

- e. *Mass Emission Limit.* A mass-based loading limit (mass emission limit) for mercury of 0.791 kilograms per month is established in this Order. This limit is the 99.7 percentile value (or average + 3\* standard deviation) of the calculated 12-month moving averages of total recoverable mercury loading from discharges to the San Francisco Bay, based on effluent data from January 1997 through December 1999. The loadings were calculated using 12-month moving averages for effluent flows and concentrations. 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. If a TMDL is not established by 2015, 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.
35. *RPA for Diazinon.* Although diazinon is on the 303(d) list for Lower San Francisco Bay, no effluent limit is required for the discharger for the following reasons.
- a. data collected by the discharger and the member agencies of EBDA and LAVWMA from 1995-1999 was all non detect for diazinon and other organophosphate pesticides.
  - b. The discharger has been performing chronic toxicity tests monthly for the last five years using *Ceriodaphnia dubia* as the test organism. This organism is particularly sensitive to diazinon and related compounds. The discharger has had no chronic toxicity violations during the last five years. In fact, TU<sub>c</sub> values have averaged 2.0, while the effluent limit is 10.0.
  - c. There is currently no approved WQO for diazinon.

#### **Optional Mass Offset**

36. This Order contains requirements to prevent further degradation of the impaired waterbody. Such requirements include the adoption of mass and concentration limits that are based on the treatment plant performance, provisions are included herein for aggressive source control and waste minimization, feasibility studies for wastewater reclamation, and treatment plant 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.

**Benzo(a) Anthracene, Chrysene, Dibenzo(a,h) Anthracene, Indeno(1,2,3-cd) Pyrene**

37. Interim limits are included in this order for Benzo(a) Anthracene, Chrysene, Dibenzo(a,h) Anthracene, Indeno(1,2,3-cd) Pyrene. However, due to the uncertainties about the quantities of these constituents that could be a stress to the ecosystem, the discharger is required to implement an aggressive source control and pollution prevention program to identify sources and evaluate options for control and reduction of loadings from these constituents.

**Whole Effluent Acute Toxicity**

38. This Order includes effluent limits for whole-effluent acute toxicity. Compliance evaluation is based on 96-hour flow-through bioassays. USEPA promulgated updated test methods for acute and chronic 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. Acute testing of very young larval fish begins to approximate a chronic toxicity test. In 1996, SWRCB staff recommended to the regional boards that new or renewed permit holders be allowed a time period in which new laboratories can become proficient in conducting the new tests. A provision is included allowing the discharger to continue using the current test protocols until further guidance is provided by SWRCB or Board staff on conducting the new tests and interpreting the compliance results compared to current test results.

**39. Pollutant Minimization/Pollution Prevention**

- 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.
40. *Storm Water Discharges* Federal Regulations for stormwater discharges were promulgated by USEPA on November 19, 1990. The regulations [40 Code of Federal Regulations (CFR) Parts 122, 123, and 124] require specific categories of industrial activity (industrial storm water) to obtain a NPDES permit and to implement Best Available Technology Economically Available (BAT) and Best Conventional Pollutant Control Technology (BCT) to control pollutants in industrial storm water discharges. The storm water flows from the wastewater treatment facility process areas are directed to the wastewater treatment plant headworks and treated along with the wastewater discharged to the treatment plants. These stormwater flows constitute all industrial storm water at these facilities and consequently this permit regulates all industrial storm water discharges at these facilities.
41. An **Operations and Maintenance Manual** is maintained by the discharger 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.
42. *Ambient Water Quality Monitoring* Ambient, background data, upstream from the facility, is required, according to the SIP in order to complete the RP analysis and to determine final effluent limits, where applicable. The discharger is 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.
43. In accordance with the SIP, the major dischargers shall conduct effluent monitoring for the seventeen 2,3,7,8-TCDD congeners. 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.
44. 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.
45. The discharger and interested agencies and persons have been notified of the Board's intent to reissue requirements for the existing discharge and have been provided an opportunity to submit their written views and recommendations.
46. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

**IT IS HEREBY ORDERED**, pursuant to the provisions of Division 7 of the California Water Code and regulations adopted thereunder, and to the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, that the dischargers shall comply with the following:

**A. DISCHARGE PROHIBITIONS**

1. Discharge of treated wastewater at a location or in a manner different from that described in this Order is prohibited. Discharge at any point at which the wastewater does not receive an initial dilution of at least 10:1 is prohibited
2. The bypass or overflow of untreated or partially treated wastewater to waters of the State, either at the treatment plant(s) or from any of the joint facilities or individual member collection system(s) or pump stations tributary to the treatment plant is prohibited, except as allowed under conditions stated in 40 CFR 122.41 (m)(4) and (n). The bypass of partially treated wastewater to waters of the State is also prohibited, except that bypassing of individual treatment processes, for example during periods of high wet weather flow, is allowable provided that the combined discharge of fully treated and partially treated wastewater complies with the effluent and receiving water limitations contained in this Order.
3. The average dry weather flow discharge shall not exceed 8.5 mgd. Actual average dry weather flow shall be determined for compliance with this prohibition over three consecutive dry weather months each year.
4. Discharges of water, materials, or wastes other than storm water, which are not otherwise authorized by this NPDES permit, to a storm drain system or waters of the State are prohibited.
5. Storm water discharges shall not cause pollution, contamination, or nuisance.

**B. EFFLUENT LIMITATIONS**

Compliance with the effluent limitations shall be demonstrated in the combined discharge, except that individual EBDA treatment plants, DSRSD, and Livermore may elect to demonstrate compliance with requirements B.2, B.3, and B.5 in their discharge after prior approval of the Executive Officer. Demonstration of compliance for removal rates will be based upon the algebraic summing of the EBDA agency influent loadings and the combined effluent load less the contribution from the LAVWMA plants.

1. Effluent discharged to the LAVWMA system shall not exceed the following limits, except 1d does not apply to discharges to the LAVWMA system.

Constituent	Units	Monthly Average	Weekly Average	Daily Maximum	Instantaneous Max	
a. Carbonaceous BOD (CBOD <sub>5</sub> , 20°C)		mg/l	25	40	--	--
b. Total Suspended Solids		mg/l	30	45	--	--

c. Settleable Matter	ml/1-hr	0.1	--	--	0.2
d. Total Chlorine Residual <sup>(1)</sup>	mg/l	--	--	0.0	0.0

Footnote:

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

2. pH: the pH of the discharge shall not exceed 9.0 nor be less than 6.0

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

3. Fecal Coliform Bacteria:

The treated wastewater, at some place in the treatment process prior to discharge and mixing with City of Livermore treated effluent at the LAVWMA junction structure, shall meet the following limits of bacteriological quality. The five day log mean fecal coliform density shall not exceed 500 MPN/100mL, and the ninetieth percentile value shall not exceed 1100 MPN/100 mL.

4. 85 Percent Removal, CBOD and TSS:

The arithmetic mean of the biochemical oxygen demand (Five-day, 20°C) and total suspended solids 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.

5. Effluent Toxicity:

5.1 Acute Toxicity: Representative samples of the effluent shall meet the following limits for acute toxicity: (see provisions of this Order for more information)

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

defined as follows:

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

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

Compliance with this effluent limitation may be demonstrated in the combined discharge at the EBDA outfall.

If the discharger demonstrates to the satisfaction of the Executive Officer that toxicity exceeding the levels cited above is caused by ammonia and that the ammonia in the discharge is not adversely impacting receiving water quality or beneficial uses, then such toxicity does not constitute a violation of this effluent limitation. In the event that ammonia in the effluent consistently causes toxicity, the Board may consider modifying or granting an exception to this effluent limitation if the discharger demonstrates that ammonia in the effluent is not impacting receiving water quality or beneficial uses. Anti-backsliding will not apply to such a modification because the limit does not apply to ammonia toxicity.

## 5.2 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;
  2. accelerated monitoring (bi-weekly) after exceeding a three sample median value of 10 chronic toxicity<sup>(1)</sup> (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) workplan if accelerated monitoring confirms consistent toxicity above either "trigger" in "2", above;
  5. return to routine monitoring after appropriate elements of TRE workplan 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.

Footnote<sup>(1)</sup> 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.

Compliance with this effluent limitation may be demonstrated in the combined discharge at the EBDA outfall.

B. Test Species and Methods

The discharger shall conduct routine monitoring with a species determined to be the most sensitive species during a chronic toxicity screening performed by the Discharger. Bioassays shall be conducted in compliance with the "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to West Coast Marine and Estuarine Organisms," (EPA/600/R-95/136, August 1995), with exceptions granted the discharger by the Executive Officer and the Environmental Laboratory Accreditation Program.

6. TOXIC SUBSTANCES EFFLUENT LIMITATIONS: The discharge of combined effluent containing constituents in excess of the following limits is prohibited<sup>(1)</sup>:

Constituent	Maximum Daily Limit	Average Monthly Limit	Interim Daily Maximum	Interim Monthly Average	Units	Notes
Copper			23		µg/L	
Mercury				0.21	µg/L	(2)
Lead	56				µg/L	
Nickel			21		µg/L	
Silver	23				µg/L	
Selenium	50				µg/L	(5)
Zinc	580				µg/L	
Cyanide			21		µg/L	(3), (4)
Benzo(a)Anthracene	0.98	0.49		0.65	µg/L	
Bis(2-Ethylhexyl)Phthalate			14		µg/L	(4)
Chrysene	0.98	0.49		5.9	µg/L	
Dibenzo(a,h)Anthracene	0.98	0.49			µg/L	
Indeno(1,2,3-cd)Pyrene	0.98	0.49		1.0	µg/L	

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Constituent	Units	Running Annual Average
Mercury	Kg/month	0.791

Footnotes :

- (1) a. These limits are based on marine water quality objectives, and are intended to be achieved through secondary treatment and, as necessary, pretreatment and source control
- b. Compliance with these effluent limitation may be demonstrated in the combined discharge at the EBDA outfall.
- c. Limits apply to the average concentration of all samples collected during the averaging period (Daily - 24-hour period; Monthly - Calendar month). Maximum Daily effluent limitations based on EPA aquatic life criterion continuous concentrations may be met as a 4-day average (an average of all samples taken over a continuous 4-day period). If compliance is to be determined based on a 4-day average, then concentrations of each of the 24-hour composite samples shall be reported, as well as the average of the total number of composite samples taken over the 4-day period.
- d. All analyses shall be performed using current USEPA Methods. Detection limits, practical quantitative levels, and limits of quantitation will be taken into account in determining compliance with effluent limitations.
- e. Mass limit is based on 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' values. Sample calculation

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).

- f. These interim performance-based mass emission limits 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, or if one of the other bases for an exception to the rule are met.
- g. The total mass loads for the above constituents shall not exceed the respective limits. Compliance with these limits shall be evaluated using 12-month moving averages of plant flows and effluent concentrations. The Board will take into account the occurrence of extended extreme wet weather flow conditions when evaluating enforcement actions for exceedance of

these limits.

- h. Compliance with the maximum daily limit and average monthly limit for Benzo(a)Anthracene, Chrysene, Dibenzo(a,h)Anthracene, and Indeno(1,2,3-cd)Pyrene shall occur no later than 30 days after the completion of Provision 9, no later than the expiration date of this permit, or no later than a determination of the Executive Officer that the discharger has achieved compliance whichever occurs first
- (2) Mercury: Measurement of effluent mercury shall be performed using ultra-clean sampling and analysis techniques, with a detection limit of 0.01 µg/L, or lower.
  - (3) Cyanide: Compliance 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 data for Lower Bay Stations. It is the intent of the Board that this data be generated through the RMP.
  - (5) Selenium is not a 303d listed pollutant for lower San Francisco Bay.

7. Dioxins and Furans

- a. *Numerical Water Quality Objective:* On May 18, 2000, the US EPA published in the Federal Register the California Toxics Rule (CTR) establishing water quality standards for toxic pollutants for California waters (FR 31681). The CTR was effective on the date of publication. The following are pertinent to dioxins and furans:
  - i. The CTR establishes a standard for 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD) of 0.014 picograms per liter (pg/l) for the protection of human health from consumption of aquatic organisms.
  - ii. 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.
- b. *State Implementation Plan.* The SIP establishes the implementation policy for dioxins and furans. The SIP 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 dioxin and furan compounds.
- c. *Interim Monitoring Requirements.* Since the discharger has not detected dioxins and furans in its effluent and, there is no effluent data to conduct a RPA or calculate an interim limit. Pursuant to the SIP, the discharger will be required to monitor for dioxins and furans. If there is Reasonable Potential based on sufficient effluent data, a performance-based interim limit will be established based on TEQs. For bioaccumulative priority pollutants for which the receiving water has been



4. Storm Water Discharge

- a. Storm water discharges shall not adversely impact human health or the environment.
- b. Storm water discharges shall not cause or contribute to a violation of any applicable water quality objective for receiving waters contained in the Basin Plan.

D. SLUDGE MANAGEMENT PRACTICES

1. All sludge generated by discharger must be disposed of in a municipal solid waste landfill, reused by land application, or disposed of in a sludge-only landfill in accordance with 40 CFR Part 503. If the discharger desire to dispose of sludge by a different method, a request for permit modification must be submitted to the USEPA 180 days before start-up of the alternative disposal practice. All the requirements in 40 CFR 503 are enforceable by USEPA whether or not they are stated in an NPDES permit or other permit issued to the discharger.
2. Sludge treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.
3. Duty to mitigate: The discharger shall take all reasonable steps to prevent or minimize any sludge use or disposal which has a likelihood of adversely affecting human health or the environment.
4. The discharge of sewage sludge shall not cause waste material to be in a position where it is, or can be carried from the sludge treatment and storage site and deposited in the waters of the State.
5. The sludge treatment and storage site shall have facilities adequate to divert surface runoff from adjacent areas, to protect boundaries of the site from erosion, and to prevent any conditions that would cause drainage from the materials in the temporary storage site. Adequate protection is defined as protection from at least a 100-year storm and protection from the highest possible tidal stage that may occur.
6. The discharger shall submit an annual report to the USEPA and the Board containing monitoring results and pathogen and vector attraction reduction requirements as specified by 40 CFR 503, postmarked no later than February 19 of each year, for the period covering the previous calendar year.
7. Sludge that is disposed of in a municipal solid waste landfill must meet the requirements of 40 CFR 258. In the annual self-monitoring report, the discharger shall include the amount of sludge disposed of, and the landfill(s) to which it was sent.
8. Permanent on-site sludge storage or disposal activities are not authorized by this permit. A Report of Waste Discharge shall be filed and the site brought into compliance with all applicable regulations prior to commencement of any such activity by the discharger.
9. General Provision C of this Board's "Standard Provisions and Reporting Requirements", dated August 1993, apply to sludge handling, disposal and reporting practices.

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

#### E. PROVISIONS

1. The discharger shall comply with the limitations, prohibitions, and other provisions of this Order immediately upon adoption by the Board. The Board may reopen this permit to add numeric limits for any constituent that in the future exhibits reasonable potential to cause or contribute to exceedance of applicable water quality objectives. Requirements prescribed by this Order supersede the requirements prescribed by Order No. 94-073. Order No. 94-073 is hereby rescinded.

#### 2. Compliance with Acute Toxicity Effluent Limitation

Compliance with Effluent Limitation (Acute Toxicity) of this Order shall be evaluated by measuring survival of test fish exposed to undiluted effluent for 96 hours in flow-through bioassays. The species to be used is identified in the Self-Monitoring Program.

All bioassays shall be performed according to protocols approved by the USEPA or State Board, or published by the American Society for Testing and Materials (ASTM) or American Public Health Association. Bioassay shall be conducted in compliance with the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms," 3<sup>rd</sup> Edition, with exceptions granted the discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP). The discharger is allowed to continue using the current test protocols until further guidance is provided by SWRCB or Board staff on conducting the new tests and interpreting the compliance results compared to current test results.

#### 3. TRE for Chronic Toxicity

If there is a consistent exceedance of either of the chronic toxicity monitoring triggers, the discharger shall implement a TRE in accordance with a TRE work plan acceptable to the Executive Officer. The TRE shall be initiated within 15 days of the date that consistent exceedance is found to exist. TREs need to be site specific but should follow USEPA guidance and be conducted in a step-wise fashion. Tier 1 includes basic data collection, followed by Tier 2 which evaluates optimization of the treatment system operation, facility housekeeping, and the selection and use of in-plant process chemicals.

If unsuccessful in reducing toxicity, Tier 3, a Toxicity Identification Evaluation (TIE) should be initiated and all reasonable efforts using currently available TIE methodologies employed. Assuming successful identification or characterization of the toxicant(s), Tier 4 is to evaluate final effluent treatment options and Tier 5 is to evaluate within plant treatment options. Tier 6 consists of follow-up and confirmation once the toxicity control method has been selected and implemented.

Many recommended TRE elements parallel source control, pollution prevention, and storm water control program best management practices (BMPs). To prevent duplication of effort, evidence of complying with those requirements may be sufficient to comply with TRE requirements if the pollutants targeted by those programs are suspected to be the cause of the chronic toxicity. Support for this may include results of a Phase 1 TIE or other data as acceptable to the Executive Officer. By requiring the first steps of a TRE to be accelerated testing and review of the facility's TRE workplan, a TRE may be ended in its early stages.

Monitoring for chronic toxicity is required in three separate stages: routine, accelerated for confirmation, and monitoring under TRE. The monitoring under TRE will be specified in the TRE workplan.

The Board recognizes that identification of causes 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 in identifying and reducing sources of consistent toxicity.

#### **4. 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.

#### **5. Pretreatment Program**

The discharger shall implement and enforce its approved pretreatment program in accordance with Federal Pretreatment Regulations (40 CFR 403), pretreatment standards promulgated under Section 307(b), 307(c), and 307(d) of the Clean Water Act, and this Board's Order No. 95-015 with all amendments and revisions thereafter. The discharger's responsibilities include but are not limited to:

- a. Enforcement of National Pretreatment Standards of 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 its approved pretreatment program;

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 (USEPA) may take enforcement actions against the discharger as authorized by the Clean Water Act.

## 6. 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.
- b. The discharger shall submit an annual report, acceptable to the Executive Officer, no later than February 28<sup>th</sup> or August 30<sup>th</sup> of each calendar year. *For annual reports due February 28<sup>th</sup>, Annual report shall cover January through December of the preceding year. For annual reports due August 30<sup>th</sup>, Annual reports shall cover July of the preceding year through June of the current year.*

Annual report shall include at least the following information:

- (i) *A brief description of its treatment plant, treatment plant processes and service area.*
- (ii) *A discussion of the current pollutants of concern. Periodically, the discharger shall analyze its own situation to determine which pollutants are currently a problem and/or which pollutants may be potential future problems. This discussion shall include the reasons why the pollutants were chosen.*
- (iii) *Identification of sources for the pollutants of concern. This discussion shall include how the discharger intends to estimate and identify sources of the pollutants. The discharger should also identify sources or potential sources not directly within the ability or authority of the discharger to control such as pollutants in the potable water supply and air deposition.*
- (iv) *Identification of tasks to reduce the sources of the pollutants of concern. This discussion shall identify and prioritize tasks to address the discharger's pollutants of concern. 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.*
- (v) *Implementation and continuation of outreach tasks for City and/or District 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 concerns, 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.*

- (vi) *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.*
  - (vii) *Discussion of criteria used to measure 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. (iv), b. (v), and b. (vi).*
  - (viii) *Documentation of efforts and progress. This discussion shall detail all of the discharger's activities in the Pollution Prevention Program during the reporting year.*
  - (ix) *Evaluation of Program's and tasks' effectiveness. This discharger shall utilize the criteria established in b. (vii) to evaluate the Program's and tasks' effectiveness.*
  - (x) *Identification of specific tasks and time schedules for future efforts. Based on the evaluation, the discharger shall detail how it intends to continue or change its tasks in order to more effectively reduce the amount of pollutants to the treatment plant, and subsequently in its effluent.*
- c. According to Section 2.4.5.1 of the SIP, when there is evidence that a priority pollutant is present in the effluent above an effluent limitation and either:
- (i) A sample result is reported as detected, but not quantified (i.e., <Minimum Level) and the effluent limitation is less than the reported ML; or
  - (ii) A sample result is reported as not detected (Method Detection Limit) and the effluent limitation is less than the Method Detection Limit, the discharger shall be required to expand its existing Pollution Prevention Program to include the reportable priority pollutant(s). A priority pollutant becomes a reportable priority pollutant when there is evidence that it is present in the effluent above an effluent limitation and either (i) or (ii) is triggered.
- d. If triggered by the reasons in Provision 5.c. and notified by the Executive Officer, the discharger's Pollution Prevention Program shall, within 6 months, also include:
- (i) An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling, or alternative measures approved by the Executive Officer when it is

- demonstrated that source monitoring is unlikely to produce useful analytical data;
- (ii) Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system, or alternative measures approved by the Executive Officer when it is demonstrated that influent monitoring is unlikely to produce useful analytical data;
  - (iii) Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;
  - (iv) Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and
  - (v) An annual status report that shall be sent to the RWQCB including:
    - 1. All Pollution Prevention monitoring results for the previous year;
    - 2. A list of potential sources of the reportable priority pollutant(s);
    - 3. A summary of all actions undertaken pursuant to the control strategy; and
    - 4. A description of actions to be taken in the following year.
- e. 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.
- f. 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).

#### 7. 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

<b><u>Task</u></b>	<b><u>Compliance Date</u></b>
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- |                          |                              |
|--------------------------|------------------------------|
| (a) <u>Sampling Plan</u> | 1 year after permit adoption |
|--------------------------|------------------------------|

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) <u>Implement Plan</u> | 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) <u>Annual Report</u> | Annually for 3 years |
|--------------------------|----------------------|

Submit a report, to the Board, documenting the work performed in the sampling plan for the seventeen congeners.

8. *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.

9. **Benzo(a) Anthracene, Chrysene, Dibenzo(a,h) Anthracene, Indeno(1,2,3-cd) Pyrene**

The discharger shall implement an aggressive source control and pollution prevention program to identify sources and evaluate options for control and reduction of loadings from Benzo(a) Anthracene, Chrysene, Dibenzo(a,h) Anthracene, Indeno(1,2,3-cd) Pyrene. The pollution prevention program shall consider reductions in effluent concentrations achieved through source control and economically feasible optimization of treatment plant processes. This program shall be developed and implemented in accordance with the following time schedule.

<b><u>Task</u></b>	<b><u>Compliance Date</u></b>
(1) Source Control and Reduction Study Plan	6 months after permit adoption

Submit a proposed Study Plan, to be approved by the Executive Officer, to investigate sources and reduction measures for Benzo(a) Anthracene, Chrysene, Dibenzo(a,h) Anthracene, Indeno(1,2,3-cd) Pyrene. The investigation shall include 1) evaluating possible means by which any significant sources can be reduced, 2) investigating means of optimizing the removal of these constituents by treatment plant processes, 3) assessing the feasibility of controlling effluent loadings through: improving education and outreach; reducing infiltration and inflow; and increasing reclamation and reuse of treated effluent. This Study Plan shall include proposed actions and a time schedule for their implementation.

- (2) Study Commencement 30 days after approval of study plan by Executive Officer

Commence work in accordance with Study Plan and time schedule submitted pursuant to Task (2) above.

- (3) Interim report 6 months after Study commencement

Submit an interim report, to be approved by the Executive Officer, documenting the initial findings of source reduction options, and past and proposed efforts to encourage minimization of sources of these constituents.

- (4) Final Report 12 months after approval of Interim Report by Executive Officer

Submit a final report, acceptable to the Executive Officer, documenting the findings of source reduction work and efforts made to minimize these constituents in the treated effluent. This report shall include assessment of the feasibility of controlling effluent loadings through, at a minimum: identifying and reducing sources, optimizing treatment plant performance, improving public education and outreach, reducing infiltration and inflow, and increasing reclamation and reuse of treated effluent.

**10. TMDL Status Review:**

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

11. If the discharger chooses to pursue a capacity increase for the treatment plant, information that must be submitted prior to the Executive Officer consideration of a flow increase must include, but may not be limited to, the following:
- a. Engineering reports documenting adequate reliability, capacity and performance of the completed improvements to the treatment facility;
  - b. Documentation that increased discharges (evaluation must include assessment of wet weather flows) will not result in degradation of receiving waters, or adverse impacts on beneficial uses

- of receiving waters, in accordance with State and Federal regulations;
- c. Plans for including reuse of the treated effluent as an integral part of the wastewater management plan; and
  - d. Documentation of compliance with the California Environmental Quality Act (CEQA).
12. The discharger shall review, and update as necessary, their Operations and Maintenance Manuals, annually, or within 90 days of completion of any significant facility or process changes. The report describing the results of the review process including an estimated time schedule for completion of any revisions determined necessary, and a description or copy of any completed revisions, shall be submitted to the Board as a part of the Annual Report, as described in the attached Self-Monitoring Program.
  13. Annually, the discharger shall review and update as necessary, their Contingency Plans as required by Board Resolution 74-10. 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. The discharger may include in its Contingency Plan elements to satisfy the requirements of Standard Provisions and Reporting Requirements D (Treatment Reliability) and E.5. (Spill Prevention Contingency Plans). Plan revisions, or a letter stating that no changes are needed, shall be submitted to the Board as a part of the Annual Report, as described in Section F.5, Part A, of the attached Self-Monitoring Program.
  14. The discharger shall implement a program to regularly review and evaluate their wastewater collection, treatment and disposal facilities in order to ensure that all facilities are adequately staffed, supervised, financed, operated, maintained, repaired, and upgraded as necessary, in order to provide adequate and reliable transport, treatment, and disposal of all wastewater from both existing and planned future wastewater sources under the dischargers' service responsibilities. Records documenting this program shall be kept at each individual treatment facility and made available to the Board staff upon request. A Treatment Facilities Evaluation Program summary report discussing the status of this evaluation program, including any recommended or planned actions, shall be submitted to the Board by April 15 of each year.
  15. The discharger shall comply with the Self-Monitoring Program for this Order, as adopted by the Board and as may be amended by the Executive Officer.
  16. The discharger shall comply with all applicable items of the attached "Standard Provisions and Reporting Requirements " dated August 1993, or any amendments thereafter.
  17. 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 are causing or significantly contributing to adverse impacts on water quality and/or beneficial uses of the receiving waters.

Order No. 00-089  
Modified May 11, 2001

18. This Order expires on August 16, 2005. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days before this expiration date as an application for reissuance of waste discharge requirements.
19. 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 Regional Administrator, EPA, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

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 August 16, 2000, with minor modifications administratively incorporated on May 11, 2001.



Teng-Chung Wu, P.E.  
Chief of NPDES Division

LORETTA K. BARSAMIAN  
Executive Officer

Order No. 00-089  
Modified May 11, 2001

- Attachments:
- (1) Location Map
  - (2) Self-Monitoring Program (Part A Self-Monitoring Program NPDES Permits, August 1993; and Part B)
  - (3) Standard Provisions and Reporting Requirements - August 1993

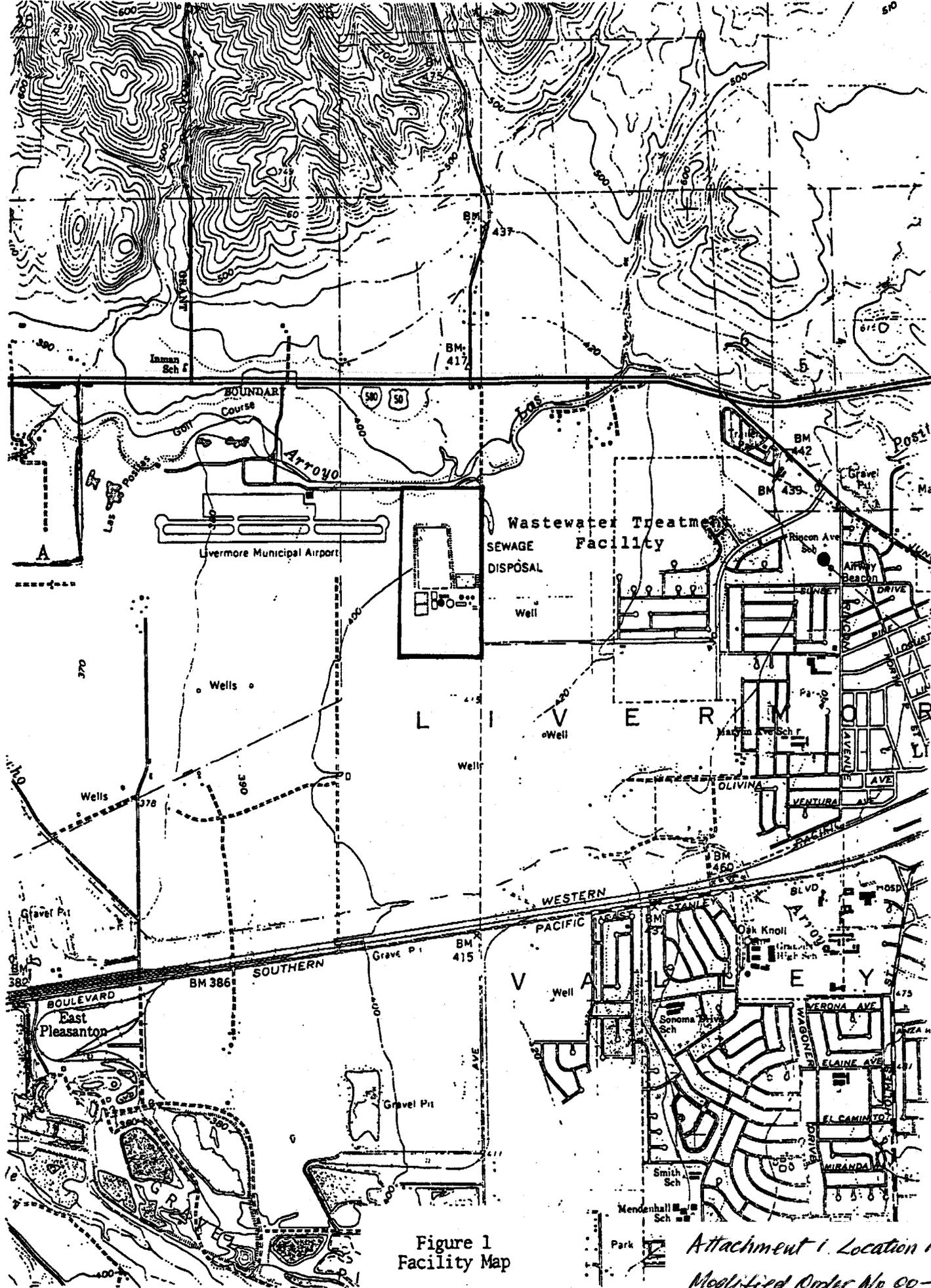


Figure 1  
Facility Map

Attachment 1. Location Map  
 Modified Order No. 00-089  
 (Adopted May 11, 2001)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM  
FOR  
CITY OF LIVERMORE  
AND  
LIVERMORE-AMADOR VALLEY WATER MANAGEMENT AGENCY

NPDES NO. CAO038008

ORDER NO. 00-089  
Modified May 11, 2001

CONSISTING OF  
PART A, DATED AUGUST 1993  
AND PART B, DATED MAY 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 S136 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, sludges, 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 USEPA, 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., fishkill, 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, 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<sub>i</sub>" 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.

**PART B**

**I. DESCRIPTION OF SAMPLING STATIONS**

**A. INFLUENT (ALL EBDA AND LAVWMA TREATMENT PLANTS)**

<u>Station</u>	<u>Description</u>
A-1	At any point in the individual treatment facilities headworks at which all waste tributary to the system is present and preceding any phase of treatment or sidestream.

**B. EFFLUENT (ALL EBDA AND LAVWMA TREATMENT PLANTS AND OUTFALL)**

<u>Station</u>	<u>Description</u>
E-1	At any point in the EBDA common outfall at which all waste tributary to that outfall is present.
E-2	At any point in the individual treatment plant facilities at which adequate disinfection has taken place and just prior to where the individual facility transfers control of its effluent to EBDA or LAVWMA facilities. Upon approval of the Executive Officer may be the same as E-1.

**C. RECEIVING WATERS (SAN FRANCISCO BAY)**

<u>Station</u>	<u>Description</u>
C1, C2, C4	Located per station 1, 2, and 4 respectively as shown in Figure 1.
C-R (C3)	Reference station located at station 3 as shown on Figure 1.

**D. OVERFLOWS AND BYPASSES (ALL EBDA AND LAVWMA TREATMENT PLANTS, COLLECTION SYSTEMS, INTERCEPTOR AND OUTFALL)**

<u>Station</u>	<u>Description</u>
O-1 through O-n	Bypass or overflows from manholes, pump stations, interceptors, or collection system.

**NOTE:**

1. A map and description of each known or observed overflow or bypass location shall accompany each monthly report. A summary of these occurrences and their locations shall be included with the Annual Report for each calendar year.

## II. CHRONIC TOXICITY MONITORING REQUIREMENT

- A. Test Species and Frequency: The discharger shall collect a 24-hour composite sample of the treatment plant effluent at the station E-1 or E-2, for critical life stage toxicity testing in accordance with the attached Table 1. For toxicity tests requiring renewals, 24-hour composite samples collected on consecutive days are required.
- B. Methodology: Sample collection, handling and preservation shall be in accordance with EPA protocols. The test methodology used shall be in accordance with the references cited in Attachment B, or as approved by the Executive Officer. A concurrent reference toxicant test shall be performed for each test.
- C. Dilution Series: The discharger shall conduct tests at 50%, 25%, 10%, 5%, 2.5%. The "%" represents percent effluent as discharged.

## III. 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. IC<sub>15</sub>, IC<sub>25</sub>, IC<sub>40</sub>, and IC<sub>50</sub> values (or EC<sub>15</sub>, EC<sub>25</sub> ... etc.) in percent effluent
  - 7. TUC values (100/NOEC, 100/IC<sub>25</sub>, and 100/EC<sub>25</sub>)
  - 8. Mean percent mortality after 96 hours in 100% effluent (if applicable)
  - 9. NOEC and LOEC values for reference toxicant test(s)
  - 10. IC<sub>50</sub> or EC<sub>50</sub> value(s) for reference toxicant test(s)
  - 11. Available water quality measurements for each test (e.g. pH, D.O, temperature, conductivity, hardness, salinity, ammonia)
- B. Compliance Summary: Each self-monitoring report 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 A item numbers 1, 3, 5, 6(IC<sub>25</sub> or EC<sub>25</sub>), 7, and 8.
- C. Reporting Data in Electronic Format: The Dischargers shall report all monitoring results in electronic reporting format approved by the Executive Officer

## IV. SCHEDULE OF SAMPLING, ANALYSIS AND OBSERVATIONS

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

## V. REPORTING REQUIREMENTS

1. General Reporting Requirements are described in Section C of this Board's "Standard Provisions and Reporting Requirements", dated August 1993.
2. Self-Monitoring Reports for each calendar month shall be submitted monthly, no later than 45 days from the last day of the reporting month. The required contents of these reports are described in Section F.4. of Part A. . The Dischargers may elect to report all monitoring results using an Electronic Reporting System approved by the Executive Officer.
3. An Annual Report for each calendar year shall be submitted to the Board by February 28th of the following year. The required contents of the annual report are described in Section F.5. of Part A.
4. Any overflow and/or bypass of wastewater in excess of 1,000 gallons, or significant non-compliance incident that may endanger health or the environment, shall be reported according to the Sections F.1 and F.2 of Part A.

## VI. 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.

1. 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.
2. 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:
  - i. Influent (A-001), and Effluent (E-001, E-002):
    1. Daily:
      - a. Average Daily Flow (mgd)
      - b. Maximum Daily Flow(mgd)
      - c. Minimum Daily Flow (mgd).
    2. Monthly: The same values as given in a. above, for the calendar month.
3. Disinfection Process Monitoring.  
*Chlorine Residual Monitoring*  
During all times when chlorination is used for disinfection of the effluent, effluent chlorine

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Modified May 11, 2001

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.

4. Acute Toxicity Monitoring (Flow-through bioassay tests).

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.

5. Chronic Toxicity Monitoring:

See also, Provisions E.3., E.4. and Self Monitoring Program - Attachment 1 of this Order.

*i. Chronic Toxicity Monitoring Requirements*

1. 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.

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.

6. Metals:

- i. The parameter 'Metals' in this SMP means all of the following constituents:

1. Arsenic
2. Cadmium
3. Chromium VI
4. Copper
5. Lead
6. Mercury
7. Nickel
8. Selenium
9. Silver
10. Zinc

- ii. Sampling and Analysis.

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

## **VII Monitoring Methods and Minimum Detection Levels**

1. The Discharger may use the methods listed in the Table 2 below and described in Tables 1A, 1B, 1C, 1D, and 1E of 40 CFR 136.3 (revised as of May 14, 1999) 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

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2. Where no methods are specified for a given pollutant in the Table 2 below, methods approved by the SWRCB or RWQCB.

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

1. Has been developed in accordance with the procedures 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. 00-089, as modified on May 11, 2001.
2. 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 authorized by the Executive Officer.
3. Is effective on May 11, 2001.



Teng-Chung Wu, P.E.  
Chief of NPDES Division

Loretta K. Barsamian  
Executive Officer

Attachment:

- A. Table 1: Schedule of Sampling, Measurements, and Analysis
- B. Table 2: Selected Constituents
- C. Chronic Toxicity – Definitions

**ATTACHMENT A**

TABLE 1 [8]  
SCHEDULE OF SAMPLING, MEASUREMENTS, AND ANALYSIS (1)  
City of Livermore

Sampling Station			A-001	E-001 [9]		E-002		All C Sta. [9]
Type of Sample			C-24	G	C-24	G	C-24	G
Parameter	Units	Notes	[1]					
Flow Rate	mgd	[2]	Cont/D		Cont/D		Cont/D	
PH	Units			W		W		Q
Temperature	°C			W		W		
Dissolved Oxygen	mg/L			W		W		Q
CBOD <sub>5</sub> 20°C	mg/L		W		W		W	
Total Suspended Solids	mg/L		W		W		W	
Settleable Matter	ml/l-hr			W		W		
Fecal Coliform	MPN/ 100 ml					W		
Sulfides	mg/L							Q
Ammonia Nitrogen	mg/L				2/M		2/m	Q
Unionized Ammonia	mg/L							Q
Acute Toxicity	% survival	[4]			M			
Chlorine Residual	mg/L	[3]			Cont.		Cont.	
Chronic Toxicity	TUc	[5]			Q		M	
Metals	µg/L & Kg/mo	[6]	Q		M		M	
Cyanide	µg/L		Q		M		M	
Table 2 Selected Constituents	µg/L		Y		Y [7]		Y [7]	

**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)

**Parameter and Unit Abbreviations**  
 BOD<sub>5</sub> 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 = Polycyclic Aromatic Hydrocarbons;

	intervals)		See SMP Section VI.H.
M	= once each month	TSS	= Total Suspended Solids
Q	= once each calendar quarter (at about three month intervals)	mgd	= million gallons per day
W	= once each week	mg/L	= milligrams per liter
Y	= once each calendar year	ml/L-hr	= milliliters per liter, per hour
2/Y	= twice each calendar year (at about 6 months intervals)	µg/L	= micrograms per liter
3/W	= three times each calendar week (on separate days)	kg/d	= kilograms per day
5/W	= five times each calendar week (on separate days)	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: VI. b
- [3] Chlorine Residual Monitoring. See SMP Section: VI. c
- [4] Acute Toxicity Monitoring. See SMP Section: VI. d
- [5] Chronic Toxicity Monitoring. See SMP Section VI. e; and Provision E.6
- [6] Metals See SMP Section: VI. f
- [7] Dioxin and Furan compounds shall be 2/Y as specified in Provision 7
- [8]. During any day when bypassing occurs from any treatment unit(s) in the plant or to the emergency outfall, the monitoring program for the effluent and any nearshore discharge shall include the following in addition to the above schedule for sampling, measurement and analysis:
  - 5. Composite sample for BOD and Total Suspended Solids.
  - 6. Grab samples for Total Coliform, Settleable Matter, and Oil and Grease
  - 7. Continuous monitoring of flow.
  - 8. Continuous or every two hours monitoring of chlorine residual.
- [9]. E-001 (combined EBDA effluent ) and C (receiving water) station monitoring is joint EBDA/LAVWMA monitoring that may be performed by EBDA with results reported by EBDA solely in the EBDA SMRs on behalf of Livermore and DSRSD.

**Attachment B**  
**Table 2**  
**SELECTED CONSTITUENTS**

1. Effluent monitoring shall include evaluation for all constituents listed in Table 2 below by sampling and analysis of final effluent.
2. Analyses shall be conducted to provide quantification of constituents sufficient to allow evaluation of observed concentrations with respect to the Minimum Levels given below. The constituent in bold has an interim concentration and/or mass limit.

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										

CTR #	Constituent (a)	Minimum Level (µg/L) (b)											
		GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	DCP
33.	Ethylbenzene	0.5	2										
34.	Methyl Bromide	1.0	2										
35.	Methyl Chloride or Chloromethane	0.5	2										
36.	Methylene Chloride or Dichlorormethane	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										
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.	Benzidine		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										

CTR #	Constituent (a)	Minimum Level (µg/L) (b)											
		GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	DCP
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										
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									

CTR #	Constituent (a)	Minimum Level (µg/L) (b)											
		GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	DCP
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											
	Tributyltin (c)												
	Chlorpyrifos (c, i)												
	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. 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 ultra-clean sampling and analytical methods for mercury monitoring per 13267 letter issued to Discharger. ML for compliance purposes is as listed in table above until the SWRCB adopts alternative minimum level.
- f) The discharger does not need to be sample for this constituent because sampling is not required for receiving waters with a municipal beneficial use designation.
- g) PCBs refers to PCB 1016, 1221, 1232, 1242, 1248, 1254 and 1260.
- h) Use Method 1613 for TCDD analysis and test for seventeen congeners.

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- i) The detection limit goals for these constituents are 0.03  $\mu\text{g/L}$ .

**ATTACHMENT C**  
**CHRONIC TOXICITY - DEFINITION OF TERMS & SCREENING PHASE REQUIREMENTS**

**I. Definition of Terms**

- A. No observed effect level (NOEL) for compliance determination is equal to  $IC_{25}$  or  $EC_{25}$ . If the  $IC_{25}$  or  $EC_{25}$  cannot be statistically determined, the NOEL shall be equal to the NOEC derived using hypothesis testing.
- B. Effective concentration (EC) is a point estimate of the toxicant concentration that would cause an adverse effect on a quantal, "all or nothing," response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Kärber.  $EC_{25}$  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  $IC_{25}$  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 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 B 1**  
**CRITICAL LIFE STAGE TOXICITY TESTS FOR ESTUARINE WATERS**

SPECIES	(Scientific name)	EFFECT	TEST DURATION	REFER- ENCE
alga	( <i>Skeletonema costatum</i> ) ( <i>Thalassiosira pseudonana</i> )	growth rate	4 days	Ref.1
red alga	( <i>Champia parvula</i> )	number of cystocarps	7-9 days	Ref.5
Giant kelp	( <i>Macrocystis pyrifera</i> )	percent germination; germ tube length	48 hours	Ref.3
abalone	( <i>Haliotis rufescens</i> )	abnormal shell development	48 hours	Ref.3
oyster mussel	( <i>Crassostrea gigas</i> ) ( <i>Mytilus edulis</i> )	{abnormal shell development; {percent survival	48 hours	Ref.2
Echinoderms (urchins - (sand dollar -	<i>Strongylocentrotus purpuratus</i> , <i>S. franciscanus</i> ); <i>Dendraster excentricus</i> )	percent fertilization	1 hour	Ref.4
shrimp	( <i>Mysidopsis bahia</i> )	percent survival; growth; fecundity	7 days	Ref.5
silversides	( <i>Menidia beryllina</i> )	larval growth rate; percent survival	7 days	Ref.5

**Toxicity Test References:**

1. American Society for Testing Materials (ASTM). 1990. Standard Guide for conducting static 96-hour toxicity tests with microalgae. Procedure E 1218-90. ASTM Philadelphia, PA.
2. American Society for Testing Materials (ASTM). 1989. Standard Practice for conducting static acute toxicity tests with larvae of four species of bivalve molluscs. Procedure E 724-89. ASTM, Philadelphia, PA.
3. Anderson, B.B. J.W. Hunt, S.L. Turpen, A.R. Coulon, M. Martin, D.L. McKeown, and F.H. Palmer. 1990. Procedures manual for conducting toxicity tests developed by the marine bioassay project. California State Water Resources Control Board, Sacramento.
4. Dinnel, P.J., J. Link, and Q. Stober. 1987. Improved methodology for sea urchin sperm cell bioassay for marine waters. Archives of Environmental Contamination and Toxicology 16:23-32. and S.L. Anderson. September 1, 1989. Technical Memorandum. San Francisco Bay Regional Water Quality Control Board, Oakland, CA.
5. Weber, C.I., W.B. Horning, II, D.J. Klem, T.W. Neiheisel, P.A. Lewis, E.L. Robinson, J. Menkedick, and F. Kessler (eds.). 1988. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to marine and estuarine organisms. EPA-600/4-87/028. National Technical Information Service, Springfield, VA.

**TABLE B 2  
 CRITICAL LIFE STAGE TOXICITY TESTS FOR FRESH WATERS**

SPECIES	(Scientific name)	EFFECT	TEST DURATION	REFERENCE
fathead minnow <sup>6</sup>	( <i>Pimephales promelas</i> )	survival; growth rate	7 days	
water flea <sup>6</sup>	( <i>Ceriodaphnia dubia</i> )	survival; number of young	7 days	
alga <sup>6</sup>	( <i>Selenastrum capricornutum</i> )	cell division rate	4 days	

**Toxicity Test Reference:**

6. Horning, W.B. and C.I. Weber (eds.). 1989. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to freshwater organisms. Second edition. U.S. EPA Environmental Monitoring Systems Laboratory, Cincinnati, Ohio. EPA/600/4-89/001.

**TABLE B 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 4	1 or 2 3 or 4	3 0
Marine:			
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 5 parts per thousand (ppt) more than 75% 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 5 ppt at least 75% of the time during a normal water year.

Fresh refers to receiving water with salinities less than 5 ppt at least 75% of the time during a normal water year.

**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:

<b>Metric tons sludge/365 days</b>	<b>Frequency</b>
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 USEPA 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 USEPA 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 USEPA 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:

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

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

In which 'N' is the number of samples analyzed in any calendar day. 'Q<sub>i</sub>' and 'C<sub>i</sub>' 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<sub>i</sub>' is the concentration measured in the composite sample and 'Q<sub>i</sub>' 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:

N

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

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<sub>t</sub>' 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 USEPA 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.



# 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: **MAY 23 2001**  
File No. 2199.9025 (JC)

Certified Mail No. 70993220000146713730  
Mr. Paul Zolfarelli  
Water Resources Manager  
101 West Jack London Blv.  
Livermore, CA 94550

Dear Mr. Zolfarelli:

Subject: **Transmission of Modified National Pollutant Discharge Elimination System (NPDES) Permit for City of Livermore Water Pollution Control Plant  
NPDES File No. CA0038008  
Order No. 00-089**

Enclosed please find the modified order for your facility. We have incorporated a number of changes to the subject permit. All the changes were specified in our letter to Mr. Charles Weir at East Bay Dischargers Authority dated April 11, 2001. We also sent the proposed modifications to our NPDES N1 list for public review. We have received no comments during the thirty-day reviews.

All the modifications made in the modified order are minor in accordance with 40 CFR 122.63. Therefore, a formal public hearing process is not necessary.

Should you have any questions regarding this matter, please contact Ms. Jenny Chen at (510) 622-2405 or by e-mail at [jc@rb2.swrcb.ca.gov](mailto:jc@rb2.swrcb.ca.gov).

Sincerely,

Teng-Chung Wu, P.E.  
Chief of NPDES Division

Loretta K. Barsamian  
Executive Officer

Enclosure: Modified Order 00-089