California Regional Water Quality Control Board

San Francisco Bay Region

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Linda S. Adams
Secretary for
Environmental Protection

Arnold Schwarzenegger
Governor

ORDER NO. R2-2007-0024
NPDES NO. CA0037796

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

Table 1. Discharger Information

Discharger	City of Pinole
Name of Facility	Pinole-Hercules Water Pollution Control Plant and its collection system
Facility Address	11 Tennent Avenue Pinole, CA 94564 Contra Costa County

The Discharger (City of Pinole) is authorized to discharge from the following discharge points as set forth below:

Table 2. Discharge Location

Discharge Points	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Secondary treated wastewater (Deep Water Outfall)	38º, 03', 06" N	122º, 14', 55" W	San Pablo Bay

Table 3. Administrative Information

This Order was adopted by the Regional Water Board on:	**March 14, 2007**
This Order shall become effective on:	**June 1, 2007**
This Order shall expire on:	**May 31, 2012**
The U.S. Environmental Protection Agency (USEPA) and the San Francisco Bay Regional Water Quality Control Board (Regional Water Board) have classified this discharge as a major discharge.	
The Discharger shall file a Report of Waste Discharge in accordance with Title 23 of the California Code of Regulations not later than 180 days in advance of the Order expiration date as application for issuance of new waste discharge requirements.	

IT IS HEREBY ORDERED, that Order No. 01-106 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions

of the federal Clean Water Act (CWA), and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

I, Bruce H. Wolfe, Executive Officer, do hereby certify the following is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on March 14, 2007.

Bruce H. Wolfe, Executive Officer

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The following documents are part of this Permit, but are not physically attached due to volume. They are available on the internet site at www.waterboards.ca.gov/sanfranciscobay

- Self-Monitoring Program, Part A, adopted August 1993
- Standard Provisions and Reporting Requirements, August 1993
- August 6, 2001 Staff Letter: Requirement for Priority Pollutant Monitoring in Receiving Water and Wastewater Discharges
- Regional Water Board Resolution 74-10

Attachment H – Pinole-Hercules Water Pollution Control Plant Infeasibility Analyses

I. FACILITY INFORMATION

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

Table 4. Facility Information

Discharger	City of Pinole
Name of Facility	Pinole-Hercules Water Pollution Control Plant and its Collection System
Facility Address	11 Tennent Pinole, CA 94564 Contra Costa County
Facility Contact, Title, and Phone	Julian Misra, Plant Manager, (510) 741-3851
Mailing Address	2131 Pear Street, Pinole, CA 94564
Type of Facility	POTW
Facility Design Flow	4.06 MGD (average dry weather capacity) 10.3 MGD (peak wet weather capacity)

II. FINDINGS

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

A. Background. The City of Pinole (hereinafter, the Discharger) is currently discharging under Order No. 01-106 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0037796. The Discharger submitted a Report of Waste Discharge (ROWD), dated March 30, 2006, and applied for renewal of its NPDES permit to discharge treated wastewater from the Pinole-Hercules Water Pollution Control Plant (WPCP). The ROWD was deemed complete on May 3, 2006.

B. Facility Description. The Discharger owns and operates the WPCP, which provides secondary treatment of domestic wastewater collected from the Cities of Pinole and Hercules. The WPCP has an average dry weather design flow of 4.06 million gallons per day (MGD) and can treat up to 10.3 MGD during the wet weather flow period.

The wastewater treatment process at the facility consists of screening, primary clarification (3 primary clarifiers), activated sludge biological treatment (4 aeration basins), secondary clarification (5 secondary clarifiers), disinfection with sodium hypochlorite, and dechlorination with sodium bisulfite.

Treated effluent is pumped to Rodeo Sanitation District (RSD) where it is combined with RSD effluent and discharged into San Pablo Bay (Latitude 38°03'06"N, Longitude 122°14'55"W) through a submerged deepwater diffuser about 3,000 feet offshore at a depth of about 18 feet below mean lower low water. Outfall 001 as identified by this Order is the WPCP discharge prior to combining with the RSD effluent. Between 2002 and 2005, the WPCP discharged an average of 3.37 MGD through Outfall 001.

When the combined flow of the WPCP and RSD exceed the capacity of the Outfall 001, excess secondary treated effluent from the WPCP is released through a shallow water discharge outfall (Outfall 002) into San Pablo Bay (Latitude 38°00'47"N, Longitude 122°17'45"W). This outfall is 30 feet offshore at a depth of 2 feet below lower low water. The Discharger uses the shallow water outfall approximately six times per year during scheduled and unscheduled repairs to the deepwater discharge or lack of capacity in the land outfall during wet weather events. The average duration of each discharge from Outfall 002 is 9.5 hours, with an average flow per discharge of 1.03 million gallons.

Biosolids collected from the wastewater treatment process undergo thickening in a gravity thickener, and rotary screw thickener, digestion and stabilization in the anaerobic digester, and dewatering in a centrifuge. The resulting dewatered biosolids are disposed of at the Keller Canyon Landfill in Pittsburg, California. Some thickened biosolids are transported to the East Bay Municipal Utilities District Water Pollution Control Plant for additional treatment and handling.

Attachment B provides a topographic map of the area around the facility. Attachment C provides a flow schematic of the facility.

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

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

E. **California Environmental Quality Act (CEQA).** This action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act in accordance with Section 13389 of the California Water Code.

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

G. **Water Quality-based Effluent Limitations.** NPDES regulations at 40 CFR 122.44(d) require that where reasonable potential (RP) to cause or contribute to an exceedance of applicable water quality standards exists, permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where numeric water quality objectives (WQOs) have not been established, 40 CFR §122.44(d) specifies that WQBELs

may be established using USEPA criteria guidance under CWA section 304(a) or proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information, including site specific applicability, or an indicator parameter. A detailed discussion of the water quality-based effluent limitations is included in the Fact Sheet (Attachment F).

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

Table 5. Basin Plan Beneficial Uses of San Pablo Bay

Discharge Points	Receiving Water Name	Beneficial Use(s)
001 & 002	San Pablo Bay	Ocean Commercial and Sport Fishing (COMM) Estuarine Habitat (EST) Industrial Service Supply (IND) Fish Migration (MIGR) Navigation (NAV) Preservation of Rare and Endangered Species (RARE) Water Contact Recreation (REC1) Non-contact Water Recreation (REC2) Shellfish Harvesting (SHELL) Fish Spawning (SPWN), and Wildlife Habitat (WILD)

Requirements of this Order specifically implement the Basin Plan.

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

J. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Boards in their basin plans, with the exception of the provision on alternate test procedures for individual discharges that have been approved by USEPA Regional Administrator. The alternate test procedures provision was effective on May 22, 2000. The SIP became effective on May 18, 2000. The State Water Board

subsequently amended the SIP on February 24, 2005, and the amendments became effective on July 31, 2005. The SIP includes procedures for determining the need for and calculating WQBELs and requires dischargers to submit data sufficient to do so. Requirements of this Order implement the SIP.

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

L. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. [40 CFR § 131.21; 65 Fed. Reg. 24641 (April 27, 2000)]. Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.

M. **Stringency of Requirements for Individual Pollutants.** This Order contains restrictions on individual pollutants that are no more stringent than required by the federal CWA. Individual pollutant restrictions consist of technology-based restrictions and WQBELs. The technology-based effluent limitations consist of restrictions on biochemical oxygen demand (BOD) or carbonaceous biochemical oxygen demand (CBOD), total suspended solids (TSS), Oil and Grease, pH, and chlorine residual. Restrictions on these pollutants are specified in federal regulations and have been in the Basin Plan since before May 30, 2000, as discussed in the attached Fact Sheet, Attachment F. The permit's technology-based pollutant restrictions are no more stringent than required by the CWA. WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR 131.38. The scientific procedures for calculating the individual WQBELs are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. Most beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA"

pursuant to 40 CFR 131.21(c)(1). The remaining water quality objectives and beneficial uses implemented by this Order (specifically Arsenic, Cadmium, Chromium (VI), Lead, Nickel, Silver (1-hour), and Zinc) were approved by USEPA on January 5, 2005, and are applicable water quality standards pursuant to 40 CFR 131.21(c)(2). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the CWA and the applicable water quality standards for purposes of the CWA.

N. **Antidegradation Policy.** NPDES regulations at 40 CFR131.12 require that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16, which incorporates the requirements of federal antidegradation policy. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. As discussed in detail in the Fact Sheet (Attachment F) the permitted discharge is consistent with the antidegradation provision of 40 CFR §131.12 and State Water Board Resolution 68-16.

O. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR § 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order.

P. **Monitoring and Reporting.** Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.

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

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

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

III. DISCHARGE PROHIBITIONS

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

B. Discharge of treated wastewater into San Pablo Bay, at any point at where it does not receive an initial dilution of at least 45:1, is prohibited.

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

Blended wastewater is biologically treated wastewater blended with wastewater that has been diverted around biological treatment units or advanced treatment units. Such discharges are approved under the bypass conditions stated in 40 CFR 122.41(m)(4) (1) when the Discharger's peak wet weather influent flow volumes exceed the capacity of the secondary treatment unit(s) of 10.3 MGD, (2) when the discharge complies with the effluent and receiving water limitations contained in this Order, and (3) provided the Discharger satisfies Provisions VI.C.2.d and VI.C.5.d. Furthermore, the Discharger shall operate its facility as designed and in accordance with the Operation & Maintenance Manual developed for the facility. This means that it shall optimize storage and use of equalization units, and shall fully utilize the biological treatment units and advanced treatment units, if applicable. The Discharger shall report incidents of the anticipated blended effluent discharges in routine monitoring reports, and shall conduct monitoring of this discharge as specified in the attached MRP (**Attachment E**).

D. The average dry weather flow as measured at Outfall 001 shall not exceed 4.06 MGD. The average dry weather flow shall be determined over 3 consecutive dry weather months each year.

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

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

Compliance with the effluent limitations shall be demonstrated in the discharge from Discharge Point 001, with compliance measured at Monitoring Location EFF-001A as described in the attached Monitoring and Reporting Program (**Attachment E**).

A. Effluent Limitations – Discharge Point 001

1. Conventional and Non-Conventional Pollutant Effluent Limitations

a. The discharge of treated wastewater shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001A as described in the attached Monitoring and Reporting Program (Attachment E):

Table 2. Effluent Limitations for Conventional and Non-Conventional Pollutants

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Carbonaceous Biochemical Oxygen Demand 5-day ($CBOD_5$ @ 20°C)	mg/L	25	40	--	--	--
$CBOD_5$ percent removal[1]	%	85	--	--	--	--
Total Suspended Solids (TSS)	mg/L	30	45	--	--	--
TSS percent removal[1]	%	85	--	--	--	--
pH[2]	standard units (s.u)	--	--	--	6.0	9.0
Oil and Grease	mg/L	10	--	20	--	--
Chlorine Residual[3]	mg/L	--	--	--	--	0.0

Footnotes for Table 2:

[1] **Percent Removal:** The arithmetic mean of the $CBOD_5$ and TSS values, by concentration, for effluent samples collected during a calendar month shall not exceed 15 percent of the arithmetic mean of the respective values for influent samples collected during the same calendar month.

[2] **pH:** The Discharger may elect to use a continuous on-line monitoring system(s) for measuring pH. If the Discharger employs continuous monitoring, then the Discharger shall be in compliance with the pH limitation specified herein, provided that both of the following conditions are satisfied:

a. 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

b. No individual excursion from the range of pH values shall exceed 60 minutes.

[3] **Chlorine Residual.** Requirement defined as below the limit of detection in standard test methods defined in the latest edition of Standard Methods for the Examination of Water and Wastewater. The Discharger may elect to continue its current system of monitoring chlorine residual every two hours before, or use a continuous on-line monitoring system(s) for measuring flows, chlorine residual and sodium bisulfite (or other dechlorinating chemical) dosage (including a safety factor) and concentration to prove that chlorine residual exceedances are false positives. If convincing evidence is provided,

Regional Water Board staff may conclude that these false positive chlorine residual exceedances are not violations of this permit limitation.

2. **Total Coliform Bacteria**

The treated wastewater, at some place in the treatment process prior to discharge, shall meet the following limits of bacteriological quality: The moving median value for the Most Probable Number (MPN) of total coliform bacteria in any five (5) consecutive samples shall not exceed 240 MPN/100ml; and any single sample shall not exceed 10,000 MPN/100 ml.

3. **Toxic Pollutants Final and Interim Effluent Limitations**

The discharge of treated wastewater shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001A as described in the attached Monitoring and Reporting Program (Attachment E). The interim effluent limitations specified below shall apply in lieu of the corresponding final effluent limitations specified for the same parameters during the time period indicated in this limitation. The discharge from Discharge Point 001 shall not exceed the following limitations.

Table 3. Effluent Limitations for Toxic Pollutants [1] [2]

	Units	Daily Maximum Interim Limitations	Average Monthly (AMEL) (μg/L)	Final Maximum Daily Effluent Limitations	Final Average Monthly Effluent Limitations	Effective Date for Final Limitations
Mercury[3][5][7]	µg/L	--	0.087	0.044	0.019	4/28/2010
Cyanide[4][5][6]	µg/L	12.	--	6.4	3.0	4/28/2010
Copper	µg/L	--	--	37.	20.	immediately
Dioxin-TEQ	µg/L			$2.8*10^{-8}$	$1.4*10^{-8}$	6/01/2017

Notes:

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

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

(c) All metal limitations are total recoverable.

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

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

[4] Alternate Effluent Limits for Cyanide at Outfall 001

a. If a cyanide SSO for the receiving water becomes legally effective, resulting in adjusted saltwater criteria CCC of 2.9 µg/l (based on the assumptions in *Staff Report on Proposed Site-Specific Water Quality Objectives for Cyanide for San Francisco* Bay, dated December 4, 2006), upon its effective date, the following limitations shall supersede those cyanide limitations, above (the rationale for these effluent limitations can be found in the Fact Sheet [**Attachment F**]).

MDEL of 43 µg/L, and AMEL of 20 µg/L.

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

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

Table 4. Minimum Levels

Constituent	Minimum Level	Units
Copper	0.5 or 2	µg/L
Mercury	0.0005	µg/L
Cyanide	5	µg/L

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

4. **Mercury Mass Effluent Limitation**:

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

The mass emission limit for mercury is 0.102 kilograms per month (kg/month).

Compliance with these limits shall be evaluated using running annual average mass load. Running annual averages shall be calculated by taking the arithmetic average of the current monthly mass loading value (see sample calculation below) and the previous 11-month's values. Sample calculation:

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

Constituent Concentration (µg/l) = Average of monthly effluent concentration measurements in µg/l. If more than one measurement is obtained in a calendar

month, the average of these measurements is used as the monthly value for the 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 (Conversion Factor)

The mercury TMDL and its WQBEL will supersede the mercury WQBELs listed in Table 3 and this interim mass emission limitation upon the TMDL's adoption. The Clean Water Act's anti-backsliding rule, Section 402(o), indicates that this Order may be modified to include a less stringent requirement following adoption of the TMDL and WLA, if the requirements for an exception to the rule are met.

5. **Whole Effluent Acute Toxicity**

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

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

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

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

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

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

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

6. Whole Effluent Chronic Toxicity (Not Applicable)

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

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

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

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

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

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

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

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

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

   a. Dissolved Oxygen: 5.0 mg/L, minimum

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

   b. Dissolved Sulfide: Natural background levels

   c. pH: Within 6.5 and 8.5 s.u. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.

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

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

3. The discharge shall not cause a violation of any particular water quality standard for receiving waters adopted by the Regional Water Board or the SWRCB as required by the Clean water Act and regulations adopted there under. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent standards.

B. Groundwater Limitations

N/A

VI. PROVISIONS

A. Standard Provisions

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

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

B. Monitoring and Reporting Program Requirements

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

C. Special Provisions

1. Reopener Provisions

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

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

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

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

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

e. as authorized by law.

The Dischargers may request permit modification based on the above. The Dischargers shall include in any such request an antidegradation and antibacksliding analysis.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Effluent Characterization for Selected Constituents

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

The Discharger shall evaluate on an annual basis if concentrations of any constituent increase over past performance. Furthermore, if that increase would result in reasonable potential to cause or contribute to an excursion above applicable WQO/WQC for constituents without effluent limitations in this Order, the Discharger shall investigate the source of the increase, which may include but is not limited to an increase in the effluent monitoring frequency, monitoring of internal process streams, and monitoring of influent sources. This may be satisfied through identification of these constituents as "Pollutants of Concern" in the Discharger's Pollutant Minimization Program described in **Provision C.3.b**, below. A summary of the annual evaluation of data, and source investigation activities shall also be reported in the annual self-monitoring report.

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

b. Ambient Background Receiving Water Study

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

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

c. Corrective Measures to Eliminate Blending at Outfall 001 and Prevent Discharge at Outfall 002

The Discharger shall complete the following tasks to increase dry and wet weather treatment capacity, eliminate blending at outfall 001 and prevent discharge at outfall 002.

Tasks	Compliance Date
1. Submit a Collection System Master Plan that includes, at a minimum, a 10-year capital improvement project along with an implementation schedule to reduce inflow and infiltration. The Discharger shall also consider options for expanding its legal authority to reduce I/I from the portion of the collection system owned and operated by the City of Hercules.	June 1, 2008
2. Submit an Engineering Report that describes WPCP upgrades that will increase the treatment capacity of the facility. The Engineering Report shall also include a complete antidegradation analysis that fully addresses consistency with the State Water Resources Control Board Resolution 68-16, and 40 CFR 131.12 for that project.	June 1, 2009
3. Provide an Environmental Impact Report, certified by the local lead agency, on the project described in Task 2 above, and begin securing the funds for the project.	August 1, 2010
4. Secure funding for WPCP upgrades, and provide	August 1, 2011

documentation that this task has been completed.	
5. Start design of WPCP facilities	August 1, 2012
6. Complete final design of WPCP facilities, and provide a technical report documenting completion.	August 1, 2013
7. Commence construction of WPCP facilities, and provide documentation of such commencement.	June 1, 2014
8. Complete construction of WPCP facilities, and provide a technical report documenting completion.	November 1, 2015
9. Ensure WPCP facilities are online and operational, and provide documentation that this task has been completed.	June 1, 2016
10. Report on the status of collection system projects and WPCP upgrades. Additionally, the Discharger shall report on its collaboration efforts with the City of Hercules, and the measures the City of Hercules is implementing to reduce inflow and infiltration.	Annually with the Annual Self-Monitoring Report required pursuant to Attachment E, Section X.B.2 (due February 1st)

d. Optional Mass Offset

If the Discharger can demonstrate that further net reductions of the total mass loadings of 303(d)-listed pollutants to the receiving water cannot be achieved through economically feasible measures such as aggressive source control, wastewater reuse, and treatment plant optimization, but only through a mass offset program, the Discharger may submit to the Regional Water Board for approval a mass offset plan to reduce 303(d)-listed pollutants to the same watershed or drainage basin. The Regional Water Board may modify this Order to allow an approved mass offset program.

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

The Discharger shall comply with the following tasks and deadlines:

Task	Deadline
1. Implement source control measures per schedule identified in the Discharger's Infeasibility Report to reduce concentrations of cyanide, mercury, and dioxin-TEQ to the treatment plant, and therefore to receiving waters.	Upon the effective date of this Order
2. The Discharger shall evaluate and report on the effectiveness of its source control measures in reducing concentrations of mercury, cyanide, and dioxin-TEQ to its treatment plant. If previous measures have not been successful in enabling the Discharger to comply with final limits for mercury, cyanide, or dioxin-TEQ, the Discharger shall also identify and implement additional source control measures to further reduce concentrations of these	Annually in the Annual Best Management Practices and Pollutant Minimization Report required by Provision VI.C.3

pollutants. If the cyanide SSO becomes effective and an alternate limit takes effect, the Discharger shall implement those measures described in Basin Plan implementation requirements associated with the cyanide SSO.	
3. In the event source control measures are insufficient for meeting final water quality based effluent limits specified in Effluent Limitations and Discharge Specifications A.3 for mercury, cyanide, and dioxin-TEQ, the Discharger shall submit a schedule for implementation of additional actions to reduce the concentrations of these pollutants.	July 1, 2009 for mercury and cyanide June 1, 2011 for dioxin-TEQ
4. The Discharger shall commence implementation of the identified additional actions in accordance with the schedule submitted in task 3, above.	Within 45 days of the date specified for task 3, above
5. Full Compliance with IV. Effluent Limitations and Discharger Specifications A.3 for mercury and cyanide.	April 28, 2010
6. Full Compliance with IV. Effluent Limitations and Discharger Specifications A.3 for dioxin-TEQ. Alternatively, the Discharger may comply with the limit in IV Effluent Limitations and Discharge Specifications through implementation of a mass offset strategy for dioxin-TEQ in accordance with the policies in effect at that time.	June 1, 2017

3. Best Management Practices and Pollutant Minimization Program

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

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

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

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

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

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

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

vi. *Continuation of Public Outreach Program.* The Discharger shall prepare a public outreach program to communicate pollution prevention to its service area. Outreach may include participation in existing community events such as county fairs, initiating new community events such as displays and contests during Pollution Prevention Week, conducting school outreach programs, conducting plant tours, and providing public information in newspaper articles or advertisements, radio or television stories or spots, newsletters, utility bill inserts, and web site. Information shall be specific to the target audiences. The Discharger shall coordinate with other agencies as appropriate.

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

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

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

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

c. Pollutant Minimization Program for Pollutants with Effluent Limitations

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

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

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

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

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

ii. Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;

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

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

v. The annual report required by 3.b. above, shall specifically address the following items for the reportable priority pollutant(s):

1. All PMP monitoring results for the previous year;

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

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

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

4. Construction, Operation and Maintenance Specifications

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

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

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

3) The Discharger shall provide the Executive Officer, upon request, a report describing the current status of its wastewater facilities and operation practices, including any recommended or planned actions and an estimated time schedule for these actions. The Discharger shall also include, in each annual self-monitoring report, a description or summary of its reviews and evaluations, and applicable wastewater facility programs or capital improvement projects.

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

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

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

3) The Discharger shall provide the Executive Officer, upon request, a report describing the current status of its O&M manual, including any recommended or planned actions and an estimated time schedule for these actions. The Discharger shall also include, in each annual self-monitoring report, a summary of any completed revisions, or a statement that no revisions are needed and the last date it updated its O&M Manual.

c. Contingency Plan, Review and Status Reports

1) The Discharger shall maintain a Contingency Plan as required by Regional Water Board Resolution 74-10 (**Attachment G**) and as prudent in accordance with current municipal facility emergency planning. The discharge of pollutants in violation of this Order where the Discharger has failed to develop and/or adequately implement a Contingency Plan will be the basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.

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

3) The Discharger shall provide the Executive Officer, upon request, a report describing the current status of its Contingency Plan review and update. The Discharger shall also include, in each annual self-monitoring report, a summary of any completed revisions, or a statement that no revisions are needed and the last date it updated its Contingency Plan.

5. Special Provisions for Municipal Facilities

a. Pretreatment Program (Not Applicable)

b. Sludge Management Practices Requirements

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

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

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

4) The discharge of biosolids shall not cause waste material to be in a position where it is or can be carried from the sludge treatment and storage site and deposited in waters of the State.

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

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

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

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

c. Sanitary Sewer Overflows and Sewer System Management Plan

The Discharger's collection system is part of the facility that is subject to this Order. As such, the Discharge must properly operate and maintain its collection system (**Attachment D**, Standard Provisions - Permit Compliance, subsection I.D). The Discharger must report any noncompliance (Attachment D, Standard Provision - Reporting, subsections V.E.1 and V.E.2), and mitigate any discharge from the Discharger's collection system in violation of this Order (**Attachment D**, Standard Provisions - Permit Compliance, subsection I.C). The General Waste Discharge Requirements for Collection System Agencies (Order No. 2006-0003 DWQ) has requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. While the Discharger must comply with both the General Waste Discharge Requirements for Collection System Agencies (General Collection System WDR) and this Order, the General

Collection System WDR more clearly and specifically stipulates requirements for operation and maintenance and for reporting and mitigating sanitary sewer overflows. Implementation of the General Collection System WDR requirements for proper operation and maintenance and mitigation of spills will satisfy the corresponding federal NPDES requirements specified in this Order. Following reporting requirements in the General Collection System WDR will satisfy NPDES reporting requirements for sewage spills. Furthermore, the Discharger shall comply with the schedule for development of sewer system management plans (SSMPs) as indicated in the letter issued by the Regional Water Board on July 7, 2005, pursuant to Water Code Section 13267. Until the statewide on-line reporting system becomes operational, the Discharger shall report sanitary sewer overflows electronically according to the Regional Water Board's SSO reporting program.

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

180 days prior to the Order expiration date, the Discharger shall complete a utility analysis if it seeks to continue to bypass peak wet weather flows around its secondary treatment units. The utility analysis must satisfy 40 CFR 122.41 (m)(4)(i)(A)-(C), and any applicable policy or guidance such as the process set forth in Part 1 of USEPA's Peak Wet Weather Policy's No Feasible Alternatives Analysis Process (available at http://cfpub.epa.gov/npdes/wetweather.cfm) once it is finalized.

VII. COMPLIANCE DETERMINATION

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

A. General

Compliance with effluent limitations for reportable pollutants shall be determined using sample reporting protocols defined in the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the reportable pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (ML).

B. Multiple Sample Data

When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND), the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of

the individual ND or DNQ determinations is unimportant.

2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

ATTACHMENT A – DEFINITIONS

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

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

Average Monthly Effluent Limitation (AMEL): the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL): the highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

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

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

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

Daily Discharge: Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

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

Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is

calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

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

Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

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

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

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

Instantaneous Maximum Effluent Limitation: the highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation: the lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

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

Median is the middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order).

If the number of measurements (n) is odd, then the median = X(n+1)/2. If n is even, then the median = (Xn/2 + X(n/2)+1)/2 (i.e., the midpoint between the n/2 and n/2+1).

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

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

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

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

Ocean Waters are the territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

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

Pollutant Minimization Program (PMP) means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

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

Reporting Level (RL) is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Satellite Collection System is the portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

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

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

$$\sigma = (\Sigma[(x - \mu)2]/(n - 1))0.5$$

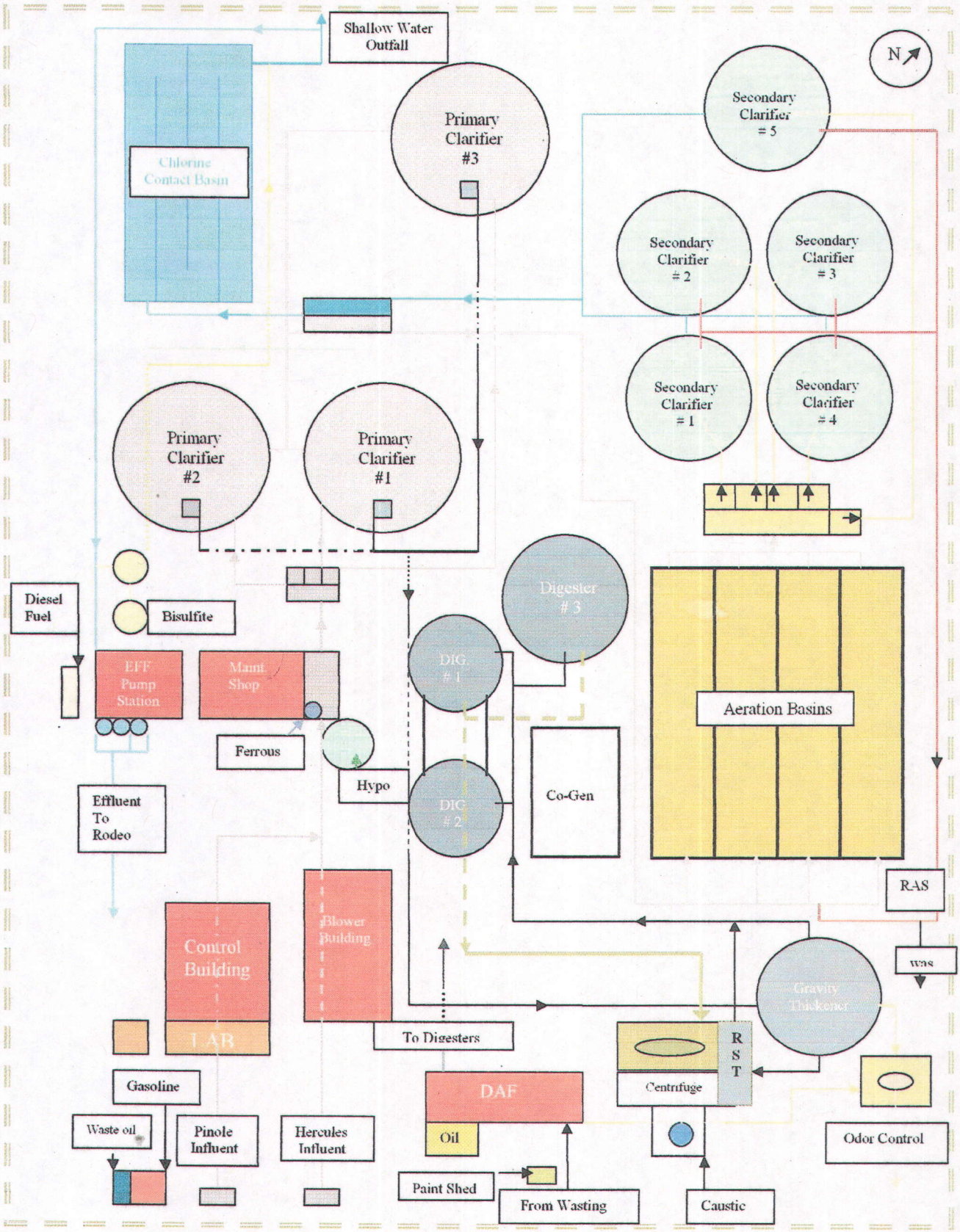
where:
x is the observed value;
μ is the arithmetic mean of the observed values; and
n is the number of samples.

Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

ATTACHMENT B – TOPOGRAPHIC MAP

ATTACHMENT C – FLOW SCHEMATIC

PINOLE / HERCULES WPCP



ATTACHMENT D – FEDERAL STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

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

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under CWA section 405(d) within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not been modified to incorporate the requirement [*40 CFR §122.41(a)(1)*].

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment [*40 CFR §122.41(d)*].

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order [*40 CFR §122.41(e)*].

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges [*40 CFR §122.41(g)*].

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations [*40 CFR §122.5(c)*].

F. Inspection and Entry

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

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

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

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

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

G. Bypass

1. Definitions

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

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

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

3. Prohibition of bypass – Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless [*40 CFR §122.41(m)(4)(i)*]:

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage [*40 CFR §122.41(m)(4)(A)*];

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

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

4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above [*40 CFR §122.41(m)(4)(ii)*].

5. Notice

a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass [*40 CFR §122.41(m)(3)(i)*].

b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below [*40 CFR §122.41(m)(3)(ii)*].

H. Upset

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

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

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

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

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

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

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

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

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

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

III. STANDARD PROVISIONS – MONITORING

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

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

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), the Discharger

shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time [*40 CFR §122.41(j)(2)*].

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements [*40 CFR §122.41(j)(3)(i)*];
2. The individual(s) who performed the sampling or measurements [*40 CFR §122.41(j)(3)(ii)*];
3. The date(s) analyses were performed [*40 CFR §122.41(j)(3)(iii)*];
4. The individual(s) who performed the analyses [*40 CFR §122.41(j)(3)(iv)*];
5. The analytical techniques or methods used [*40 CFR §122.41(j)(3)(v)*]; and
6. The results of such analyses [*40 CFR §122.41(j)(3)(vi)*].

C. Claims of confidentiality for the following information will be denied [*40 CFR §122.7(b)*]:

1. The name and address of any permit applicant or Discharger [*40 CFR §122.7(b)(1)*]; and
2. Permit applications and attachments, permits and effluent data [*40 CFR §122.7(b)(2)*].

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order [*40 CFR §122.41(h)*] [*California Water Code 13267*].

B. Signatory and Certification Requirements

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

a. For a corporation: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures [*40 CFR §122.22(a)(1)*];

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

c. For a municipality, State, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA) [*40 CFR §122.22(a)(3)*].

3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in paragraph (b) of this provision, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in paragraph (2.) of this provision [*40 CFR §122.22(b)(1)*];

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

   c. The written authorization is submitted to the Regional Water Board, State Water Board, or USEPA [*40 CFR §122.22(b)(3)*].

4. If an authorization under paragraph (3.) of this provision is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (3.) of this provision must be submitted to the Regional Water Board, State Water Board, or

USEPA prior to or together with any reports, information, or applications, to be signed by an authorized representative [40 CFR §122.22(c)].

5. Any person signing a document under paragraph (2.) or (3.) of this provision shall make the following certification:

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

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program in this Order [*40 CFR §122.41(l)(4)*].

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices [*40 CFR §122.41(l)(4)(i)*].

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board [*40 CFR §122.41(l)(4)(ii)*].

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order [*40 CFR §122.41(l)(4)(iii)*].

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date [*40 CFR §122.41(l)(5)*].

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates

and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance [*40 CFR §122.41(l)(6)(i)*].

2. The following shall be included as information that must be reported within 24 hours under this paragraph [*40 CFR §122.41(l)(6)(ii)*]:

   a. Any unanticipated bypass that exceeds any effluent limitation in this Order [*40 CFR §122.41(l)(6)(ii)(A)*].

   b. Any upset that exceeds any effluent limitation in this Order [*40 CFR §122.41(l)(6)(ii)(B)*].

   c. Violation of a maximum daily discharge limitation for any of the pollutants listed in this Order to be reported within 24 hours [*40 CFR §122.41(l)(6)(ii)(C)*].

3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours [*40 CFR §122.41(l)(6)(iii)*].

F. Planned Changes

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when [*40 CFR §122.41(l)(1)*]:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR §122.29(b) [*40 CFR §122.41(l)(1)(i)*]; or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in this Order nor to notification requirements under 40 CFR Part 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1) [*40 CFR §122.41(l)(1)(ii)*].

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

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements [*40 CFR §122.41(l)(2)].*

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting E.3, E.4, and E.5 at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E [*40 CFR §122.41(l)(7)*].

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information [*40 CFR §122.41(l)(8)*].

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $25,000 per day for each violation. The CWA provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the Clean Water Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions [*40 CFR §122.41(a)(2)*] [*California Water Code 13385 and 13387*].

B. Any person may be assessed an administrative penalty by the Regional Water Board for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000.

Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000 [*40 CFR §122.41(a)(3)*].

C. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both [*40 CFR §122.41(j)(5)*].

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

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

N/A

B. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following [*40 CFR §122.42(b)*]:

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to CWA sections 301 or 306 if it were directly discharging those pollutants [*40 CFR §122.42(b)(1)*]; and

2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order [*40 CFR §122.42(b)(2)*].

3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW [*40 CFR §122.42(b)(3)*].

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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Attachment E – Monitoring and Reporting Program (MRP)

The Code of Federal Regulations (CFR) at 40 CFR §122.48 requires that all NPDES permits specify monitoring and reporting requirements. California Water Code Sections 13267 and 13383 also authorize the Regional Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement the Federal and State regulations.

I. GENERAL MONITORING PROVISIONS

A. The Discharger shall comply with the MRP for this Order as adopted by the Regional Water Board, and with all of the requirements contained in Self-Monitoring Program, Part A, adopted August 1993 (SMP, Attachment G). If any discrepancies exist between the MRP and SMP, the MRP prevails.

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

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

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

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

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

CTR #	Constituent	Types of Analytical Methods [a] Minimum Levels (µg/L)											
		GC	GC MS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	Hydride	CVAA	DCP
6.	Copper								0.5	2			
8.	Mercury[b]												
14.	Cyanide				5								
16.	Dioxin – TEQ[c]	USEPA 1613											

[a] Analytical Methods / 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;
ICP = Inductively Coupled Plasma
ICPMS = Inductively Coupled Plasma/Mass Spectrometry;
SPGFAA = Stabilized Platform Graphite Furnace Atomic Absorption (i.e. EPA 200.9);
HYDRIDE = Gaseous Hydride Atomic Absorption;
CVAA = Cold Vapor Atomic Absorption; and
DCP = Direct Current Plasma.

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

[c] Use U.S. EPA Method 1613. ML shall be ½ that specified for U.S. EPA Method 1613.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E-2. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	INF-001	At any point in the treatment facility's headworks at which all waste tributary to the system is present and preceding any phase of treatment.
001	EFF-001A	At the Pinole-Hercules Water Pollution Control Plant effluent wet well downstream of the dechlorination point but prior to combining with the RSD effluent (May be the same as EFF-001B).
001	EFF-001B	At any point in the treatment and disposal facilities following dechlorination. This location may be the same as EFF-001A, and is for performing the flow-through bioassay.
002	EFF-002	At any point in the shallow water outfall between the Pinole-Hercules Water Pollution Control Plant and point of discharge.
--	BIO-001	Biosolids monitoring.

III. INFLUENT MONITORING REQUIREMENTS

The Discharger shall monitor the influent to the treatment plant at INF-001 as follows:

Table E-3. Influent Monitoring Requirements for Conventional Pollutants

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow Rate [1]	MGD	Continuous	Continuous	
CBOD5, 20°C [2]	mg/l	24-hr composite	2 times/week	
Total Suspended Solids	mg/l	24-hr composite	2 times/week	
Cyanide [3]	µg/L	Grab	Monthly	
Mercury [3]	µg/L	24-hr composite or Grab	Monthly	

Footnotes for Table E-3:
[1] and [2] – please refer to footnotes of Table E-4 below.
[3] Influent samples for cyanide and mercury shall be collected for one year from the effective date of this permit.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Locations EFF-001A and EFF-001B

1. The Discharger shall monitor its dechlorinated effluent in the wet well at monitoring location **EFF-001A** as follows:

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

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow Rate [1]	MGD	Continuous	Continuous
CBOD 5-day 20°C [2]	mg/L and kg/day	24-hr Composite	2 / week
Total Suspended Solids	mg/L and kg/day	24-hr Composite	4 / week
Oil and Grease [3]	mg/L and kg/day	24-hr Composite	Monthly
pH [4]	Std Units	Continuous	Continuous
Chlorine Residual [5]	mg/L	Grab	Every 2 hours
Total Coliform [6]	MPN/100 ml	Grab	3 / week
Dissolved Oxygen [7]	mg/L and %	Grab	1 / day

Parameter	Units	Sample Type	Minimum Sampling Frequency
	saturation		
Dissolved Sulfides [7]	mg/L	Grab	1 / day
Temperature	°F and °C	Grab	1 / day
Mercury [8]	µg/L	C-24/Grab	1 / month
Copper	µg/L	C-24	1 / month
Cyanide	µg/L	Grab	1 / month
2,3,7,8-TCDD and congeners [9]	µg/L	Grab	2 / year (1/wet, 1/dry season)
Ammonia Nitrogen [10]	mg/L as N	Grab	1 / month
Standard Observations	--	--	1 / week
All other priority pollutants	µg/L	According to the August 6, 2001 Letter	Annually

Legend:

C-24	24-hour composite
1 / day	Once per day
1 / week	Once per week
3 / week	Three times per week
5 / week	Five times per week
1 / month	Once per month
1 / quarter	Once per quarter
2 / year	Twice per year

Footnotes for Table E-4:

[1] Flow Monitoring:

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

[2] The percent removal for CBOD and TSS shall be reported for each calendar month in accordance with Effluent Limitation IV.A.1.a

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

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

[5] Chlorine residual: The Discharger shall sample for chlorine residual either continuously or every 2 hours. Total chlorine dosage (kg/day) shall be recorded on a daily basis (individual plants only).

[6] When replicate analyses are made of a coliform sample, the reported result shall be the arithmetic mean of the replicate analysis sample.

[7] Sulfide analysis shall be conducted when dissolved oxygen concentrations fall below 2.0 mg/L.

[8] Mercury: The Discharger may, at its option, sample effluent mercury either as grab or as 24-hour composite samples.

[9] Chlorinated dibenzodioxins and chlorinated dibenzofurans shall be analyzed using the latest version of USEPA Method 1613. ML shall be ½ that specified for U.S. EPA Method 1613.

[10] Ammonia (as N) shall be measured as Total Ammonia; the unionized fraction shall be calculated based on the total ammonia, pH, total dissolved solids or salinity, and temperature.

2. The Discharger shall monitor its dechlorinated effluent for the purpose of flow-through bioassay at monitoring location **EFF-001B** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency
Acute Toxicity [1]	% survival	Continuous	1 / month

[1] Acute bioassay test shall be performed in accordance with Section V.A of this MRP.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

The Discharger shall monitor acute toxicity at monitoring location EFF-001B as follows:

A. Whole Effluent Acute Toxicity

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

2. Test organisms shall be fathead minnow.

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

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

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

B. Chronic Toxicity

1. Chronic Toxicity Monitoring Screening Phase Requirements, Critical Life Stage Toxicity Tests, and definitions of terms used in the chronic toxicity monitoring are identified in Appendix E-I of the MRP. The Discharger shall comply with these requirements, and conduct screening phase monitoring, as outlined in **Appendix E-1**. The Discharger may reduce the total number of required test species from 5 to 3 during stage one screening.

VI. LAND DISCHARGE MONITORING REQUIREMENTS (NOT APPLICABLE)

This Order does not specify land discharge monitoring requirements for the Discharger, as there is no direct land discharge from the Facility. Requirements for monitoring sludge are described in Section IX.

VII. RECLAMATION MONITORING REQUIREMENTS (NOT APPLICABLE)

This Order does not specify reclamation monitoring requirements for the Discharger, as there is no reclamation from the Facility.

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Regional Monitoring Program (RMP 1)

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

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

IX. OTHER MONITORING REQUIREMENTS

A. Sludge Monitoring (BIO-001)

The Discharger shall continue to analyze sludge as necessary to comply with the Regional Water Quality Control Board Standard Provisions (Attachment G), and Provision 5b of this Order.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

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

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

2. Sections C.3. and C.5 are satisfied by participation in the Regional Monitoring Program.

3. Amend Section E as Follows:

   Records to be Maintained
   Written reports, electronic records, strip charts, equipment calibration and maintenance records, and other records pertinent to demonstrating compliance with waste discharge requirements, including monitoring and reporting requirements, shall be maintained by the Discharger in a manner and at a location (e.g., wastewater treatment plant or Discharger offices) such that the records are accessible to Regional Water Board staff. These records shall be retained by the Discharger for a minimum of 3 years. This minimum period of retention shall be extended during the course of any unresolved litigation regarding the subject discharge, or when requested by the Regional Water Board or Regional Administrator of the USEPA, Region IX.

   Records to be maintained shall include the following:

1. Parameter Sampling and Analyses, and Observations

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

a. Parameter.

b. Identity of sampling and observation stations, consistent with the station descriptions given in the MPR (**Attachment E**).

c. Date and time of sampling and/or observations.

d. Method of sampling (e.g., grab, composite, or other method).

e. Date and time analyses are started and completed, and name of personnel or contract laboratory performing the analyses.

f. Reference or description of procedure(s) and analytical method(s) used.

g. Analytical method detection limits and related quantification parameters.

h. Results of the analyses and/or observations.

2. Flow Monitoring Data

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

a. Total flow or volume, for each day.

b. Maximum, minimum, and average daily flows for each calendar month.

3. Wastewater Treatment Process Solids

a. For each treatment unit process that involves solids removal from the wastewater stream, records shall include the following:

1) Total volume and/or mass quantification of solids removed from each unit (e.g., grit, skimmings, undigested biosolids) for each calendar month.

2) Final disposition of such solids (e.g., landfill, other subsequent treatment unit).

b. For final dewatered biosolids from the treatment plant as a whole, records shall include the following:

1) Total volume and/or mass quantification of dewatered biosolids for each calendar month.

2) Solids content of the dewatered biosolids.

3) Final disposition of dewatered biosolids (point of disposal location and disposal method).

4. Disinfection Process

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

For bacteriological analyses:

1) Date and time of each sample collected.

2) Wastewater flow rate at the time of sample collection.

3) Results of sample analyses (e.g., bacterial count).

4) Required statistical parameters for cumulative bacterial values (e.g., moving median or geometric mean for the number of samples or sampling period identified in waste discharge requirements).

5. Treatment Process Bypasses

A chronological log of all treatment process bypasses, including wet weather blending, shall include the following:

a. Identification of the treatment process bypassed.

b. Date(s) and times of bypass beginning and end.

c. Total bypass duration.

d. Estimated total volume.

e. Description of, or reference to other report(s) describing, the bypass event, the cause, corrective actions taken, and any additional monitoring conducted.

4. <u>Modify Section F.1 as follows</u>:

1. Spill of Oil or Other Hazardous Material Reports

a. A report shall be made of any spill of oil or other hazardous material.

b. The spill shall be reported by telephone as soon as possible and no later than 24 hours following occurrence or Discharger's knowledge of occurrence. Spills shall be reported by telephone to the Regional Water Board: (510) 622-

2369, (510) 622-2460 (FAX), and to the State Office of Emergency Services: (800) 852-7550.

c. A written report shall be submitted to the Regional Water Board within five (5) working days following telephone notification, unless directed otherwise by Regional Water Board staff. A report submitted by facsimile transmission is acceptable for this reporting. The written report shall include the following:

[The rest of the section remains unchanged]

5. Modify Section F.2 (first paragraph) as follows:

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

The following requirements apply to all treatment plant bypasses and significant non-compliance occurrences, except for bypasses under the conditions contained in 40 CFR Part 122.41 (m)(4) as stated in Standard Provision A.13. 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:

[And add at the end of Section F.2 the following:]

The Discharger shall report in monthly and annual monitoring reports occurrence of blending events, their duration and certify that the blending was in compliance with effluent limits.

6. Modify Section F.4 as follows:

Self-Monitoring Reports

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

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

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

of Water Board staff and will be based solely on the documentation submitted at that time.

h. Reporting Data in Electronic Format

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

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

2) Monthly or Quarterly Reporting Requirements: For each reporting period (monthly or quarterly as specified in SMP Part B), an electronic SMR shall be submitted to the Regional Water Board in accordance with Section F.4.a-g. above. However, until USEPA approves the electronic signature or other signature technologies, Dischargers that are using the ERS must submit a hard copy of the original transmittal letter, an ERS printout of the data sheet, a violation report, and a receipt of the electronic transmittal.

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

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

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

C. Self Monitoring Reports (SMRs)

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

2. The Discharger shall submit monthly Self Monitoring Reports including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. Monthly reports shall be due no later than 30 days following the end of each calendar month. Annual reports shall be due on February 1 following each calendar year.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period
Continuous	Day after permit effective date	All
1 / day	Day after permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.
1 / week, 3 / week, 5 / week	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday
1 / month	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1st day of calendar month through last day of calendar month
1 / quarter	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31
2 / year	January 1 following (or on) permit effective date	One during November 1 through April 30 One during May 1 through October 31
1 / 5 years	Within three years of permit expiration date	any
Each Occurrence	Anytime during the discharge event or as soon as possible after aware of the event	At a time which sampling can characterize the discharge event

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

   The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

   a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

   b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

      For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (± a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

   c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

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

5. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations.

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

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

   San Francisco Bay Regional Water Quality Control Board
   1515 Clay Street, Suite 1400
   Oakland, CA 94612
   Attn: NPDES Division

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

D. Discharge Monitoring Reports (DMRs)

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

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

   State Water Resources Control Board
   Discharge Monitoring Report Processing Center
   Post Office Box 671
   Sacramento, CA 95812

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

Appendix E-1

CHRONIC TOXICITY

DEFINITION OF TERMS AND SCREENING PHASE REQUIREMENTS

I. Definition of Terms

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

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

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

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

II. Chronic Toxicity Screening Phase Requirements

A. The Discharger shall perform screening phase monitoring:

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

2. By no later than June 1, 2008, the Discharger shall submit the results of screening phase monitoring data in a technical report.

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

1. Use of test species specified in **Appendix E-2**, attached, and use of the protocols referenced in those tables.

2. Two stages:

a. Stage 1 shall consist of a minimum of one battery of tests conducted concurrently. Selection of the type of test species and minimum number of tests shall be based on **Appendix E-2** (attached).
b. Stage 2 shall consist of a minimum of two test batteries conducted at a monthly frequency using the three most sensitive species based on the Stage 1 test results.

3. Appropriate controls.

4. Concurrent reference toxicant tests.

5. Dilution series 100%, 50%, 25%, 10%, 5%, 0 %, where "%" is percent effluent as discharged.

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

Appendix E-2

SUMMARY OF TOXICITY TEST SPECIES REQUIREMENTS

Critical Life Stage Toxicity Tests for Estuarine Waters

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

Toxicity Test References:

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

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

Critical Life Stage Toxicity Tests for Fresh Waters

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

Toxicity Test Reference:

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

Toxicity Test Requirements for Stage One Screening Phase

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

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

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

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

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

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

ATTACHMENT F - FACT SHEET

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Attachment F – Fact Sheet

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

WDID	2 071032001
Discharger	City of Pinole
Name of Facility	Pinole-Hercules Water Pollution Control Plant and its collection system
Facility Address	11 Tennent Avenue Pinole, CA 94564 Contra Costa County
Facility Contact, Title and Phone	Julian Misra, Plant Manager (510) 741-3851
Authorized Person to Sign and Submit Reports	Julian Misra
Mailing Address	2131 Pear Street Pinole, CA 94564
Billing Address	SAME
Type of Facility	POTW
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	No
Reclamation Requirements	None
Facility Permitted Flow	4.06 MGD Dry Weather Capacity
Facility Design Flow	4.06 MGD Dry Weather Capacity 10.3 MGD Peak Wet Weather Capacity
Watershed	San Francisco Bay
Receiving Water	San Pablo Bay
Receiving Water Type	Enclosed Bay, Marine

A. The City of Pinole (hereinafter Discharger) owns and operates the Pinole-Hercules Water Pollution Control Plant (WPCP), which provides secondary treatment of domestic wastewater collected from the Cities of Pinole and Hercules. The WPCP has an average dry weather design flow of 4.06 million gallons per day (MGD) and can treat up to 10.3 MGD during the wet weather flow period.

B. The Facility discharges wastewater to San Pablo Bay, a water of the United States, and is currently regulated by Order No. 01-106 which was adopted on October 1, 2001 and

expired on September 1, 2006. By letter dated May 3, 2006, the terms of the previous Order were continued in effect until this Order becomes effective.

C. The Discharger filed a report of waste discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on March 30, 2006.

II. FACILITY DESCRIPTION

A. Description of Wastewater and Biosolids Treatment or Controls

1. **Service Area and Population:** The plant provides secondary level treatment for domestic wastewater collected within the cities of Pinole and Hercules. According to the Discharger's, ROWD, its service area currently has a population of 39,573 people.

2. **Wastewater Treatment Process:** The wastewater treatment process at the facility consists of pretreatment by screening, primary clarification, biological treatment using activated sludge, secondary clarification, disinfection, and dechlorination.

3. **Discharge Volume and Plant Capacity:** The Water Pollution Control Plant (WPCP) has an average dry weather flow design capacity of 4.06 million gallons per day (mgd), and can treat up to 10.3 mgd during the wet weather flow period. In 2005, the plant discharged an average dry weather flow of 3.2 mgd, and an annual average flow of about 3.64 mgd.

4. **Solids Disposal Description:** Wastewater solids from treatment plant operations are thickened, anaerobically digested, and sent to a centrifuge for dewatering. The resulting dewatered sludge is currently disposed of at Keller Canyon Landfill in Pittsburgh, California.

5. **Stormwater:** The U.S. EPA promulgated federal regulations for stormwater discharges on November 19, 1990. The regulations [40 Code of Federal Regulations (CFR) Parts 122, 123 and 124] require specific categories of industrial activities including Publicly Owned Treatment Works (POTWs) which discharge stormwater associated with industrial activity (industrial stormwater) to obtain a NPDES permit and to implement Best Available Technology Economically Available (BAT) and Best Conventional Pollutant Control Technology (BCT) to control pollutants in industrial stormwater discharges. POTWs are not required to obtain a separate NPDES permit if all stormwater flows from the treatment works are treated by the POTW.

   The stormwater from the wastewater treatment and pumping facilities are directed to the wastewater treatment plant headworks and are treated along with the wastewater discharged to the treatment plant. These stormwater flows constitute all industrial stormwater at this facility and consequently this Order shall serve to regulate all industrial stormwater at this facility.

6. **Collection System:** The WPCP receives flow from two collection systems. The Discharger owns and operates a collection system within the city limits of Pinole.

The City of Hercules owns and operates a collection system within its own city limits. There are a total of six lift stations, two in the City of Pinole, and four in the City of Hercules.

B. Discharge Points and Receiving Waters

1. **Discharge Location:** Treated wastewater (discharge location EFF-001) is currently discharged into San Pablo Bay, a water of the State and the United States, through a submerged deepwater diffuser about 3,600 feet offshore at a depth of about 18 feet below mean lower low water (Latitude 38°03'06"; Longitude 122°14'55").

   The treated wastewater is first pumped to the top of a hill in Pinole, and then allowed to flow by gravity along a 4.5-mile land outfall to a joint Effluent Disposal Facility, located at and operated by Rodeo Sanitary District's Water Pollution Control Facility (NPDES Permit No. CA0037826) (Rodeo). The facility combines the Discharger's effluent with Rodeo's, and both effluents are then jointly discharged to the deepwater outfall.

   Discharge location EFF-001 applies to the effluent from the Water Pollution Control Plant prior to combining with Rodeo's effluent. Excess secondary treated effluent from the WPCP is released through a shallow water outfall (Discharge location EFF-002) to San Pablo Bay (Latitude 38°00'47"; Longitude 122°17'45"). This outfall is 30 feet offshore at a depth of 2 feet below lower low water.

2. **Shallow Water Outfall:** Prior to 2005, the Effluent Disposal Facility sometimes did not have sufficient capacity to convey discharges from Rodeo and Pinole's wastewater treatment plants during periods of heavy rainfall, when Inflow and Infiltration to the sanitary sewers is high. During these periods, the Discharger used its shallow water outfall (002), against a prohibition in its permit, to prevent overflows from occurring at the Pinole WPCP. To remedy this, in 2005 Rodeo tried to increase the capacity by modifying the Effluent Disposal Facility, and installing a pump station at its plant.

   Since these modifications the Discharger has indicated it is still unable to discharge more than an instantaneous flow of 10 MGD, the allotted capacity in its Joint Use Agreement with Rodeo, and therefore must still periodically use their shallow water outfall during heavy rainfall. From April 2005 to March 2006, Pinole used its shallow water outfall nine times – six times due to heavy rainfall when their instantaneous discharge exceeded 10 MGD, and three times due to nearby construction projects that resulted in breakages to the land outfall system. The median volume of discharge through the shallow water outfall was 0.417 MGD, and the maximum was 3.07 MGD. The Discharger has determined that the use of gravity flow down the 24-inch 4.5-mile land outfall to Rodeo, may not provide a reliable means of conveyance in the long term, due to considerations of the concrete land outfall's age, as well as anticipated flow increases associated with increases in service population.

   This Order does not permit the discharge of wastewater through the shallow water outfall, and therefore, includes a provision requiring the Discharger to develop an

alternative plan for preventing future discharge from Outfall 002.

3. **Protection of Shellfish Beds:** There are viable shellfish beds in San Pablo Bay that could be affected by the discharged wastewater. To protect the shellfish beds, the Board has required, and will continue to require, that the wastewater receive an initial dilution of at least 45:1 in the receiving water. In support of this requirement, a study by the Discharger dated August 8, 1994, using the US EPA's UM model, estimates the deepwater outfall provides a minimum dilution of 45:1 under fairly severe discharge conditions of Mean Lower Low Water, slack tide, and slight density stratification.

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

Effluent limitations contained in Order No. 01-106 for discharges from Outfall 001 (Monitoring Location EFF-001A) from January 2002 through December 2005 are shown in Tables F-3 and F-4. Acute toxicity results for Outfall 001 (Monitoring Location EFF-001B) are summarized in Table F-5. Monitoring data for January 2002 through December 2005 for Outfall 002 (Monitoring Location EFF-002) are shown in Table F-6. Other priority inorganic pollutant data from 2002-2004 for Outfall 001 are shown in **Appendix F-1**.

Table F-2. Historic Conventional Substances Effluent Limitations and Monitoring Data for EFF-001A

Parameter	(units)	Effluent Limitations			Monitoring Data (From 1/02 To 12/05)	
		Monthly Average	Weekly Average	Instantaneous Maximum	Mean Discharge	Maximum Discharge
Flow Rate	Mgd	---	---		3.37 (Daily Avg.)	13.27 (Daily Max.)
$CBOD_5$	mg/L	25	40	--	10.3	33
TSS	mg/L	30	45	--	17.3	274
Settleable Matter	ml/L-hr	0.1	--	0.2 (Daily Max.)	<0.1	<0.1
Oil & Grease	mg/l	10	--	20 (Daily Max.)	2.3	6
Total Chlorine Residual	mg/L	--	--	0.0	0.0	0.0
Ph		6.0 to 9.0			6.0 (min.)	9.0 (max.)
Total Coliform	MPN/100 ml	240	--	10,000	25.3	>1600

Table F-3. Historic Toxic Substances Effluent Limitations and Monitoring Data for EFF-001A

Parameter	Units	Water Quality-Based Effluent Limits (WQBELs)		Interim Limits		Monitoring Data (From 1/02 To 12/05)	
		Daily Maximum	Monthly Average	Daily Maximum	Monthly Average	Mean Daily Discharge	Maximum Daily Discharge

Parameter	Units	Water Quality-Based Effluent Limits (WQBELs)		Interim Limits		Monitoring Data (From 1/02 To 12/05)	
		Daily Maximum	Monthly Average	Daily Maximum	Monthly Average	Mean Daily Discharge	Maximum Daily Discharge
Copper	µg/L	37	20			4.8	10
Mercury	µg/L				0.087	0.01	0.042
Cyanide	µg/L			12		2.9	11

Table F-4. Acute Toxicity Limitations and Monitoring Data for EFF-001B

Species	Units	Effluent Acute Toxicity Limits		Monitoring Data (From 1/02 To 12/05)	
		11-Sample Median	11-sample 90th Percentile	Average	Minimum
Fathead Minnow	% Survival	≥90	≥70	99.3	90

Table F-5. Historic Conventional Substances Monitoring Data for EFF-002

Parameter	(units)	Monitoring Data (From 1/02 To 12/05)	
		Mean Discharge	Maximum Discharge
Flow Rate	MG/event	1.03	4.43 (Daily Max.)
$CBOD_5$	mg/L	NA	NA
Oil & Grease	mg/l	3.6	7
Total Chlorine Residual	mg/L	0.0	0.0
TSS	mg/L	28.8	144
PH		6.0 (min)	8.0
Total Coliform	MPN/100 ml	NA	NA

NA = Not available

D. Compliance Summary

1. **Compliance with Numeric Effluent Limits.** Table F-7 summarizes the number of effluent limitation exceedances for Outfall 001 during the previous permit period.

Table F-6. Compliance Summary for the Pinole-Hercules WPCP between 2001 and 2005

Parameter [1]	Number of Exceedances				
	2001	2002	2003	2004	2005
Total Residual Chlorine (Instantaneous Maximum	3				

Parameter [1]	Number of Exceedances				
	2001	2002	2003	2004	2005
Limitation)					
TSS (Average Monthly Maximum Limitation)			1		
TSS (Average Weekly Maximum Limitation)				2	
Total Coliform (5-Sample Moving Median)					2

[1] Parameters not listed did not exceed effluent limitations during the period from 1/2001 – 12/2005.

2. **Compliance with Submittal of Self-Monitoring Reports.** The Discharger submitted all Self-Monitoring Reports on or before the due date during the term of Order No. 01-106.

E. Planned Changes

1. The Discharger is currently in the initial planning stages of upgrading its collection system and treatment facility. One option the Discharger is considering is upgrading to tertiary treatment so it could provide recycled water to East Bay Municipal Utilities District and/or use recycled water to enhance the quality of Pinole Creek.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed Order are based on the requirements and authorities described in this section.

A. Legal Authorities

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

B. California Environmental Quality Act (CEQA)

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

C. State and Federal Regulations, Policies, and Plans

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

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

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

4. **State Implementation Policy.** On March 2, 2000, State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Boards in their basin plans, with the exception of the provision on alternate test procedures for individual discharges that have been approved by USEPA Regional Administrator. The alternate test procedures provision was effective on May 22, 2000. The SIP became effective on May 18, 2000. The State Water Board subsequently amended the SIP on February 24, 2005, and the amendments became effective on July 31, 2005. The SIP includes procedures for determining the need for and calculating WQBELs and requires dischargers to submit data sufficient to do so. Requirements of This Order implement the SIP.

5. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 CFR § 131.21; 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.

6. **Stringency of Requirements for Individual Pollutants.** This Order contains restrictions on individual pollutants that are no more stringent than required by the federal CWA. Individual pollutant restrictions consist of technology-based restrictions and water quality-based effluent limitations. The technology-based effluent limitations consist of restrictions on CBOD, TSS, Oil and Grease, pH, and chlorine residual. Restrictions on these pollutants are specified in federal regulations, and in the Basin Plan since before May 30, 2000. The permit's technology-based pollutant restrictions are no more stringent than required by the CWA. WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the

applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. Most beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR 131.21(c)(1). The remaining water quality objectives and beneficial uses implemented by this Order (specifically Arsenic, Cadmium, Chromium (VI), Copper (fresh), Lead, Nickel, Silver (CMC), Zinc) were approved by USEPA on January 5, 2005, and are applicable water quality standards pursuant to 40 CFR 131.21(c)(2). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the CWA and the applicable water quality standards for purposes of the CWA.

7. **Antidegradation Policy.** NPDES regulations at 40 CFR 131.12 require that State water quality standards include an antidegradation policy consistent with the Federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16, which incorporates the requirements of the Federal antidegradation policy. Resolution 68-16 requires that existing water quality is maintained unless degradation is justified based on specific findings. The permitted discharge is consistent with the antidegradation provision of 40 CFR §131.12 and State Water Board Resolution 68-16, and the final limitations in this Order are in compliance with antidegradation requirements and meet the requirements of the SIP because these limits hold the Discharger to performance levels that will not cause or contribute to water quality impairment or further water quality degradation. This is because this Order does not provide for an increase in the permitted design flow, allow for a reduction in the level of treatment, or increase effluent limitations with the exception of cyanide. In the case of cyanide, alternate limits based on a site-specific objective will be higher than the current interim limit if the site-specific objective for cyanide becomes effective during the permit term. However, the standards setting process for cyanide addressed antidegradation, and therefore, an analysis in this permit is unnecessary. As such, there will be no lowering of water quality beyond the current level authorized in the previous permit, which is the baseline by which to measure whether degradation will occur. The Order continues the status quo with respect to the level of discharge authorized in the previous permit and thus there will be no change in water quality beyond the level that was authorized in the last permit. Findings authorizing degradation are thus not applicable.

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

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

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

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

On June 6, 2003, the USEPA approved a revised list of impaired water bodies prepared by the State (hereinafter referred to as the 303(d) list), prepared pursuant to provisions of Section 303(d) of the Federal CWA requiring identification of specific water bodies where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. San Pablo Bay is listed as an impaired waterbody. The pollutants impairing San Pablo Bay include chlordane, DDT, diazinon, dieldrin, dioxin compounds, exotic species, furan compounds, mercury, nickel, PCBs, dioxin-like PCBs, and selenium. The SIP requires final effluent limitations for all 303(d)-listed pollutants to be consistent with total maximum daily loads and associated waste load allocations.

1. **Total Maximum Daily Loads.** The Regional Water Board plans to adopt Total Maximum Daily Loads (TMDLs) for pollutants on the 303(d) list in San Pablo Bay within the next ten years. Future review of the 303(d)-list for San Pablo Bay may result in revision of the schedules or provide schedules for other pollutants.

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

3. **Implementation Strategy.** The Regional Water Board's strategy to collect water quality data and to develop TMDLs is summarized below:

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

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

E. Other Plans, Polices and Regulations

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

1. The Federal *Water Pollution Control Act*, Sections 301 through 305, and 307, and amendments thereto, as applicable (CWA);

2. The State Water Board's March 2, 2000 Policy for the USEPA's May 18, 2000 *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California* or CTR, 40 CFR §131.38(b) and amendments,

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

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

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

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

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

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

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

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

A. Discharge Prohibitions

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

2. **Prohibition III.B (no discharge receiving less than 45:1 dilution):** This condition, which is carried over from the previous permit, prohibits discharges not receiving 45:1 dilution. There are viable shellfish beds in San Pablo Bay that could be affected by the discharged wastewater. To protect the shellfish beds, the Board has required, and will continue to require, that the wastewater receive an initial dilution of at least 45:1 in the receiving water. The Basin Plan (Chapter 4, Discharge Prohibition No. 1) also requires a minimum dilution of 10:1. This Order grants a 10:1 dilution credit for the discharge (see later sections), and some effluent limits are calculated based on this credit. As such, these limits would not be protective if the discharge did not achieve 10:1 dilution, therefore necessitating the prohibition.

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

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

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

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

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

On December 20, 2006, the Discharger submitted a revised version of its October 11, 2006, no feasible alternatives analysis that addresses measures it has taken and plans to take to reduce and eliminate bypasses during peak wet weather events so that such bypasses could be approved pursuant to 40 CFR122.41(m)(4). During the past five years, the Discharger indicates that it has had to blend about five or six times per year when peak flows exceeded 10.25 mgd. These peak flows were in response to rainfall events of one-inch or larger over a 24-hour period or less. During the past five years, the Discharger indicates the average and maximum blending events lasted about 10.2 and 24 hours, with about 0.92 and 3.1 million gallons being diverted around secondary treatment.

At this time, the Discharger is developing alternatives to eliminate the need to blend at its facility. These efforts center around developing and implementing a Collection System Master Plan to reduce inflow and infiltration (I/I), and treatment plant upgrades (e.g., tertiary treated wastewater could be used for cooling water at a nearby refinery, and possibly for augmentation of flows at Pinole Creek).

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

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

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

B. Technology-based Effluent Limitations

1. Scope and Authority

40 CFR §122.44(a) requires that permits include applicable technology-based limitations and standards. This Order includes technology-based effluent limitations based on Secondary Treatment Standards at 40 CFR §133. Permit effluent limitations for conventional pollutants are technology-based. Technology-based effluent limitations are put in place to ensure that full secondary treatment is achieved by the wastewater treatment facility, as required under 40 CFR §133.102. Effluent limitations for these conventional and non-conventional pollutants are defined by the Basin Plan, Table 4-2 and are the same as those from the previous permit for the following constituents:

- CBOD,
- CBOD percent removal,
- TSS,
- TSS percent removal,
- pH,
- Oil and grease
- Total chlorine residual, and
- Total coliform

The settleable solids effluent limitations are no longer required per the 2004 Basin Plan amendment.

2. Applicable Technology-Based Effluent Limitations

Technology-based effluent limitations are summarized below.

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

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
CBOD	mg/L	25	40	--	--	--
TSS	mg/L	30	45	--	--	--
pH	standard units	--	--	--	6.0	9.0
Oil and Grease	mg/L	10	--	20	--	--
Total Chlorine Residual	mg/L	--	--	--	--	0.0

a. *CBOD.* This effluent limitation is unchanged from the previous permit, and is based on secondary treatment regulations at 40 CFR 133.102, and the Basin Plan (Chapter 4, Table 4-2). A requirement for 85 percent $CBOD_5$ removal has also been retained from the previous permit and reflects requirements of USEPA's secondary treatment regulations and requirements established by Table 4-2 of the Basin Plan.

b. *TSS.* This effluent limitation is unchanged from the previous permit, and is based on secondary treatment regulations at 40 CFR 133.102, and the Basin Plan

(Chapter 4, Table 4-2). A requirement for 85 percent TSS removal has also been retained from the previous permit and reflects requirements of USEPA's secondary treatment regulations and requirements established by Table 4-2 of the Basin Plan.

c. *pH.* Effluent limitations requiring pH of effluent to be within the range of 6.0- 9.0 are retained from the previous permit and reflect requirements of USEPA's secondary treatment regulations at 40 CFR 133.102, as well as requirements established by Table 4-2 of the Basin Plan for deep water discharges of conventional pollutants.

d. *Oil and grease.* Effluent limitations for oil and grease of 10 mg/L (average monthly) and 20 mg/L (maximum daily) are retained from the previous permit and reflect requirements established by Table 4-2 of the Basin Plan for discharges of conventional pollutants. These limitations are also typical requirements of secondary treatment.

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

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

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

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

b. NPDES regulations and the SIP provide the basis to establish Maximum Daily Effluent Limitations (MDELs).

(1) NPDES Regulations. NPDES regulations at 40 CFR Part 122.45 (d) state: "For continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall *unless impracticable* be stated as maximum daily and average monthly discharge limitations for all discharges other than publicly owned treatment works."

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

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

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

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

a. **Basin Plan.** The Basin Plan specifies numeric WQOs for 10 priority toxic pollutants, as well as narrative WQOs for toxicity and bioaccumulation in order to protect beneficial uses. The pollutants for which the Basin Plan specifies numeric objectives are arsenic, cadmium, chromium (VI), copper in freshwater, lead, mercury, nickel, silver, zinc, and cyanide. The narrative toxicity objective states in part that "[a]ll waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms." The bioaccumulation objective states in part that "[c]ontrollable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered." Effluent limitations and provisions contained in this Order are designed, based on available information, to implement these objectives.

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

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

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

To determine the need for and establish WQBELs, when necessary, the Regional Water Board staff has followed the requirements of applicable NPDES regulations, including 40 CFR Parts 122 and 131, as well as guidance and

requirements established by the Basin Plan; USEPA's *Technical Support Document for Water Quality-Based Toxics Control* (the TSD, EPA/505/2-90-001, 1991); and the State Water Resources Control Board's *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (the SIP, 2005).

e. **Basin Plan Receiving Water Salinity Policy.** The Basin Plan (like the CTR and the NTR) states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water shall be considered in determining the applicable WQC. Freshwater criteria shall apply to discharges to waters with salinities equal to or less than one ppt at least 95 percent of the time. Saltwater criteria shall apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to water with salinities in between these two categories, or tidally influenced freshwaters that support estuarine beneficial uses, the criteria shall be the lower of the salt or freshwater criteria (the latter calculated based on ambient hardness) for each substance. The receiving water for this Discharger, San Pablo Bay, is an estuarine environment based on salinity data generated through the San Francisco Estuary Institute's Regional Monitoring Program (RMP) at the Davis Point Sampling Station between 1993 and 2001; and therefore, the more stringent of fresh and saltwater criteria from the Basin Plan, NTR, and CTR are applicable.

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

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

Table F-8. Copper and Nickel Site Specific Translators

CU and Ni Translators for Deepwater Discharges to San Pablo Bay	Copper		Nickel	
	AMEL Translator	MDEL Translator	AMEL Translator	MDEL Translator
	0.38	0.67	0.27	0.57

3. Determining the Need for WQBELs

NPDES regulations at 40 CFR 122.44 (d) (1) (i) require permits to include WQBELs for all pollutants (non-priority or priority) "which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any narrative or numeric criteria within a State water quality standard" (have Reasonable Potential). Thus, assessing whether a pollutant has Reasonable Potential is the fundamental step in determining whether or not a WQBEL is required. For non-priority pollutants, Regional Water Board staff used available monitoring data, receiving water's designated uses, and/or previous permit pollutant limitations to determine Reasonable Potential as described in sections 3.a and 3.b below. For priority pollutants, Regional Water Board staff used the methods prescribed in Section 1.3 of the SIP to determine if the discharge from the Pinole-Hercules Water Pollution Control Plant demonstrates reasonable potential as described below in sections 3.c – 3.h.

a. Reasonable Potential Analysis

Using the methods prescribed in Section 1.3 of the SIP, Regional Water Board staff analyzed the effluent data to determine if the discharge from the Water Pollution Control Plant demonstrates Reasonable Potential. The Reasonable Potential Analysis (RPA) compares the effluent data with numeric and narrative WQOs in the Basin Plan and numeric WQC from the USEPA, the NTR, and the CTR. The Basin Plan objectives and CTR criteria are shown in Appendix F-2 of this Fact Sheet.

b. Reasonable Potential Methodology

Using the methods and procedures prescribed in Section 1.3 of the SIP, Regional Water Board staff analyzed the effluent and background data and the nature of facility operations to determine if the discharge has reasonable potential to cause or contribute to exceedances of applicable SSOs or WQC. Appendix F-2 of this Fact Sheet shows the stepwise process described in Section 1.3 of the SIP.

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

(1) The first trigger is activated if the MEC is greater than the lowest applicable WQO (MEC $\geq$ WQO), which has been adjusted, if appropriate, for pH,

hardness, and translator data. If the MEC is greater than the adjusted WQO, then that pollutant has reasonable potential, and a WQBEL is required.

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

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

c. Effluent Data

The Regional Water Board's August 6, 2001 letter titled *Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy* (hereinafter referred to as the Regional Water Board's August 6, 2001 Letter) to all permittees, formally required the Discharger (pursuant to Section 13267 of the California Water Code) to initiate or continue monitoring for the priority pollutants using analytical methods that provide the best detection limits reasonably feasible. Regional Water Board staff analyzed these effluent data and the nature of the San Pablo Bay to determine if the discharge has Reasonable Potential. The RPA was based on the effluent monitoring data collected by the Discharger from March 2003 through February 2006.

d. Ambient Background Data

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

Not all the constituents listed in the CTR have been analyzed by the RMP. These data gaps are addressed by the Board's August 6, 2001 Letter titled "Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy" (hereinafter referred to as the Board's August 6, 2001 Letter—available online; see Standard Language and Other References Available Online, below). The Board's August 6, 2001 Letter formally requires Dischargers (pursuant to Section 13267 of the California Water Code) to conduct ambient background monitoring and effluent monitoring for

those constituents not currently monitored by the RMP and to provide this technical information to the Regional Water Board.

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

e. RPA Determination

The MECs, most stringent applicable WQOs/WQC, and background concentrations used in the RPA are presented in Table F-10, along with the RPA results (yes or no) for each pollutant analyzed. Reasonable potential was not determined for all pollutants, as there are not applicable water quality objectives/criteria for all pollutants, and monitoring data was not available for others. RPA results are shown below and Appendix A of this Fact Sheet. The pollutants that exhibit Reasonable Potential are copper, mercury, cyanide, and dioxin-TEQ.

Table F-9. RPA Determination Analyses Summary

CTR #	Priority Pollutants	MEC or Minimum DL [a][b] (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL [a][b] (µg/L)	RPA Results[c]
1	Antimony	Not Available	4300	1.8	Udo
2	Arsenic	2.8	36	2.46	No
3	Beryllium	Not Available	No Criteria	0.215	Ud, Uo
4	Cadmium	0.2	0.6	0.13	No
5a	Chromium (III)	1.2	114	Not Available	No
5b	Chromium (VI)	2	11.4	4.4	No
6	Copper	10	7.2	2.45	**Yes**
7	Lead	0.96	1.25	0.8	No
8	Mercury	0.042	0.025	0.0086	**Yes**
9	Nickel	8.2	30.4	3.7	No
10	Selenium	2	5	0.39	No
11	Silver	0.4	1.1	0.0516	No
12	Thallium	Not Available	6.3	0.21	Ud
13	Zinc	57	64.3	5.1	No

CTR #	Priority Pollutants	MEC or Minimum DL [a][b] (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL [a][b] (µg/L)	RPA Results[c]
14	Cyanide	11	1.0	< 0.4	**Yes**
15	Asbestos	Not Available	No Criteria	Not Available	Ud, Uo
16	2,3,7,8-TCDD (Dioxin)	$< 6.37 \times 10^{-7}$	1.4×10^{-8}	Not Available	No
16-TEQ	Dioxin-TEQ	5.0×10^{-8}	1.4×10^{-8}	7.1×10^{-8}	**Yes**
17	Acrolein	< 1	780	< 0.5	No
18	Acrylonitrile	< 1	0.66	0.03	No
19	Benzene	< 0.27	71	< 0.05	No
20	Bromoform	<0.1	360	< 0.5	No
21	Carbon Tetrachloride	0.2	4.4	0.06	No
22	Chlorobenzene	< 0.19	21000	< 0.5	No
23	Chlorodibromomethane	1.2	34	< 0.05	No
24	Chloroethane	< 0.34	No Criteria	< 0.5	Uo
25	2-Chloroethylvinyl Ether	< 0.31	No Criteria	< 0.5	Uo
26	Chloroform	6.6	No Criteria	< 0.5	Uo
27	Dichlorobromomethane	1.4	46	< 0.05	No
28	1,1-Dichloroethane	< 0.28	No Criteria	< 0.05	Uo
29	1,2-Dichloroethane	< 0.18	99	0.04	No
30	1,1-Dichloroethylene	< 0.34	3.2	< 0.5	No
31	1,2-Dichloropropane	< 0.2	39	< 0.05	No
32	1,3-Dichloropropylene	< 0.2	1700	Not Available	No
33	Ethylbenzene	1.8	29000	< 0.5	No
34	Methyl Bromide	<0.42	4000	< 0.5	No
35	Methyl Chloride	< 0.36	No Criteria	< 0.5	Uo
36	Methylene Chloride	0.2	1600	0.5	No
37	1,1,2,2-Tetrachloroethane	< 0.3	11	< 0.05	No
38	Tetrachloroethylene	< 0.32	8.85	< 0.05	No
39	Toluene	0.4	200000	< 0.3	No
40	1,2-Trans-Dichloroethylene	< 0.3	140000	< 0.5	No
41	1,1,1-Trichloroethane	< 0.35	No Criteria	< 0.5	Uo
42	1,1,2-Trichloroethane	< 0.27	42	< 0.05	No
43	Trichloroethylene	2.7	81	< 0.5	No
44	Vinyl Chloride	< 0.34	525	< 0.5	No
45	2-Chlorophenol	< 0.4	400	< 1.2	No
46	2,4-Dichlorophenol	0.5	790	< 1.3	No
47	2,4-Dimethylphenol	< 0.3	2300	< 1.3	No
48	2-Methyl-4,6-Dinitrophenol	< 0.4	765	< 1.2	No
49	2,4-Dinitrophenol	< 0.3	14000	< 0.7	No

CTR #	Priority Pollutants	MEC or Minimum DL [a][b] (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL [a][b] (µg/L)	RPA Results[c]
50	2-Nitrophenol	< 0.3	No Criteria	< 1.3	Uo
51	4-Nitrophenol	< 0.2	No Criteria	< 1.6	Uo
52	3-Methyl-4-Chlorophenol	< 0.3	No Criteria	< 1.1	Uo
53	Pentachlorophenol	< 0.4	7.9	< 1.0	No
54	Phenol	36	4600000	< 1.3	No
55	2,4,6-Trichlorophenol	< 0.2	6.5	< 1.3	No
56	Acenaphthene	< 0.17	2700	0.0015	No
57	Acenaphthylene	< 0.03	No Criteria	0.00053	Uo
58	Anthracene	< 0.16	110000	0.0005	No
59	Benzidine	< 0.3	0.00054	< 0.0015	No
60	Benzo(a)Anthracene	< 0.12	0.049	0.0053	No
61	Benzo(a)Pyrene	< 0.09	0.049	0.00029	No
62	Benzo(b)Fluoranthene	< 0.11	0.049	0.0046	No
63	Benzo(ghi)Perylene	< 0.06	No Criteria	0.0027	Uo
64	Benzo(k)Fluoranthene	< 0.16	0.049	0.0015	No
65	Bis(2-Chloroethoxy)Methane	< 0.3	No Criteria	< 0.3	Uo
66	Bis(2-Chloroethyl)Ether	< 0.3	1.4	< 0.3	No
67	Bis(2-Chloroisopropyl)Ether	< 0.6	170000	Not Available	No
68	Bis(2-Ethylhexyl)Phthalate	2	5.9	< 0.5	No
69	4-Bromophenyl Phenyl Ether	< 0.4	No Criteria	< 0.23	Uo
70	Butylbenzyl Phthalate	2	5200	< 0.52	No
71	2-Chloronaphthalene	< 0.3	4300	< 0.3	No
72	4-Chlorophenyl Phenyl Ether	< 0.4	No Criteria	< 0.3	Uo
73	Chrysene	< 0.14	0.049	0.0024	No
74	Dibenzo(a,h)Anthracene	< 0.04	0.049	0.00064	No
75	1,2 Dichlorobenzene	0.07	17000	< 0.8	No
76	1,3 Dichlorobenzene	< 0.2	2600	< 0.8	No
77	1,4 Dichlorobenzene	1.1	2600	< 0.8	No
78	3,3-Dichlorobenzidine	< 0.3	0.077	< 0.001	No
79	Diethyl Phthalate	< 0.4	120000	< 0.24	No
80	Dimethyl Phthalate	< 0.4	2900000	< 0.24	No
81	Di-n-Butyl Phthalate	< 0.4	12000	< 0.5	No
82	2,4-Dinitrotoluene	< 0.3	9.1	< 0.27	No
83	2,6-Dinitrotoluene	< 0.3	No Criteria	< 0.29	Uo
84	Di-n-Octyl Phthalate	< 0.4	No Criteria	< 0.38	Uo

CTR #	Priority Pollutants	MEC or Minimum DL [a][b] (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL [a][b] (µg/L)	RPA Results[c]
85	1,2-Diphenylhydrazine	< 0.3	0.54	0.0037	No
86	Fluoranthene	< 0.03	370	0.011	No
87	Fluorene	< 0.02	14000	0.00208	No
88	Hexachlorobenzene	< 0.4	0.00077	0.0000202	No
89	Hexachlorobutadiene	< 0.2	50	< 0.3	No
90	Hexachlorocyclopentadiene	< 0.1	17000	< 0.31	No
91	Hexachloroethane	< 0.2	8.9	< 0.2	No
92	Indeno(1,2,3-cd) Pyrene	< 0.04	0.049	0.004	No
93	Isophorone	< 0.3	600	< 0.3	No
94	Naphthalene	< 0.05	No Criteria	0.0023	Uo
95	Nitrobenzene	< 0.3	1900	< 0.25	No
96	N-Nitrosodimethylamine	< 0.4	8.1	< 0.3	No
97	N-Nitrosodi-n-Propylamine	< 0.3	1.4	< 0.001	No
98	N-Nitrosodiphenylamine	< 0.4	16	< 0.001	No
99	Phenanthrene	< 0.03	No Criteria	0.0061	Uo
100	Pyrene	< 0.03	11000	0.0051	No
101	1,2,4-Trichlorobenzene	< 0.3	No Criteria	< 0.3	Uo
102	Aldrin	< 0.003	0.00014	Not Available	No
103	alpha-BHC	< 0.002	0.013	0.000496	No
104	beta-BHC	< 0.001	0.046	0.000413	No
105	Gamma-BHC	0.003	0.063	0.0007034	No
106	delta-BHC	< 0.001	No Criteria	0.000042	Uo
107	Chlordane	< 0.005	0.00059	0.00018	No
108	4,4'-DDT	< 0.001	0.00059	0.000066	No
109	4,4'-DDE	< 0.001	0.00059	0.000693	No
110	4,4'-DDD	< 0.001	0.00084	0.000313	No
111	Dieldrin	< 0.002	0.00014	0.000264	No
112	alpha-Endosulfan	< 0.002	0.0087	0.000031	No
113	beta-Endosulfan	< 0.001	0.0087	0.000069	No
114	Endosulfan Sulfate	< 0.001	240	0.0000819	No
115	Endrin	< 0.002	0.0023	0.000036	No
116	Endrin Aldehyde	< 0.002	0.81	Not Available	No
117	Heptachlor	< 0.003	0.00021	0.000019	No
118	Heptachlor Epoxide	< 0.002	0.00011	0.00002458	No
119-125	PCBs (sum)	< 0.03	0.00017	Not Available	No
126	Toxaphene	< 0.2	0.00020	Not Available	No

CTR #	Priority Pollutants	MEC or Minimum DL [a][b] (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL [a][b] (µg/L)	RPA Results[c]
	Total PAHs	Not Available	15	0.26	Cannot Determine
	Tributyltin	Not Available	0.01	< 0.001	Cannot Determine

[a] The MEC and the maximum background concentration (B) are actual detected concentrations, unless they are preceded by a "<" sign, indicating that pollutant was not detected, and the value shown is the analytical method detection limit (MDL).

[b] "Not Available" indicates that there are no monitoring data for the constituent.

[c] RPA Results = Yes, if MEC > WQO/WQC, or B > WQO/WQC and MEC is detected (MEC > MDL);
= No, if MEC and B are < WQO/WQC, or if all effluent data are undetected below the lowest criterion or objective;
= Uo, unknown because no criteria have been promulgated;
= Ud, unknown because of insufficient effluent data

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

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

(3) Dilution Credit. The SIP provides the basis for any dilution credit. The Pinole outfall is designed to achieve a minimum of 45:1 dilution. A review of RMP data from local and Central Bay stations indicates there is variability in the receiving water, and the hydrology of the receiving water is itself very complex. There is thus uncertainty associated with the representative nature of the appropriate ambient background data for effluent limit calculations. Pursuant to Section 1.4.2.1 of the SIP, "dilution credit may be limited or denied on a pollutant-by-pollutant basis…." The Regional Water Board finds that a conservative 10:1 dilution credit for non-bioaccumulative priority pollutants, and a zero dilution credit for bioaccumulative priority pollutants are

necessary for protection of beneficial uses. The detailed basis for each are explained below.

(a) For certain bioaccumulative pollutants dilution credits are not included in calculating the final WQBELs. This decision is based on the concentrations of these pollutants in aquatic organisms, sediment, and the water column. The Regional Water Board placed selenium, mercury, and polychlorinated biphenyls (PCBs) on the CWA Section 303(d) list. U.S. EPA added dioxin and furan compounds, chlordane, dieldrin, and 4,4'-DDT to the CWA Section 303(d) list. A dilution credit is also not allowed for mercury. The reasoning for these decisions is based on the following factors that suggest there is no more assimilative capacity in the Bay for these pollutants.

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

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

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

(i) A far-field background station is appropriate because the receiving water body (the Bay) is a very complex estuarine system with highly variable and seasonal upstream freshwater inflows and diurnal tidal saltwater inputs. The SIP allows background to be determined on a discharge-by-discharge or water body-by-water body basis (SIP 1.4.3). Consistent with the SIP, Regional Water Board staff have chosen to

use a water body-by-water body basis because of the uncertainties inherent in accurately characterizing ambient background in a complex estuarine system on a discharge-by-discharge basis.

The Yerba Buena Island Station fits the guidance for ambient background in the SIP compared to other stations in the RMP. The SIP states that background data are applicable if they are "representative of the ambient receiving water column that will mix with the discharge." Regional Water Board staff believe that water from this station is representative of water that will mix with the discharge from this Discharger. Although this station is located near the Golden Gate, it would represent the typical water flushing in and out of the Bay each tidal cycle and represents the receiving water that will mix with the discharge.

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

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

4. WQBEL Calculations.

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

a. Copper

(1) *Copper WQC*. The salt water, acute and chronic criteria from the Basin Plan and the CTR for copper for protection of aquatic life are 7.2 and 8.2 µg/L, respectively. These criteria were determined using site-specific translators of 0.38 (chronic) and 0.67 (acute), as recommended by the Clean Estuary Partnership's *North of Dumbarton Bridge Copper and Nickel Development and Selection of Final Translators* (2005). Site-specific translators were applied to chronic (3.1 µg/L dissolved metal) and acute (4.8 µg/L dissolved metal) criteria of the Basin Plan and the CTR for protection of salt water aquatic life to calculate the criteria of 8.2 µg/L for chronic protection and 7.2 µg/L for acute protection, which were used to perform the RPA.

(2) *RPA Results*. This Order establishes effluent limitations for copper, as the maximum observed effluent concentration of 10 µg/L exceeds the applicable water quality criteria for this pollutant, demonstrating reasonable potential by Trigger 1, as defined previously.

(3) *Copper WQBELs*. WQBELs are calculated based on water quality criteria of the CTR and based on site-specific water quality objectives (SSOs) recommended by the Clean Estuary Partnerships' *North of Dumbarton Bridge Copper and Nickel Site-Specific Objective (SSO) Derivation* (2004). Both sets of criteria are expressed as total recoverable metal, using site-specific translators recommended by the Clean Estuary Partnership's *North of Dumbarton Bridge Copper and Nickel Development and Selection of Final Translators* (2004), and a water effects ratio (WER) of 2.4, as recommended by the Partnership. The following table compares final effluent limitations for copper from the expiring permit with limitations calculated according to SIP procedures (and a coefficient of variation of 0.43) using the two sets of criteria, described above. The newly calculated limitations take into account the deep water nature of the discharge, and therefore, in accordance with the Basin Plan, are based on a minimum initial dilution of 10 to 1.

Table F-10. Comparison of Previous Order Copper Limitations to CTR Limits

Final Effluent Limitations for Copper		
	AMEL	**MDEL**
Order No. 01-106	20 µg/L	37 µg/L
Based on CTR Criteria	87 µg/L	150 µg/L
Based on Site-Specific	69 µg/L	120 µg/L

Objectives		

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

(4) *Feasibility Analysis*. The Discharger has been subject to final copper limitations for the term of expiring permit and has demonstrated compliance with those final effluent limitations. A feasibility analysis for copper has, therefore, not been conducted.

b. Mercury

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

(2) *RPA Results*. This Order establishes effluent limitations for mercury, as the maximum observed effluent concentration of 0.042 µg/L exceeds the applicable chronic criterion for this pollutant, demonstrating reasonable potential by Trigger 1, as defined previously.

(3) *Mercury WQBELs*. Final WQBELs for mercury, calculated according to SIP procedures, are 0.019 µg/L (AMEL) and 0.044 µg/L (MDEL). Because mercury is a bioaccumulative pollutant, final effluent limitations are calculated without credit for dilution.

(4) *Immediate Compliance Infeasible*. The Discharger's Feasibility Study asserts that the facility cannot immediately comply with final WQBELs for mercury. Statistical analysis of effluent data for mercury, collected over the period of March 2003 through February 2006, show that the 95th percentile (0.025 µg/L), after accounting for effluent variability, is greater than the AMEL (0.019 µg/L). Based on this analysis, the Regional Water Board concurs with the Discharger's assertion of infeasibility to comply with final WQBELs for mercury.

(5) *Mercury Control Strategy*. The Regional Water Board is developing a TMDL to control mercury levels in San Francisco Bay. The Regional Water Board, together with other stakeholders, will cooperatively develop source control strategies as part of the TMDL development. Municipal discharge point sources do not represent a significant mercury loading to San Francisco Bay. Therefore, the currently preferred strategy is to apply interim mass loading limits to point source discharges while focusing mass reduction efforts on other more significant and controllable sources. While the TMDL is being developed, the Discharger will cooperate in maintaining ambient receiving water conditions by complying with performance-based mercury mass emission limits. Therefore, this Order includes interim mass loading effluent limitations for mercury, as described below. The Discharger is required to

implement source control measures and cooperatively participate in special studies as described below.

(6) *Mercury TMDL*. The current 303(d) list includes the San Francisco Bay as impaired by mercury, due to high mercury concentrations in the tissues of fish from the Bay. Methylmercury, a highly toxic form of mercury, is a persistent bioaccumulative pollutant. There is no evidence to show that mercury discharged by the Discharger is taken out of the hydrologic system, by processes such as evaporation before reaching San Francisco Bay. The Regional Water Board intends to establish a TMDL that will lead towards overall reduction of mercury mass loadings into San Francisco Bay. The final mercury effluent limitations will be based on the Discharger's WLA in the TMDL. While the TMDL is being developed, the Discharger will comply with performance-based mercury concentration and mass-based limitations to cooperate with maintaining current ambient receiving water conditions.

(7) *Interim Performance-based Effluent Limitation (IPBL)*. Because it is infeasible for the Discharger to immediately comply with the mercury WQBELs, an interim limitation is required. The previous permit included an interim effluent limitation of 0.087 μg/L as an average monthly limit, which was determined from pooled ultra-clean mercury data for POTWs throughout the Region using secondary treatment (*Staff Report: Statistical Analysis of Pooled Data from Region-wide Ultra-clean Sampling, 2000*). This interim limit has been retained in this permit.

(8) *Term of Interim Effluent Limitation*. The interim effluent limitation for mercury shall remain in effect through April 27, 2010, or until the Regional Water Board amends the limitation based on additional data or a TMDL.

c. Cyanide

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

(2) *RPA Results*. This Order establishes effluent limitations for cyanide because the 11.0 μg/L MEC exceeds the governing WQC of 1 μg/L, demonstrating reasonable potential by Trigger 1, as defined in a previous finding.

(3) *Cyanide WQBELs*. Final WQBELs for cyanide, calculated according to SIP procedures, are 6.4 µg/L as the maximum daily effluent limit (MDEL) and 3.0 µg/L as the average monthly effluent limit (AMEL). These limitations take into account the deep water nature of the discharge, and therefore, in accordance with the Basin Plan, are based on a minimum initial dilution of 10 to 1.

(4) *Immediate Compliance Infeasible*. The Discharger's Feasibility Study asserts that the facility cannot immediately comply with final WQBELs for cyanide. Statistical analysis of effluent data for cyanide, collected over the period of March 2003 through February 2006, show that the 95th percentile (7.5 µg/L) is greater than the AMEL (3.0 µg/L); the 99th percentile (11.9 µg/L) is greater than the MDEL (6.4 µg/L); and the mean (2.5 µg/L) is greater than the long term average (1.8 µg/L) of the projected normal distribution of the effluent data set after accounting for effluent variability. Based on this analysis, the Board concurs with the Discharger's assertion of infeasibility to comply with final WQBELs for cyanide.

(5) *Interim Effluent Limitation*. Because it is infeasible for the Discharger to immediately comply with the final WQBELs for cyanide, an interim effluent limitation is required. Regional Water Board staff considered the Discharger's effluent data from March 2003 through February 2006 and determined the 99.87th percentile of the data set (19 µg/L) is less stringent than the interim limit in the previous permit (12 µg/L). Therefore, this Order retains 12 µg/L as an interim limit.

(6) *Term of Interim Effluent Limitation*. The cyanide interim effluent limitation shall remain in effect through April 27, 2010, or until the Regional Water Board amends the limitation based on additional data or Site Specific Objectives.

(7) *Alternative Limit for Cyanide*. As described in *Draft Staff Report on Proposed Site-Specific Water Quality Objectives and Effluent Limit Policy for Cyanide for San Francisco Bay*, dated November 10, 2005, the Regional Water Board is proposing to develop site-specific criteria for cyanide. In this report, the proposed site-specific criteria for marine waters are 2.9 µg/L as a four-day average, and 9.4 µg/L as a one-hour average. Based on these assumptions, and the Dischargers current cyanide data (coefficient of variation = 0.68), final WQBELs for cyanide will be 43 µg/L as a MDEL, and 20 µg/L as an AMEL. These alternative limits will become effective only if the site-specific objective adopted for cyanide contains the same assumptions as in the staff report, dated November 10, 2005.

d. Dioxin - TEQ

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

(2) *RPA Results*. Because the receiving water is currently listed on the CWA 303(d) list as impaired due to dioxins and furans, and the maximum observed effluent concentration of dioxin–TEQ is 5.00×10^{-8} µg/L, which exceeds the translated water quality objective of 1.4×10^{-8} µg/L, dioxin-TEQ in the discharge has a reasonable potential to contribute to exceedances of the narrative bioaccumulation objective.

(3) *WQBELs*. Final WQBELs for dioxin – TEQ, calculated according to SIP procedures, are 2.8×10^{-8} and 1.4×10^{-8} µg/L as the maximum daily effluent limit (MDEL) and the average monthly effluent limit (AMEL), respectively. Because dioxin-TEQ is a bioaccumulative pollutant, final effluent limitations are calculated without credit for dilution.

(4) *Immediate Compliance Infeasible*. The Discharger's Feasibility Study asserts the Discharger cannot immediately comply with final concentration-based WQBELs for dioxin-TEQ. The Regional Water Board concurs with the Discharger's assertion of infeasibility to comply, as effluent concentrations of dioxin-TEQ measured during the term of the previous Order exceed the WQBEL (above).

(5) *No Interim Limits*. It is impossible to calculate an interim performance based limit for dioxin-TEQ because the Discharger has only collected seven samples for this pollutant, and therefore, a meaningful statistical analysis cannot be performed. Additionally, the previous permit did not include a dioxin-TEQ limit that could be carried over in this permit. For these reasons, this permit does not contain an interim limitation for dioxin-TEQ. In order to develop an adequate data set to evaluate current performance, and set an interim limit in the next permit, this Order requires twice/yearly monitoring. Consistent with the conditions for a compliance schedule in 40 CFR 122.47(a)(3), this Order requires that the Discharger (a) implement a pollution minimization program to reduce loadings of dioxin-TEQ to its treatment plant, and (b) monitor twice per year.

(6) *Compliance Schedule*. For dioxin-TEQ, this Order establishes a compliance schedule until ten years from the effective date of this Order, as allowed by the Basin Plan.

e. Effluent Limit Calculations

Table F-11. Effluent Limit Calculations

PRIORITY POLLUTANTS	Copper		Mercury	Cyanide		2,3,7,8-TEQ
Units	ug/L		ug/L	ug/L		ug/L
Basis and Criteria type	BP & CTR SW	Alternating limits using SSOs (December 2004)	BP FW Aq Life	NTR Criterion for the Bay	Proposed SSO (Nov. 10, 2005)	BP HH
CTR Criteria -Acute	7.16			1.0	9.4	
CTR Criteria -Chronic	8.16			1.0	2.9	
SSO Criteria -Acute (December 2004) (Diss.)		3.9				
SSO Criteria -Chronic (December 2004) (Diss.)		2.5				
Water Effects ratio (WER)	2.4	2.4				
Lowest WQO			0.025	1.0	2.9	1.40E-08
CTR Conversion Factor for Saltwater (acute& chronic)	0.83	0.83				
Translator-MDEL	0.67	0.67				
Translator-AMEL	0.38	0.38				
Dilution Factor (D) (if applicable)	9	9	0	9	9	0
No. of samples per month	4	4	4	4	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y	Y	Y	Y	N
HH criteria analysis required? (Y/N)	N	N	Y	Y	Y	Y
Applicable Acute WQO	17.18	13.97	2.10	1	9.4	
Applicable Chronic WQO	19.58	15.79	0.025	1	2.9	
HH criteria	-----		0.05	220,000	220,000	1.40E-08
Background (Maximim Conc for Aquatic Life calc)	2.45	2.45	0.0086	0.4	0.4	7.10E-08
Background (Average Conc for Human Health calc)	-----		0.0022			5.00E-08
Is the pollutant Bioaccumulative(Y/N)? (e.g., Hg)	N	N	Y	N	N	Y
ECA acute	149.8	117.7	2.1	6.4	90.4	
ECA chronic	173.8	135.8	0.03	6.4	25.4	
ECA HH			0.051	220000	220000	1.40E-08
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	N	N	N	N	Y
Avg of effluent data points	5.4	5.4	0.011	3.0	3.0	
Std Dev of effluent data points	2.3	2.3	0.009	2.2	2.2	
CV calculated	0.43	0.43	0.82	0.74	0.74	N/A
CV (Selected) - Final	0.43	0.43	0.82	0.74	0.74	0.60
ECA acute mult99	0.42	0.42	0.24	0.27	0.27	
ECA chronic mult99	0.62	0.62	0.43	0.46	0.46	
LTA acute	62.44	49.41	0.51	1.71	24.13	
LTA chronic	108.30	84.22	0.011	2.96	11.75	
minimum of LTAs	62.44	49.41	0.011	1.71	11.75	
AMEL mult95	1.39	1.39	1.77	1.69	1.69	1.55
MDEL mult99	2.40	2.40	4.12	3.75	3.75	3.11
AMEL (aq life)	86.66	68.68	0.02	2.89	19.89	
MDEL(aq life)	149.79	118.59	0.04	6.40	44.04	
MDEL/AMEL Multiplier	1.73	1.73	2.32	2.21	2.21	2.01
AMEL (human hlth)			0.051	220000	220000	1.40E-08
MDEL (human hlth)			0.118	487041	487041	2.81E-08
minimum of AMEL for Aq. life vs HH	86.66	68.68	0.02	2.89	19.89	1.40E-08
minimum of MDEL for Aq. Life vs HH	149.79	118.59	0.04	6.40	44.04	2.81E-08
Current limit in permit (30-day average)	20	20	0.087 (interim)	-------	-------	-------
Current limit in permit (daily)	37	37	-------	12 (interim)	12 (interim)	-------
Final limit - AMEL	20	20	0.019	2.9	20	1.40E-08
Final limit - MDEL	37	37	0.044	6.4	44	2.81E-08
Max Effl Conc (MEC)	10	10	0.042	11	11	5.00E-08

5. Whole Effluent Toxicity (WET)

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

(b) ***Whole Effluent Chronic Toxicity.*** To determine if the discharge exhibits chronic toxicity, this permit requires that the Discharger conduct screening phase monitoring before the next permit reissuance. This is a reasonable balance of monitoring for the facility since it is unlikely to exhibit significant chronic toxicity in the receiving water. This is because the Discharger (1) uses a deepwater outfall which achieves greater than 10:1 dilution of its effluent, (2) discharges on average around 3 mgd, and (3) does not receive waste from any major industries.

6. Mercury Interim Mass Emission Limitation

This Order retains the interim mercury mass-based effluent limitation of 0.102 kg/month included the previous order. This mass-based effluent limitation is intended to maintain the discharge at current loadings until a TMDL is established for San Francisco Bay. The final mercury effluent limitations will be based on the Discharger's WLA in the TMDL.

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

D. Numeric Effluent Limitations

Table F-12. Summary of Water Quality Based Effluent Limitations

Parameter	Units	Final Effluent Limits		Interim Effluent Limits	
		Daily Maximum (MDEL)	Monthly Average (AMEL)	Daily Maximum	Monthly Average
Copper	µg/L	37	20	---	---
Mercury	µg/L	0.044	0.019	---	0.087
Cyanide	µg/L	6.4	3.0	12	---
Dioxin-TEQ	µg/L	$2.8*10^{-8}$	$1.4*10^{-8}$		

E. Feasibility Evaluation and Compliance Schedules

a. Feasibility Evaluation. The Discharger submitted infeasibility to comply reports on July 24, 2006, for mercury, cyanide, and dioxin-TEQ. For constituents that Board staff could perform a meaningful statistical analysis (i.e., mercury and cyanide), it used self-monitoring data from March 2003 to February 2006 to compare the median, 95th percentile, and 99th percentile with the long-term average (LTA), AMEL, and MDEL to confirm if it is feasible for the Discharger to comply with WQBELs. If the LTA, AMEL, and MDEL all exceed the median, 95th percentile, and 99th percentile, it is feasible for the Discharger to comply with WQBELs. Table 15 below shows these comparisons in µg/L.

Table 13 - Summary of Feasibility Analysis

Constituent	Median / LTA	95th / AMEL	99th / MDEL	Feasible to Comply
Mercury	0.008 < 0.011	0.025 > 0.019	0.040 < 0.044	No
Cyanide	2.5 > 1.8	7.5 > 3.0	11.9 > 6.4	No

For dioxin-TEQ, it was not possible to statistically analyze the data due to the number of nondetects. On TCDD Equivalents, the observed maximum effluent concentration of $5.00*10^{-8}$ µg/L exceeds the AMEL calculated in accordance with the SIP. Therefore, it is infeasible for the Discharger to immediately comply with final WQBELs for TCDD Equivalents.

b. Compliance Schedules. This permit establishes compliance schedules until April 27, 2010 for mercury and cyanide. For dioxin-TEQ, this permit established a compliance schedule until ten years from the effective date of this Order, which exceeds the length of the permit.

During the compliance schedules, interim limitations for mercury and cyanide are included based on current treatment facility performance or on previous permit limitations, whichever is more stringent to maintain existing water quality. The Regional Water Board may take appropriate enforcement actions if interim limitations and requirements are not met.

i. Mercury. For mercury, the previous permit included an interim limit that was to remain effective until March 31, 2010. However, this was in error. The compliance schedule for final mercury limits should be based on the Basin Plan and SIP (i.e., 10 years from the effective date of the SIP). Therefore, in this Order, compliance with final mercury limits must be achieved by no later than April 27, 2010.

ii. Cyanide. For cyanide, the Regional Water Board granted, in the previous permit, a compliance schedule pursuant to the 2000 SIP §2.2.2, Interim Requirements for Providing Data (note 2005 SIP amendment deleted this section as it is not applicable to permits effective after May 18, 2003). This was to allow collection of ambient data, because the Regional Monitoring Program data were not complete primarily due to inadequate detection limits. The Discharger, thru BACWA,

helped fund an effort to collect these data as part of the collaborative receiving water monitoring for other CTR pollutants. The Regional Water Board has received these data, which form the basis for current permits. However, the use of the SIP to grant a compliance schedule for cyanide in the previous permit was incorrect. The NTR promulgated water quality objectives for cyanide, with the Basin Plan as the implementation tool, and therefore, the compliance schedule provisions in the SIP are not applicable. This is because SIP compliance schedules apply only to "...CTR criterion-based effluent limitations..." The Basin Plan provides for a 10-year compliance schedule for implementation of measures to comply with new standards as of the effective date of those standards. This provision has been construed to authorize compliance schedules for new interpretations of existing standards, if the new interpretations result in more stringent limits than in the previous permit. As the SIP methodology for calculating water quality based effluent limits results in more stringent limits, the Basin Plan provides for a 10-year compliance schedule from the effective date of the SIP. Therefore, in this Order, compliance with final cyanide limits must be achieved by no later than April 27, 2010.

iii. Dioxin-TEQ. For dioxin-TEQ, the previous permit did not include interim limits or a compliance schedule. This Order establishes a compliance schedule for attaining final limits, based on the Basin Plan, of ten years from the effective date of the permit.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Receiving Water Limitations V.A. and B. (conditions to be avoided).

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

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

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

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

NPDES regulations at 40 CFR 122.48 require all NPDES permits to specify recording and reporting of monitoring results. Sections 13267 and 13383 of the California Water Code

authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program, Attachment E of this Order, establishes monitoring and reporting requirements to implement Federal and State requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP.

The MRP is a standard requirement in almost all NPDES permits issued by the Regional Water Board, including this Order. It contains definitions of terms, specifies general sampling and analytical protocols, and sets out requirements for reporting of spills, violations, and routine monitoring data in accordance with NPDES regulations, the California Water Code, and Regional Water Board's policies. The MRP also contains a sampling program specific for the Pinole-Hercules WPCP. It defines the sampling stations and frequency, the pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all parameters for which effluent limitations are specified. Monitoring for additional constituents, for which no effluent limitations are established, is also required to provide data for future completion of RPAs for them.

A. Influent Monitoring

The MRP includes monitoring for conventional and toxic pollutants. This Order requires daily flow monitoring and twice per week monitoring for CBOD, four times per week monitoring of TSS, and monthly monitoring for cyanide and mercury to facilitate self-policing for the prevention and abatement of potential pollution arising in the treatment plant influent.

B. Effluent Monitoring

The MRP includes effluent monitoring for most of the pollutants that were required under the previous Order. This MRP requires continuous monitoring of flow rate, pH, and chlorine residual; twice weekly monitoring of CBOD, three times per week monitoring of total coliform, two times per week monitoring of TSS, daily monitoring for temperature and dissolved oxygen, monthly monitoring for oil and grease, copper, cyanide, mercury, ammonia-nitrogen, and acute toxicity, and twice per year monitoring for dioxin-TEQ. Monitoring for these pollutants is necessary to evaluate treatment plant performance, and to evaluate compliance with effluent limits. Additionally, this Order requires annual monitoring for priority pollutants. These results are needed to perform a reasonable potential analysis for the next permit reissuance.

C. Receiving Water Monitoring

1. Regional Monitoring Program (RMP)

   On April 15, 1992, the Regional Water Board adopted Resolution No. 92-043 directing the Executive Officer to implement the Regional Monitoring Program (RMP) for the San Francisco Bay. Subsequent to a public hearing and various meetings, Regional Water Board staff requested major permit holders in this region, under authority of Section 13267 of the California Water Code, to report on the water quality of the estuary. These permit holders responded to this request by participating in a collaborative effort, through the San Francisco Estuary Institute. This effort has come to be known as the San Francisco Bay Regional Monitoring

Program for Trace Substances. This Order specifies that the Discharger shall continue to participate in the RMP, which involves collection of data on pollutants and toxicity in water, sediment and biota of the estuary.

2. Receiving water monitoring is not required in this Order pursuant to Regional Water Board Resolution 92-043 as described above. Since the Discharger's outfall structure is 3,600 feet offshore into the Bay, there are RMP stations near the discharge outfall, therefore, the Discharger is exempt from doing its own receiving water monitoring.

D. Pretreatment Monitoring Requirements

NA

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions (Provision VI.A)

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

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

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

C. Special Provisions (Provision VI.C)

1. Reopener Provisions.

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

2. Special Studies, Technical Reports and Additional Reporting Requirements

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

b. Ambient Background Receiving Water Study. This provision is based on the Basin Plan, the SIP, and the August 6, 2001 Letter for priority pollutant monitoring. As indicated in the permit, this requirement may be met by participating in the collaborative Regional Monitoring Program.

c. Corrective Measures to Eliminate Blending at Outfall 001 and Prevent Discharge at Outfall 002. This provision is based on the Basin Plan, and 40 CFR 122.41(m). The need to eliminate use of the shallow water outfall (outfall 002) is based on the Basin Plan, which prohibits discharge of wastewater that does not receive an initial dilution of at least 10:1. The requirement to implement corrective measures to address blending is based on 40 CFR 122.41(m). To address both of these issues, this provision requires that the Discharger implement feasible alternatives to reduce the need to blend during this permit cycle, and propose and begin to implement alternatives that will eliminate the use of the shallow water outfall and blending by June 1, 2016.

d. Optional Mass Offset: This option is provided to encourage the Discharger to further implement aggressive reduction of mass loads to the San Pablo Bay.

e. Mercury, Cyanide, and Dioxin-TEQ Compliance Schedules:
The compliance schedules and the requirement to submit reports on further measures to reduce concentrations of mercury, cyanide, and dioxin-TEQ to ensure compliance with final limits are based on the Basin Plan (page 4-14), and 40 CFR 122.47(a)(3). Maximum allowable compliance schedules are granted to the Discharger for these pollutants because of the considerable uncertainty in determining an effective measure (e.g., pollution prevention, treatment upgrades) that should be implemented to ensure compliance with final limits. In our view, it is appropriate to allow the Discharger sufficient time to first explore source control measures before requiring it to propose further actions, such as treatment plant upgrades, that are likely to be much more costly. This approach is supported by the Basin Plan (page 4-25), which states: "In general, it is often more economical to reduce overall pollutant loading into treatment systems than to install complex and expensive technology at the plant."

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

3. Best Management Practices and Pollutant Minimization Program

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

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

4. Construction, Operation, and Maintenance Specifications

a. Wastewater Facilities, Review and Evaluation, Status Reports: This provision is based on the previous permit and the Basin Plan.

b. Operations and Maintenance Manual, Review and Status Reports: This provision is based on the Basin Plan, the requirements of 40 CFR §122, and the previous permit.

c. Contingency Plan, Review and Status Reports: This provision is based on the Basin Plan, the requirements of 40 CFR §122, and the previous permit.

5. Special Provisions for POTWs

a. Pretreatment Program: A pretreatment program is not required for the Discharger because its design flow is less than 5 mgd on average (40 CFR Part 403).

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

c. Sanitary Sewer Overflows and Sewer System Management Plan: This provision is to explain the Order's requirements as they relate to the Discharger's collection system, and to promote consistency with the State Water Resources Control Board adopted Statewide General Waste Discharge Requirements for Sanitary Sewer Overflow (SSO WDRs) and a related Monitoring and Reporting Program (Order No. 2006-0003-DWQ). The bases for these requirements are described elsewhere in this Fact Sheet for those requirements.

d. Utility Analysis and Implementation Schedule for Wet Weather Bypass of Secondary Treatment: This provision is based on 40 CFR 122.41(m). It requires

that the Discharger reevaluate prior to the next permit reissuance that it has explored every feasible alternative to eliminate blending.

VIII. PUBLIC PARTICIPATION

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

A. Notification of Interested Parties

The Regional Water Board has notified the Dischargers and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the following: (a) paper and electronic copies of this Order were relayed to the Discharger, and (b) the Martinez News Gazette published a notice that this item would appear before the Board on March 14, 2007.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments should be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order, Attention: Robert Schlipf.

To be fully responded to by staff and considered by the Regional Water Board, written comments must be received at the Regional Water Board offices by 5:00 p.m. on February 20, 2007.

C. Public Hearing

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

Date:	March 14, 2007
Time:	9:00 a.m.
Location:	Elihu Harris State Office Building 1515 Clay Street, 1st Floor Auditorium Oakland, CA 94612
Contact:	Robert Schlipf

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

Please be aware that dates and venues may change. Our web address is www.waterboards.ca.gov/sanfranciscobay where you can access the current agenda for changes in dates and locations. Regional Water Board agenda package including staff's responses to written comments, and revised draft permit will be posted at this website no later than one week prior to the hearing date.

D. Waste Discharge Requirements Petitions

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

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

E. Information and Copying.

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

F. Register of Interested Persons.

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

G. Additional Information

Requests for additional information or questions regarding this Order should be directed to Robert Schlipf, 510-622-2478, email rschlipf@waterboards.ca.gov.

ATTACHMENT G – REGIONAL WATER BOARD ATTACHMENTS

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

Self-Monitoring Program, Part A (August 1993)

Standard Provisions and Reporting Requirements, August 1993

Regional Water Board Resolution No. 74-10

August 6, 2001 Regional Water Board staff letter, "Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy

Pinole-Hercules Water Pollution Control Plant Infeasibility Analyses

Introduction

The City of Pinole (City) received correspondence from the San Francisco Bay Regional Water Quality Control Board (Regional Water Board) dated July 11, 2006 regarding the Regional Water Board's results of its reasonable potential analysis as well as requesting infeasibility analyses for up to four priority toxic pollutants subject to the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California* (known as the State Implementation Policy (SIP), effective 4/28/00 and amended 7/13/05). Infeasibility analyses for priority pollutants (constituents listed in the SIP) are required for the Regional Water Board to issue interim limits and compliance schedules for these constituents. The infeasibility analyses contained herein for the subject priority pollutants have been conducted in accordance with section 2.1 of the SIP. The analyses contained herein are submitted to the Regional Water Board by the City to demonstrate the City's inability to comply with water-quality based effluent limits for mercury, cyanide, and dioxin for discharge from the Pinole-Hercules Water Pollution Control Plant.

Background

The SIP establishes statewide policy for National Pollutant Discharge Elimination System (NPDES) permitting. The SIP provides for the situation where an existing NPDES discharger cannot immediately comply with an effluent limitation derived from a California Toxics Rule (CTR) or more stringent toxic Basin Plan criterion. The SIP allows for the adoption of interim effluent limits and a schedule to come into compliance with the final limit in such cases. To qualify for interim limits and a compliance schedule, the SIP requires that an existing discharger demonstrate that it is infeasible to achieve immediate compliance with the CTR based limit.

The term "infeasible" is defined in the SIP as "not capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors."

The SIP requires that the following information be submitted to the Regional Water Board to support a finding of infeasibility:

(a) documentation that diligent efforts have been made to quantify pollutant levels in the discharge and sources of the pollutant in the waste stream, including the results of those efforts;
(b) documentation of source control and/or pollution minimization efforts currently under way or completed;
(c) a proposed schedule for additional or future source control measures, pollutant minimization or waste treatment; and
(d) a demonstration that the proposed schedule is as short as practicable.

Pollutants to be Evaluated

The pollutants for which an infeasibility analysis and compliance schedule justification were requested by the Regional Water Board in its July 11, 2006 correspondence for the City's Water Pollution Control Plant were copper, mercury, cyanide, and dioxin. However, upon further analysis, the Water Pollution Control Plant is expected to be able to meet the copper effluent limits, therefore only mercury, cyanide and dioxin are in need of interim limits and a compliance schedule.

Effluent Limit Attainability

The proposed final effluent limits calculated for these constituents are compared to the maximum observed effluent concentrations at the Water Pollution Control Plant in Table 1.

Table 1. Proposed Effluent Limits for the City of Pinole Water Pollution Control Plant

Pollutant	Water Quality Based Effluent Limits		Effluent Quality
	AMEL [a]	MDEL [b]	MEC [c]
Mercury (µg/L)	0.019	0.044	0.042
Cyanide (µg/L)	3.1 [d]	6.4	11
Dioxin (pg/L)	0.014	0.028	0.050

[a] AMEL: average monthly effluent limit
[b] MDEL: maximum daily effluent limit
[c] MEC: maximum effluent concentration
[d] This cyanide AMEL varies from the Water Board's 7/11/06 AMEL of 2.9 µg/L. The 3.1 µg/L limit is based on an expanded cyanide data set [includes special cyanide testing conducted in May 2005 which was submitted to the Water Board].

The final effluent limits shown above are calculated using procedures described in Section 1.4 of the SIP for priority pollutants and non-priority pollutants. Background values were taken from the San Francisco Estuary Institute (SFEI) Regional Monitoring Program (RMP)'s database at the Davis Point monitoring station. Supplemental 13267 monitoring data from SFEI collected in 2002 and 2003 at the Yerba Buena monitoring location were used for constituents that are not part of the RMP's monitoring list. Davis Point station water is classified as estuarine with aquatic life beneficial uses. A dilution factor of 10:1 was used for non-bioaccumulative pollutants (mercury and dioxin are bioaccumulative). The receiving water hardness data was also taken from Davis Point station. The adjusted geometric mean hardness value was greater than the maximum allowable hardness under the SIP, therefore the hardness was set equal to that maximum hardness, 400 mg/L, and was used to calculate hardness-based metals objectives and conversion factors. Other variables in the effluent limit calculation included coefficients of variation for different pollutants.

Maximum observed (detected) effluent concentrations are based on recent Water Pollution Control Plant effluent quality data collected between March 2003 and February 2006. As shown

in the table above, the City may not be able to comply with proposed effluent limits for the three constituents. The infeasibility analyses and compliance schedule justifications for the listed constituents are discussed below.

Source Control and Pollution Prevention Efforts

The City performed a source identification for mercury and inspections at dental offices in early 2004, to encourage best management practices when disposing of waste mercury amalgam. The City also encourages residents to dispose of mercury-containing items at the Richmond Household Hazardous Waste collection facility. The City has not previously identified cyanide or dioxin as pollutants of concern and therefore has not conducted specific pollution prevention activities targeting these constituents. The City participates in general pollution prevention activities through its membership in Bay Area Clean Water Agencies (BACWA).

The City is an active participant and supporter of several regional groups and programs, including:

- Bay Area Clean Water Agencies (BACWA)
- Contra Costa County Green Business Program
- Bay Area Pollution Prevention Group (BAPPG)

The City conducts general outreach pollution prevention activities, including:

- Pinole Community Outreach Forum
- Publication of a newsletter, which always includes an article about pollution prevention
- Brochures at City office
- Elementary classroom presentations
- Water Pollution Control Plant class tours

Mercury

The maximum observed effluent concentration for mercury is 0.042 µg/L (measured in November 2003, out of 36 data points) which would exceed a final AMEL of 0.019 µg/L. In addition, another sample collected in 2003 and one collected in 2005 would exceed the proposed final AMEL. The statistical probability of compliance with the AMEL is 87%. Therefore, the City is at risk of non-compliance with the proposed final AMEL 13% of the time. Therefore, the City will not be able to immediately comply with the proposed final limits.

No influent data are available for mercury at the Water Pollution Control Plant, therefore influent sources cannot be determined at this time. The City's past pollution prevention efforts targeting mercury include a source identification in 2004 and inspections of dental offices. The source identification found that the most likely sources of mercury in influent can come from dental offices (34 in Pinole-Hercules), medical facilities (15), hospitals (1), and residential areas. Dental office inspections showed that local dentists are mainly trained in proper amalgam waste management techniques, use BMPs to minimize amalgam waste and maximize amalgam waste capture. However, the implementation of additional BMPs could result in further reduction of mercury waste discharge.

Monthly influent monitoring for mercury will be initiated, and the City will collect follow-up information to the previous source identification by contacting dentist offices and surveying residents about their current mercury waste disposal habits. After one year of monitoring and information collection, the potential sources of mercury will be re-evaluated and appropriate source control programs will be developed. Commercial source control could include additional inspections and incentive programs, and additional educational programs for residents.

The City is also contributing to the development of a mercury TMDL through its membership in BACWA.

The effluent data for mercury are shown with the proposed final effluent limits in Figure 1. It can be seen that three data points exceed the AMEL, one as recently as June 2005.

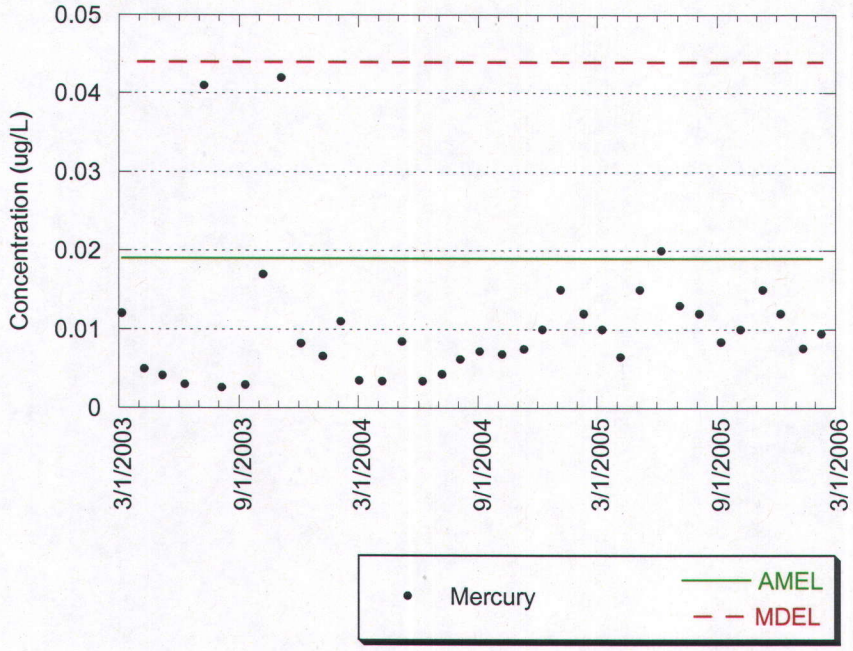

Figure 1. Effluent Mercury with Proposed Final Effluent Limits

Cyanide

The maximum observed effluent concentration for cyanide is 11 µg/L (measured in October 2005, out of 45 data points) which would exceed a final MDEL of 6.4 µg/L and a final AMEL of 3.1 µg/L. In addition, 17 of 45 samples collected between March 2003 and February 2006 would exceed the proposed final AMEL. The cyanide detection limit is 3 µg/L, which is barely below the proposed final AMEL. The statistical probabilities of compliance with the AMEL and MDEL are 54% and 92%, respectively. Therefore, the City is at risk of non-compliance with the proposed final limits 46% and 8% of the time. Therefore, the City will not be able to immediately comply with the proposed final limits.

As the Regional Water Board has noted previously, "Cyanide is a regional problem associated with the analytical protocol for cyanide analysis due to matrix inferences. A body of evidence exists to show that cyanide measurements in effluent may be an artifact of the analytical method. This question is being explored in a national research study sponsored by the Water Environment Research Foundation (WERF)" (as stated in recent POTW NPDES permits). No influent data are available for cyanide at the Water Pollution Control Plant, therefore influent sources cannot be determined at this time. Typically, cyanide is not present in wastewater influent but is generated in the treatment plant disinfection process. The WERF study also indicated that effluent cyanide levels are due to chlorination.

The City has not previously identified cyanide as a pollutant of concern and, therefore, has not conducted pollution prevention activities that directly target this constituent. Effluent monitoring for cyanide will continue as required by the City's NPDES permit, and monthly influent monitoring for cyanide will be initiated. If half of the influent data are detected at levels exceeding the effluent after one year of monitoring, source identification efforts will be initiated.

The City supports current efforts to develop a site-specific objective (SSO) for cyanide in the Bay through their BACWA affiliation, given that cyanide does not persist in the environment and that the current water quality objective (WQO) was based on testing with East Coast species. A cyanide SSO for Puget Sound, Washington, using West Coast species has been approved by EPA Region X. A final report documenting a regional study for development of a site-specific objective for cyanide was submitted to the Regional Water Board on June 29, 2003. The Basin Plan Amendment is currently being developed.

The effluent data for cyanide are shown with the proposed final effluent limits in Figure 2. It can be seen that seventeen data points exceed the AMEL, eight since June 2005.

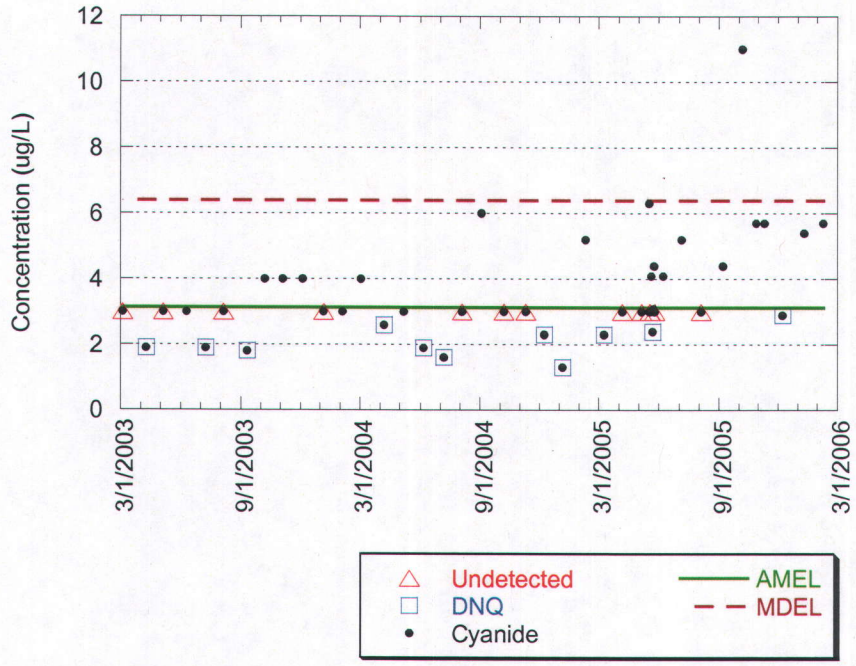

Figure 2. Effluent Cyanide with Proposed Final Effluent Limits

2,3,7,8-TCDD (Dioxin)

2,3,7,8-TCDD (dioxin) was undetected in the effluent between April 2003 and March 2004, and again in August 2005. The maximum calculated effluent concentration for dioxin is 0.050 pg/L (0.050x10^-6 µg/L, measured in January 2005, out of six data points), which would exceed the proposed final MDEL of 0.040 pg/L (0.040x10^-6 µg/L) and the proposed final AMEL of 0.028 pg/L (0.028x10^-6 µg/L). Therefore, the City will not be able to consistently comply with the proposed final limits.

The City has not previously identified dioxin as a pollutant of concern and, therefore, has not conducted pollution prevention activities that directly target this constituent. Effluent monitoring for dioxin will continue as required by the City's NPDES permit. If half of the effluent data are detected after two years of monitoring, influent bi-annual monitoring will commence. Should dioxins be detected consistently in the influent after two years of monitoring, the City will evaluate potential dioxin sources in its service area and develop pollution prevention options as appropriate. Some potential dioxin sources include bleached paper products, wood burning, diesel fuel vehicles, and 2,4-D (an herbicide). Potential pollution prevention options for dioxin sources were developed as part of the ABAG Bay Area Dioxins Project (http://dioxin.abag.org). This resource will be used to develop dioxin pollution prevention options should they be needed.

Summary

This evaluation indicates that immediate compliance with proposed final effluent limits for mercury, cyanide, and dioxin is not feasible for the City.

In accordance with the requirements of the SIP, the City requests that the Regional Water Board refrain from the adoption of final effluent limits for these constituents. In lieu of final limits, the NPDES permit or compliance order, whichever is applicable, should include interim performance based limits with which the City can comply. The City will continue monitoring and/or implement the source control actions listed in Table 3 for the three constituents as appropriate.

Table 3. Proposed Source Control Actions

Pollutant	Proposed Action	Estimated Time to Complete
Mercury	• Influent monitoring	• Monthly, for 1 year after permit adoption
	• Follow-up to source identification study	• 1 year after permit adoption
	• Re-evaluation of potential sources and additional source control programs	• 1 year after completion of source ID follow-up.
Cyanide	• Influent monitoring	• Monthly, for 1 year after permit adoption
	• Source identification study	• If ½ of the influent concentrations are detected and greater than the effluent concentration, after 1 year of monitoring.
	• Participation in development of Site-Specific Objective	• Ongoing
Dioxin	• Potential influent monitoring	• Bi-annually, IF ½ of the effluent concentrations are detected after 2 additional years of effluent monitoring subsequent to permit adoption.
	• Source identification study	• After 2 years of influent monitoring, if the influent concentrations are consistently detected.