



California Regional Water Quality Control Board

San Francisco Bay Region

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Edmund G. Brown, Jr.
Governor

REVISED TENTATIVE ORDER NO. R2-2011-XXXX NPDES NO. CA0005002

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

Table 1. Discharger Information

Discharger	USS-POSCO Industries
Name of Facility	Pittsburg Plant
Facility Address	900 Loveridge Road
	Pittsburg, CA 94565
	Contra Costa County
The United States Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

Discharges by USS-POSCO Industries from the discharge points identified below are subject to waste discharge requirements as set forth in this Order.

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Combined industrial wastewater, cooling water, and storm water	38° 01' 48" N	121° 51' 32" W	New York Slough
002	Storm water	38° 01' 51" N	121° 51' 58" W	New York Slough

Table 3. Administrative Information

This Order was adopted by the Regional Water Board on:	<<DATE>>
This Order shall become effective on:	September 1, 2011
This Order shall expire on:	August 31, 2016
The Discharger shall file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	180 days prior to the Order expiration date

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

Bruce H. Wolfe, Executive Officer

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I. FACILITY INFORMATION

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

Table 4. Facility Information

Discharger	USS-POSCO Industries
Name of Facility	Pittsburg Plant
Facility Address	900 Loveridge Road
	Pittsburg, CA 94565
	Contra Costa County
Facility Contact, Title, Phone No.	David Allen, Group Manager – Environmental (925) 439-6290
Mailing Address	P.O. Box 471, MS67, Pittsburg, CA 94565
Type of Facility	Steel Finishing Plant (SIC 3312)
Facility Design Flow	28 million gallons per day (MGD)

II. FINDINGS

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

A. Background. USS-POSCO Industries (hereinafter Discharger) currently discharges under Order No. R2-2006-0029 (hereinafter previous permit) and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0005002. Order No. R2-2010-0056 amended the previous permit to implement cyanide site specific objectives. The Discharger submitted a Report of Waste Discharge dated October 27, 2010, and applied for reissuance of its NPDES permit to discharge up to 28 MGD of treated wastewater from the Pittsburg Plant (hereinafter Facility). The discharge is also currently regulated under Order No. R2-2007-0077 (NPDES Permit CA0038849), as amended, which supersedes all requirements on mercury and PCBs from wastewater discharges in the region. This Order does not affect the mercury and PCBs permit.

For purposes of this Order, references to the “Discharger” or “Permittee” in applicable federal and State laws, regulations, plans, or policies are held to be equivalent to references to the Discharger herein.

B. Facility Description. The Discharger owns and operates the Facility, a 420-acre steel finishing plant. The Facility finishes purchased coils of hot-rolled steel, but does not manufacture steel from raw materials. The processes include pickling with hydrochloric and sulfuric acid, cold rolling, alkaline cleaning, annealing, hot-dip galvanizing, and electrolytic tin and chromium plating.

The wastewater treatment system consists of three preliminary treatment systems specific to various wastewater streams in the Facility, and the main wastewater treatment plant located in the northeast corner of the Facility. The following treatment systems provide initial wastewater treatment in the main part of the Facility:

1. The Oil Separation System treats oily wastewaters from cold rolling mills throughout the Facility.

2. The Outgoing Treatment System reduces chromium VI contained in wastewaters from the Facility's Chromium Recovery Unit.
3. The Primary Neutralization Facility neutralizes spent alkaline cleaning baths.

Partly treated wastewater flows to the main wastewater treatment plant after preliminary treatment. In addition to wastewater from the main part of the Facility, the main wastewater treatment plant also receives storm water from the Facility's developed areas, including parking lots, buildings, roadways, and material storage areas. The main wastewater treatment plant may also receive a maximum of 5 million gallons per year of wastewater from impoundments and purge water from monitoring wells.

The main wastewater treatment plant consists of a pump station (Lift Station No. 3), an oil/water separator, a mixer building to adjust the pH with lime and/or caustic for metals precipitation, two clarifiers, and two neutralization tanks for final pH adjustment (hydrochloric acid in the first stage, and hydrochloric acid or caustic in the second stage). Solids from the clarifiers are dewatered with a filter press and hauled to the Facility's on-site landfill. The filtrate is returned to Lift Station No. 3 for treatment. Treated wastewater is discharged at Discharge Point No. 001 to New York Slough, which is part of the Sacramento-San Joaquin Delta.

During extreme storm events, when storm water flow exceeds the No. 1 Lift Station pumping capacity (approximately 1,700 gallons per minute), excess storm water is discharged at Discharge Point No. 002 to New York Slough. Historically, these discharges have occurred approximately twice per year. Additional storm water from undeveloped, non-production areas is discharged directly to New York Slough via sheet flow. Storm water from the on-site solid waste disposal area and off-site recycling center drains to low portions of the Facility for percolation and evaporation.

Attachment B provides a Facility location map. Attachment C provides flow schematics for the Facility and the main wastewater treatment plant.

- C. Legal Authorities.** This Order is issued pursuant to Clean Water Act (CWA) section 402 and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA), and California Water Code (CWC) Chapter 5.5, Division 7 (commencing with section 13370). It shall serve as an NPDES permit for the point source discharges identified in Table 2. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to CWC Article 4, Chapter 4, Division 7 (commencing with section 13260).
- D. Background and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E and G are also incorporated into this Order.

- E. California Environmental Quality Act (CEQA).** Pursuant to CWC section 13389, this action to adopt an NPDES permit is exempt from CEQA provisions.
- F. Technology-Based Effluent Limitations.** CWA section 301(b) and NPDES regulations at 40 CFR 122.44 require permits, at a minimum, to include conditions meeting applicable technology-based requirements and any more stringent effluent limitations necessary to meet applicable water quality standards. Discharges authorized by this Order must meet technology-based requirements USEPA established at 40 CFR 420, *Effluent Limitation Guidelines, Pretreatment Standards, and New Source Performance Standards for the Iron and Steel Manufacturing Category* and 40 CFR 433, *Effluent Limitation Guidelines, Pretreatment Standards, and New Source Performance Standards for the Metal Finishing Point Source Category*, as well as technology-based requirements established using Best Professional Judgment (BPJ) pursuant to 40 CFR 125.3. The Fact Sheet (Attachment F) further discusses the development of the technology-based effluent limitations in this Order.
- G. Water Quality-Based Effluent Limitations.** CWA section 301(b) and NPDES regulations at 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements when necessary to achieve applicable water quality standards.

NPDES regulations at 40 CFR 122.44(d)(1)(i) mandate that permits include effluent limitations for all pollutants that are or may be discharged at levels that have a reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed State criterion or policy interpreting the State's narrative criterion, supplemented with other relevant information, as provided in 40 CFR 122.44(d)(1)(vi).

- H. Water Quality Control Plans.** *The Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan) is the Regional Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. New York Slough is part of the Sacramento-San Joaquin Delta. On July 14, 2010, the Regional Water Board adopted Resolution 2010-0100, an amendment to the Basin Plan, including specific beneficial uses for the New York Slough. Approval of Resolution 2010-0100 is expected by the State Water Resources Control Board (State Water Board), Office of Administrative Law, and USEPA.

In addition, State Water Board Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. New York Slough does not meet any of the exceptions to Resolution No. 88-63. Thus, beneficial uses applicable to the New York Slough are as follows:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	New York Slough	Municipal and Domestic Supply (MUN) Ocean, Commercial and Sport Fishing (COMM) Estuarine Habitat (EST) Fish Migration (MIGR) Preservation of Rare and Endangered Species (RARE) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2) Navigation (NAV)

The State Water Board’s *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 temperature objectives for surface waters.

The State Water Board’s *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1, Sediment Quality* became effective on August 25, 2009. This plan supersedes other narrative sediment quality objectives, and establishes new sediment quality objectives and related implementation provisions for specifically defined sediments in most bays and estuaries.

- I. National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995, and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that applied in the State. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

- J. State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria USEPA promulgated for California through the NTR and to the priority pollutant objectives the Regional Water Board established in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria the USEPA promulgated through the CTR. On February 24, 2005, the State Water Board adopted amendments to the SIP that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

- K. Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised State and tribal water quality standards become effective for CWA purposes [65 Fed. Reg. 24641 (April 27, 2000) (codified at 40 CFR 131.21)]. Under the revised regulation (also known as the Alaska Rule), USEPA must approve new and revised standards submitted to USEPA after May 30, 2000, before they can be 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.*

L. Stringency of Requirements for Individual Pollutants. This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on cadmium, chromium, copper, cyanide, lead, naphthalene, nickel, oil and grease, pH, settleable matter, silver, tetrachloroethylene, total suspended solids (TSS), total toxic organics and zinc. The Fact Sheet discusses the derivation of these technology-based limitations. This Order's technology-based pollutant restrictions implement the minimum applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum federal technology-based requirements as necessary to meet water quality standards. These limitations are not more stringent than the CWA requires.

WQBELs have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR 131.38. The procedures for calculating the individual WQBELs for priority pollutants are based on the SIP, which USEPA approved on May 18, 2000. Most beneficial uses and water quality objectives 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 before that date, are nonetheless applicable water quality standards for CWA purposes pursuant to 40 CFR 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement CWA requirements.

M. Antidegradation Policy. 40 CFR 131.12 requires that state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy through State Water Board Resolution No. 68-16, which incorporates the federal antidegradation policy where the federal policy applies under federal law and requires that the existing quality of receiving waters be maintained unless degradation is justified based on specific findings. The Basin Plan incorporates by reference and implements both the State and federal antidegradation policies. As discussed in the Fact Sheet, the permitted discharges are consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

N. 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 effluent limitations in a reissued permit to be at least as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. Some effluent limitations in this Order are less stringent than those in the previous permit. As discussed in the Fact Sheet, the permitted discharge is consistent with the CWA anti-backsliding requirements and federal regulations.

O. Monitoring and Reporting. 40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. CWC sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program, which is provided in Attachment E, establishes monitoring and reporting requirements to implement federal and State requirements.

P. Standard and Special Provisions. Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of

permits in accordance with 40 CFR 122.42, are provided in Attachment D. The Discharger must comply with all Standard Provisions and with those additional conditions that apply pursuant to 40 CFR 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. The Fact Sheet provides rationales for the special provisions in this Order.

- Q. Provisions and Requirements Implementing State Law.** There are no provisions or requirements in this Order that are included to implement State law only.
- R. Notification of Interested Parties.** The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit written comments and recommendations. The Fact Sheet provides notification details.
- S. Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharges authorized by this Order. The Fact Sheet provides public hearing details.

IT IS HEREBY ORDERED, that this Order supersedes Order Nos. R2-2006-0029, as amended by Order No. R2-2010-0056, except for enforcement purposes, and, in order to meet the provisions contained in CWC Division 7 (commencing with section 13000) and regulations adopted thereunder, and CWA provisions and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

- A.** The discharge of wastewater at a location or in a manner different from that described in this Order is prohibited.
- B.** The discharge of wastewater at Discharge Point No. 001 at any time without a dilution ratio of at least 4.0:1 (D=3.0) is prohibited.
- C.** The bypass of untreated or partially treated process wastewater to waters of the United States is prohibited, except as provided for in sections I.G.2 and I.G.4 of Attachment D to this Order.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point No. 001

1. Technology-Based Effluent Limitations

- a. Process Wastewater Mass-Based Effluent Limitations.** The Discharger shall comply with the following production-based mass emissions limitations at Discharge Point No. 001, with compliance measured at Monitoring Location EFF-001, as described in the attached MRP (Attachment E):

Table 6. Production-Based Mass Emissions Limitations at Discharge Point No. 001.

Parameter	Average Monthly (lbs/day)	Maximum Daily (lbs/day)
Total Suspended Solids	2,200	4,700
Oil and Grease	880	2,100
Lead	14	30
Zinc	5.6	17
Naphthalene	--	0.68
Tetrachloroethylene	--	1.0
Chromium	35	57
Silver	4.9	8.8

b. Basin Plan Technology-Based Effluent Limitations. The Discharger shall also comply with the following effluent limitations at Discharge Point No. 001, with compliance measured at Monitoring Location EFF-001, as described in the attached MRP (Attachment E):

Table 7. Basin Plan Technology Based-Effluent Limitations at Discharge Point No. 001.

Parameter	Units	Instantaneous Minimum	Instantaneous Maximum	Average Monthly	Maximum Daily
pH ^[1]	s.u.	6.5	8.5	--	--
Settleable Matter	mL/L	--	--	0.1	0.2

^[1] 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 shall not exceed 7 hours and 26 minutes in any calendar month.
- b. No individual excursion from the required range of pH values shall exceed 60 minutes.

2. Water Quality-Based Effluent Limitations

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 001, with compliance measured at Monitoring Location EFF-001:

Table 8. Water Quality-Based Effluent Limitations for Toxic Substances at Discharge Point No. 001

Parameter	Units	Discharge Point No. 001 Effluent Limitations	
		Average Monthly	Maximum Daily
Aldrin	µg/L	0.00013	0.00026
Cadmium	µg/L	1.0	1.9
Carbon Tetrachloride	µg/L	0.25	0.50
Copper ^[1]	µg/L	3.3	5.5
Cyanide	µg/L	6.8	14
Dioxin TEQ	µg/L	1.3E-08	2.6E-08
Nickel	µg/L	7.3	12

Parameter	Units	Discharge Point No. 001 Effluent Limitations	
		Average Monthly	Maximum Daily
Temperature	°F	--	93

⁽¹⁾ An effluent sample copper concentration measured at Monitoring Location EFF-001 as defined in the MRP shall only be subject to these copper limitations if it also exceeds 15 µg/L. Concentrations above 15 µg/L are statistically greater than intake concentrations and thus do not qualify for intake water credits.

3. Acute Toxicity

- a. Representative samples of the effluent at Monitoring Location EFF-001 shall meet the following limitations for acute toxicity. Bioassays shall be conducted in compliance with MRP section V.A (Attachment E).

The survival of organisms in undiluted effluent shall be:

- i. an eleven (11) sample median value of not less than 90 percent survival, and
 - ii. an eleven (11) sample 90 percentile value of not less than 70 percent survival.
- b. These acute toxicity limitations are further defined as follows:
 - i. **11 sample median:** A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit, if five or more of the past ten or less bioassay tests show less than 90 percent survival.
 - ii. **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 the MRP. 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).
 - 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 complies with the ammonia effluent limitations, then such toxicity does not constitute a violation of this effluent limitation.

4. Chronic Toxicity

- a. Representative samples of the effluent at Monitoring Location EFF-001 shall meet the following limitations for chronic toxicity. Bioassays shall be conducted in compliance with MRP section V.B (Attachment E).

The survival of bioassay test organisms in the discharge at Discharge Point No. 001 shall be:

- i. A three-sample median value of equal to or less than 4.0 TUC, and

- ii. A single-sample maximum value of equal to or less than 8.0 TUC.
- b. These chronic toxicity limits are defined as follows:
- i. A test sample showing chronic toxicity greater than 4.0 TUC represents consistent toxicity, and a violation of this limitation if one or more of the past two or fewer tests show toxicity greater than 4.0 TUC.
 - ii. A TUC equals 100/NOEL. The No Observable Effect Level (NOEL) shall be equal to the IC₂₅ or EC₂₅, see Attachment E, Appendix E-1). If the IC₂₅ or EC₂₅ cannot be statistically determined, the NOEL shall equal to the No Observable Effect Concentration (NOEC) derived using hypothesis testing. The NOEC is the maximum percent effluent concentration that causes no observable effect on test organisms based on a critical life stage toxicity test.
 - iii. A test sample showing chronic toxicity greater than 8.0 TUC represents a violation of this limitation.
- c. **Test Species and Methods**

The Discharger shall conduct routine monitoring with the test species and protocols specified in MRP section V.B (Attachment E). The Discharger shall also perform Chronic Toxicity Screening Phase monitoring as described in the MRP Appendix E-1 (Attachment E). Chronic Toxicity Monitoring Screening Phase Requirements, Critical Life Stage Toxicity Tests and definitions of terms used in the chronic toxicity monitoring are identified in MRP Appendices E-1 and E-2 (Attachment E).

B. Effluent Limitations – Discharge Point No. 002

The Discharge of storm water shall comply with the following effluent limitations at Discharge Point No. 002, with compliance measured at Monitoring Location EFF-002, as described in the attached MRP (Attachment E):

Table 9. Storm Water Effluent Limitations at Discharge Point No. 002

Parameter	Units	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Oil and Grease	mg/L	15	--	--
pH	s.u.	--	6.5	8.5

V. RECEIVING WATER LIMITATIONS

- A. Receiving water limitations are based on Basin Plan WQOs and are a required part of this Order. The discharges shall not cause the following in New York Slough:
- 1. Floating, suspended, or deposited macroscopic particulate matter or foams in concentrations that cause nuisance or adversely affect beneficial uses;

2. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;
 3. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
 4. Visible, floating, suspended, or deposited oil and other products of petroleum origin; or
 5. Toxic or other deleterious substances to be present in concentrations or quantities that cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.
- B.** 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:
1. 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 specified above, the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.
 2. Dissolved Sulfide Natural background levels
 3. pH The pH shall not be depressed below 6.5 nor raised above 8.5, nor caused to vary from normal ambient pH by more than 0.5 standard units.
 4. Un-ionized Ammonia 0.025 mg/L as N, annual median; and
0.16 mg/L as N, maximum.
 5. 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.
- C.** The discharge shall not cause a violation of any water quality standard for receiving waters adopted by the Regional Water Board or the State Water Board as required by the CWA and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved, the Regional Water Board may revise and modify this Order in accordance with them.

VI. PROVISIONS

A. Standard Provisions

1. Federal Standard Provisions

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

2. Regional Standard Provisions

The Discharger shall comply with all applicable items of the Regional Standard Provisions and Monitoring and Reporting Requirements (Supplement to Attachment D) for NPDES Wastewater Discharge Permits (Attachment G), including amendments thereto.

B. Monitoring and Reporting Requirements

The Discharger shall comply with the MRP (Attachment E) and future revisions thereto, including applicable sampling and reporting requirements in the two standard provisions listed in section VI.A, above.

C. Special Provisions

1. Reopener Provisions

The Regional Water Board may modify or reopen this Order (in accordance with federal regulations) prior to its expiration date in any of the following circumstances as allowed by law:

- a.** If present or future investigations demonstrate that the discharge governed by this Order will have, or will cease to have, a Reasonable Potential to cause or contribute to adverse impacts on water quality or beneficial uses of the receiving waters.
- b.** If new or revised WQOs or TMDLs come into effect for the San Francisco Bay estuary and contiguous water bodies (whether statewide, regional, or site-specific). In such cases, effluent limitations in this Order will be modified as necessary to reflect updated WQOs and wasteload allocations in TMDLs. Adoption of effluent limitations in this Order is not intended to restrict in any way future modifications based on legally adopted WQOs or TMDLs, or as otherwise permitted under federal regulations governing NPDES permit modifications.
- c.** If translator or other water quality studies provide a basis for determining that a permit condition should be modified.
- d.** If an administrative or judicial decision on a separate NPDES permit or WDR addresses requirements similar to this discharge.
- e.** Or as otherwise authorized by law.

The Discharger may request a permit modification based on the above. The Discharger shall include in any such request an antidegradation and anti-backsliding analysis.

2. Effluent Characterization Study and Report

a. Study Elements

The Discharger shall continue to characterize and evaluate discharge from the following discharge points to verify that the “no” or “cannot determine” reasonable potential analysis conclusions of this Order remain valid and to inform the next permit reissuance. The Discharger shall collect representative samples of the discharges as set forth below with locations as defined MRP (Attachment E).

Discharge Point	Monitoring Station	Minimum Frequency
001	EFF-001	Once per calendar year
002	EFF-002	Once per 5 years, within 12 months of the due date for application for permit reissuance

The samples shall be analyzed for the priority pollutants listed in Table C of the Regional Standard Provisions (Attachment G), except for those priority pollutants with effluent limitations where the MRP already requires monitoring. Compliance with this requirement shall be achieved in accordance with the specifications of Regional Standard Provisions (Attachment G) sections III.A.1 and III.A.2.

The Discharger shall evaluate on an annual basis if concentrations of any priority pollutant increase over past performance. The Discharger shall investigate the cause of any increase. The investigation may include, but need not be limited to, an increase in monitoring frequency, monitoring of internal process streams, and monitoring of influent sources. This requirement may be satisfied through identification of the constituent as a “pollutant of concern” in the Discharger’s Pollutant Minimization Program, described in Provision VI.C.3.

b. Reporting Requirements

i. Routine Reporting

The Discharger shall, within 30 days of receipt of analytical results, report in the transmittal letter for the appropriate monthly self-monitoring report the following:

- a. Indication that a sample or samples for this characterization study was or were collected; and
- b. Identity of any and all priority pollutants detected above or within one order of magnitude of their applicable water quality criteria (see Fact Sheet [Attachment F] Table F-12 for the criteria), together with the detected concentrations of those pollutants.

ii. Annual Reporting

The Discharger shall provide a summary of the annual data evaluation and source investigation in the annual self-monitoring report.

iii. Final Report

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

3. Best Management Practices and Pollution Minimization Program

- a. The Discharger shall continue to improve, in a manner acceptable to the Executive Officer, its Pollutant Minimization Program to promote minimization of pollutant loadings to the main wastewater treatment plant and therefore to the receiving waters.
- b. The Discharger shall submit an annual Pollutant Minimization Program report, acceptable to the Executive Officer, no later than **February 28** of each year. Each annual report shall include at least the following information:
 - i. *A brief description of all treatment processes.*
 - 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 which pollutants may be potential future problems. This discussion shall include the reasons for choosing the pollutants.
 - iii. *Identification of sources of pollutants of concern.* This discussion shall include how the Discharger intends to estimate and identify sources of pollutants of concern. The Discharger shall 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 pollutants of concern.* This discussion shall identify and prioritize tasks to address the Discharger's pollutants of concern. The Discharger may implement tasks by itself or participate in group, regional, or national actions that will address its pollutants of concern. The Discharger is strongly encouraged to participate in group, regional, or national actions 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 its employees about the pollutants of concern, potential sources, and how they might be able to help reduce the discharge of these pollutants into the treatment facilities. The Discharger may provide a forum for employees to provide input.

- vi. *Discussion of criteria used to measure Pollutant Minimization Program and task effectiveness.* The Discharger shall establish criteria to evaluate the effectiveness of its Pollutant Minimization Program. This section shall discuss the specific criteria used to measure the effectiveness of each task in sections VI.C.3.b.iii, iv, v, and vi.
- vii. *Documentation of efforts and progress.* This discussion shall detail all of the Discharger's Pollutant Minimization Program activities during the reporting year.
- viii. *Evaluation of Pollutant Minimization Program and task effectiveness.* The Discharger shall use the criteria established in section VI.C.3.b.vii to evaluate the Pollutant Minimization Program's and tasks' effectiveness.
- ix. *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 Pollutant Minimization Program tasks to more effectively reduce the amount of pollutants to the main wastewater 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 as further described below when there is evidence that a priority pollutant is present in the effluent above an effluent limitation (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) 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 not detected (ND) and the effluent limitation is less than the MDL, using SIP definitions.

d. Pollutant Minimization Program Submittals for Pollutants with Effluent Limitations

If triggered by the reasons in section VI.C.3.c., above, the Discharger's Pollutant Minimization Program shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

- i. Annual review and semi-annual monitoring of potential sources of the reportable priority pollutants, which may include fish tissue monitoring and other bio-uptake sampling, or alternative measures approved by the Executive Officer when it is demonstrated that source monitoring is unlikely to produce useful analytical data;
- ii. Quarterly monitoring for the reportable priority pollutants in the influent to the wastewater treatment system, or alternative measures approved by the Executive Officer when it is demonstrated that influent monitoring is unlikely to produce useful analytical data;

- iii. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutants in the effluent at or below the effluent limitations;
- iv. Implementation of appropriate cost-effective control measures for the reportable priority pollutants, consistent with the control strategy; and
- v. The annual report required by section VI.C.3.b above shall specifically address the following items:
 - (a) All Pollutant Minimization Program monitoring results for the previous year;
 - (b) A list of potential sources of the reportable priority pollutants;
 - (c) A summary of all actions undertaken pursuant to the control strategy; and
 - (d) A description of actions to be taken in the following year.

4. Storm Water Pollution Prevention Plan

The Discharger shall implement an updated Storm Water Pollution Prevention Plan for Discharge Point No. 002 prepared in accordance with Regional Standard Provisions (Attachment G) section I.J. The Discharger shall submit an updated plan annually by February 1 each year, or sooner if there is a change in operations that could substantially affect storm water quality. If there is no change to the plan, the annual update may be a letter indicating that the plan is unchanged.

The Discharger shall submit with the plan an annual storm water report covering data for the previous wet weather season. The annual storm water report shall, at a minimum, include:

- a. A tabulated summary of all sampling results and a summary of visual observations taken during inspections;
- b. A discussion of the compliance record and any corrective actions taken or planned to ensure compliance with requirements;
- c. A discussion of annual storm water monitoring results compared to historical results (minimum of last 5 years), emphasizing pollutants detected at values higher than historic averages; and
- d. A discussion of source identification and control programs for pollutants for which the Order does not specify effluent limitations.

5. Other Special Provisions

a. Cyanide Action Plan

The Discharger shall implement monitoring and surveillance, pretreatment, source control, and pollution prevention for cyanide in accordance with the following tasks and time schedule.

Table 10. Cyanide Action Plan

Task	Compliance Date
<p>1. Submit Laboratory Quality Assurance and Quality Control Report The Discharger shall continue to investigate sample collection, sample handling, analytical laboratory quality assurance and quality control practices, and the potential for false positives, to ensure that analytical results for cyanide are accurately determined and reported. The Discharger shall submit a report describing the results of the investigation and any changes in quality assurance and quality control practices implemented.</p>	<p>January 1, 2013</p>
<p>2. Review Potential Cyanide Sources The Discharger shall continue to investigate potential sources of cyanide, including reactions within the wastewater that may create cyanide as a by-product; and submit an inventory of potential cyanide sources. If no cyanide sources are identified, Tasks 3 and 4 are not required.</p>	<p>January 1, 2014</p>
<p>3. Implement Cyanide Control Program The Discharger shall submit a plan and begin implementation of a program to minimize cyanide consisting, at a minimum, of the following elements:</p> <ul style="list-style-type: none"> a. Inspect each potential source to assess the need to include that contributing source in the control program. b. Prepare an emergency monitoring and response plan to be implemented if a significant cyanide discharge occurs. 	<p>With annual pollution prevention report each year starting with the 2012 report</p>
<p>4. Implement Additional Cyanide Control Measures If the Regional Water Board notifies the Discharger that ambient monitoring shows cyanide concentrations are 1.0 µg/L or higher in the main body of San Francisco Bay, then within 90 days of the notification, the Discharger shall commence actions to identify and abate cyanide sources responsible for the elevated ambient concentrations, and shall report on the progress and effectiveness of actions taken, together with a schedule for actions to be taken in the next 12 months.</p>	<p>With next annual pollution prevention report due February 28 (at least 90 days following notification)</p>
<p>5. Report Status of Cyanide Control Program The Discharger shall submit an annual report documenting cyanide control program implementation and addressing the effectiveness of actions taken, including any additional cyanide controls required by Task 3, above, together with a schedule for actions to be taken in the next 12 months.</p>	<p>With annual pollution prevention report due February 28 each year</p>

b. Copper Action Plan

The Discharger shall implement actions for copper control according to Table 11.

Table 11. Copper Action Plan

Task	Compliance Date
<p>1. Review Potential Copper Sources The Discharger shall submit an inventory of potential copper sources to the main wastewater treatment plant.</p>	January 1, 2012
<p>2. Implement Copper Control Program The Discharger shall submit a plan for and begin implementation of a program to reduce copper sources identified in Task 1</p>	With annual pollution prevention report due February 28, 2012
<p>3. Implement Additional Measures If the Regional Water Board notifies the Discharger that the three-year rolling mean dissolved copper concentration of the receiving water exceeds 2.8 µg/L, then within 90 days of the notification, the Discharger shall evaluate its effluent copper concentration trend, and if it is increasing, develop and begin implementation of additional measures to control copper discharges. The Discharger shall report on the progress and effectiveness of actions taken, together with a schedule for actions to be taken in the next 12 months.</p>	With annual pollution prevention report due February 28 following 90 days after notification
<p>4. Undertake Studies to Reduce Copper Pollutant Impact Uncertainties The Discharger shall submit an updated study plan and schedule to conduct, or cause to be conducted, technical studies to investigate possible copper sediment toxicity and technical studies to investigate sublethal effects on salmonids. Specifically, the Discharger shall include the manner in which the above will be accomplished and describe the studies to be performed with an implementation schedule. To satisfy this requirement, dischargers may collaborate and conduct these studies as a group.</p>	With annual pollution prevention report due February 28, 2012
<p>5. Report Status of Copper Control Program The Discharger shall submit an annual report documenting copper control program implementation and addressing the effectiveness of the actions taken, including any additional copper controls required by Task 3, above, together with a schedule for actions to be taken in the next 12 months. Additionally, the Discharger shall report the findings and results of the studies completed, planned, or in progress under Task 4. Regarding the Task 4 studies, dischargers may collaborate and provide this information in a single report to satisfy this requirement for an entire group.</p>	With annual pollution prevention report due February 28 each year

c. Main Wastewater Treatment Plant Reliability Assurance

The Discharger shall evaluate and implement measures that ensure the reliability of its main wastewater treatment plant as described in the table below.

Table 12. Main Wastewater Treatment Plant Reliability Study

Task	Compliance Date
1. Submit Work Plan for Evaluating Treatment Plant Reliability The Discharger shall submit a plan and schedule to evaluate the reliability of its main wastewater treatment plant. The plan shall consider past violations, their causes, and the corrective measures implemented as a result. The plan shall also evaluate the adequacy of redundancy and backup systems for each major process.	January 1, 2012
2. Implement Study and Submit Treatment Plant Reliability Report The Discharger shall begin implementing the work plan by March 1, 2012, that incorporates any changes provided by the Executive Officer. The Discharger shall submit a report no later than the compliance date indicated containing the findings of its evaluation. The report shall describe the backup measures in place or planned for each major treatment process. The report shall provide a time schedule for all planned improvements necessary to ensure enhanced treatment reliability.	March 1, 2013
3. Implement Treatment Plant Improvements and Report Status The Discharger shall implement improvements identified and in accordance with the schedule from Task 2, above. The Discharger shall report in its annual self-monitoring reports, its progress toward implementation of the improvements identified in Task 2. The reports will review the conclusions of the original treatment plant reliability report and assess whether more recent circumstances call for changes to the improvements or schedule identified in Task 2.	Annually in the Annual Self-Monitoring Report, starting with with the report due February 1, 2014

d. Thermal Plume Biological Impact Study

The Discharger shall evaluate the impacts of its thermal plume on the indigenous populations of shellfish, fish, and wildlife of New York Slough as described in the table below.

Table 13. Thermal Plume Biological Impact Study

Task	Compliance Date
1. Submit Work Plan for Assessing the Thermal Plume Impact The Discharger shall submit a plan and schedule to evaluate the effects of its thermal plume on indigenous populations of shellfish, fish, and wildlife in New York Slough. The report shall identify all species likely to be affected by the thermal plume. The Discharger shall send a copy of the work plan to the California Department of Fish and Game and U.S. Marine Fisheries Service, and shall forward any comments received to the Regional Water Board.	January 1, 2013
2. Implement Work Plan The Discharger shall begin implementing the Work Plan in Task 1.	April 1, 2013
3. Submit Thermal Plume Impact Report The Discharger shall submit a report documenting the results of the thermal plan assessment. The report shall evaluate the impacts of the thermal plume on all species identified in the work plan. If negative impacts are identified, the report shall describe measures that will be taken to minimize those impacts.	April 1, 2015
4. Report Corrective Measures Completions The Discharger shall report its progress toward implementing the measures identified in Task 3 to reduce the impacts of the thermal plume to impacted species. These reports are not required if there are no impacts to any species identified in Task 1.	Annually, starting with with Annual Report due February 1, 2016

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 this Order), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of 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 wasteload allocation (WLA) as used in USEPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

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

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

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

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

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

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

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

Median is the middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the $n/2$ and $n/2+1$).

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

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

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

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

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

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

Pollutant Minimization Program (PMP) means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to California 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 California 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 SIP Appendix 4 in accordance with SIP section 2.4.2 or established in accordance with SIP section 2.4.3. The ML is based on the proper application of method-based

analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

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

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

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

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

where:

x is the observed value;

μ is the arithmetic mean of the observed values; and

n is the number of samples.

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

ATTACHMENT B – MAP



ATTACHMENT C – PROCESS FLOW DIAGRAM

Figure C-1. Wastewater Treatment System

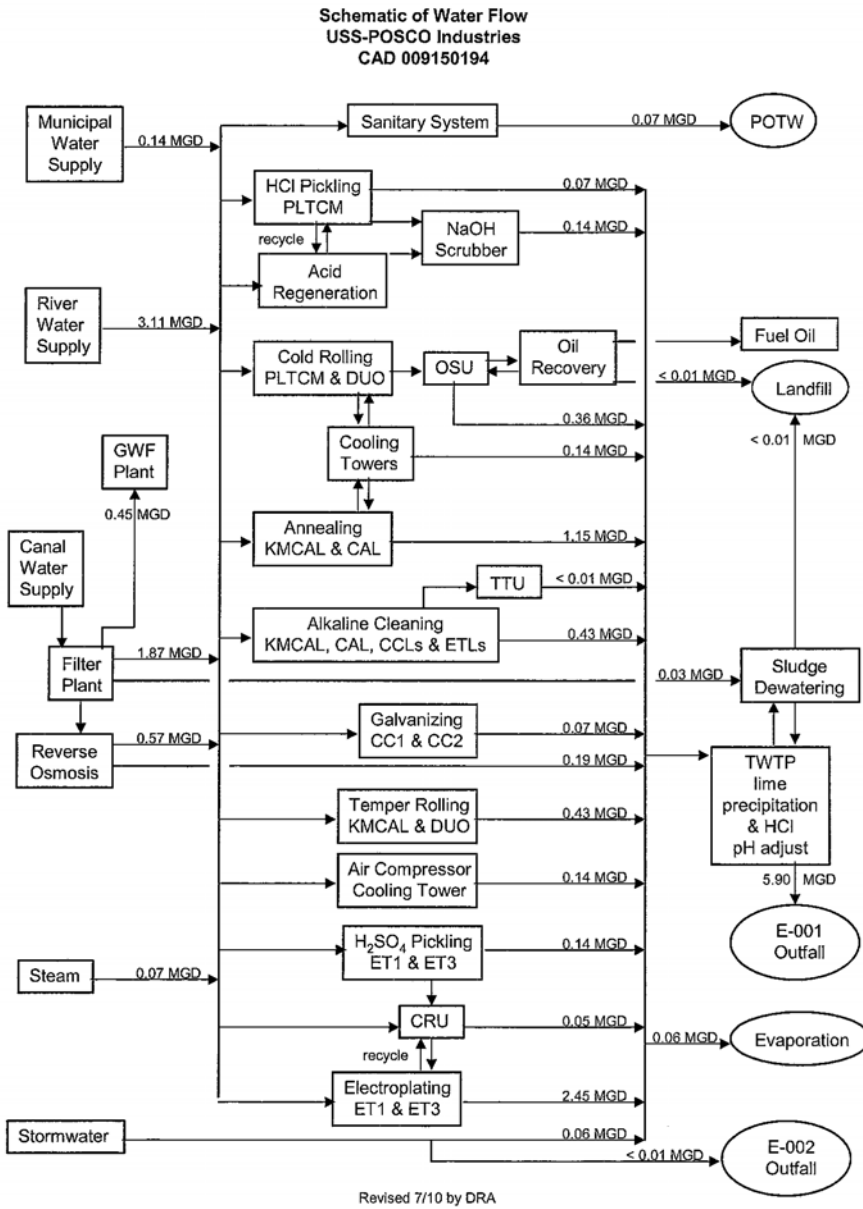
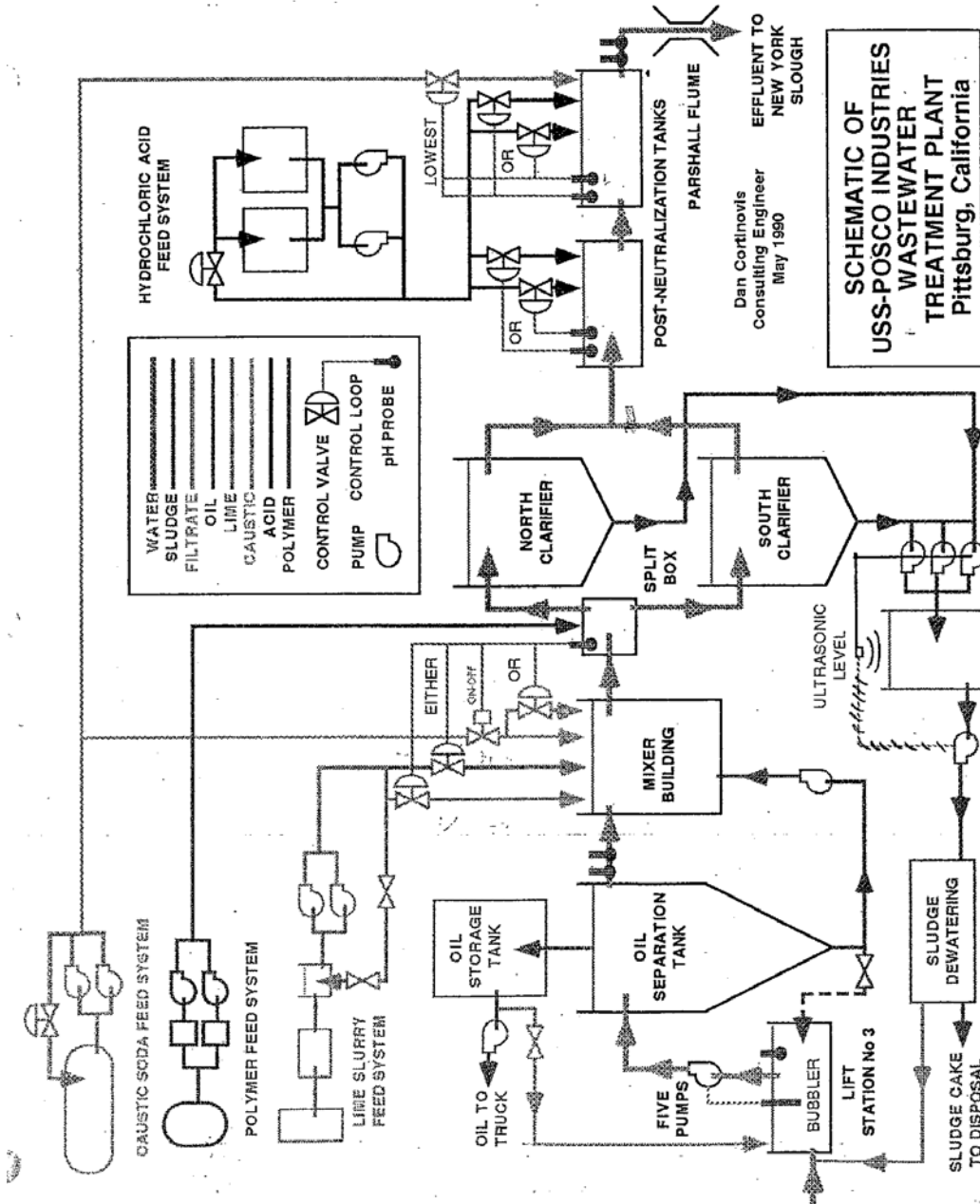


Figure C-2. Final Central Wastewater Treatment Plant



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 modification; or denial of a permit renewal application. (40 C.F.R. § 122.41(a).)
2. The Discharger shall comply with effluent standards or prohibitions established under section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.41(e)).

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 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 C.F.R. § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), 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 C.F.R. § 122.41(i); Wat. Code, § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.41(i)(3)); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 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 C.F.R. § 122.41(m)(4)(i)):
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent

a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and

- c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(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 C.F.R. § 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 C.F.R. § 122.41(m)(3)(i).)
- b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

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

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 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 C.F.R. § 122.41(n)(3)):
 - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));
 - b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));
 - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and
 - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.41(b).)

C. Transfers

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

III. STANDARD PROVISIONS – MONITORING

- A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)
- B. Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 C.F.R. § 122.41(j)(4); § 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

- A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)
- B. Records of monitoring information shall include:
 1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
 2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));

3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and
6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 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 C.F.R. § 122.41(h); Wat. Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k))
2. All permit applications shall be signed by a responsible corporate officer. For purposes of this provision, 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 C.F.R. § 122.22(a)(1))
3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

- a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and
 - c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)
4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)
 5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

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

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.22(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 C.F.R. § 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 C.F.R. § 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 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. § 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 C.F.R. § 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)
 - b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)
3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 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 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 C.F.R. § 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 C.F.R. § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

- A. The Regional Water Board is authorized to enforce the terms of this Order under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the Regional Water Board as soon as they know or have reason to believe (40 C.F.R. § 122.42(a)):

- 1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 C.F.R. § 122.42(a)(1)):
 - a. 100 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(1)(i));
 - b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(1)(ii));
 - c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(1)(iii)); or

- d.** The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(1)(iv).)
- 2.** That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 C.F.R. § 122.42(a)(2)):
 - a.** 500 micrograms per liter ($\mu\text{g/L}$) (40 C.F.R. § 122.42(a)(2)(i));
 - b.** 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(2)(ii));
 - c.** Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(2)(iii)); or
 - d.** The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(2)(iv).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

40 CFR 122.48 requires that all NPDES permits specify monitoring and reporting requirements. California Water Code (CWC) 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 federal and California regulations.

I. GENERAL MONITORING PROVISIONS

- A.** The Discharger shall comply with this MRP. The Executive Officer may amend this MRP pursuant to 40 CFR 122.62, 122.63, and 124.5. If any discrepancies exist between the MRP and the Regional Standard Provisions, the MRP prevails.
- B.** The Discharger shall conduct all monitoring in accordance with Attachment D, section III, as supplemented by Attachment G of this Order. Equivalent test methods must be more sensitive than those specified in 40 CFR 136 and must be specified in the permit.

II. MONITORING LOCATIONS

The Discharger shall monitor at the following locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order.

Table E-1. Monitoring Station Locations

Type of Sampling Location	Monitoring Location Name	Monitoring Location Description
Intake	INT-001	Contra Costa Canal – At any point in the intake line to the Facility, approximately, 200 yards west of Loveridge Road, prior to any alteration or process at the Facility.
Intake	INT-002	San Joaquin River – At any point after the intake pump, located approximately 1,000 feet west of the Facility’s dock, prior to any alteration or process at the Facility.
Effluent	EFF-001	At any point in the outfall at which all waste tributary to the outfall is present prior to mixing with receiving water (Discharge Point No. 001).
Storm Water	EFF-002	At any point where a representative sample of storm water discharge may be obtained prior to mixing with receiving water (Discharge Point No. 002).
Receiving Water	RSW-001	At a point in New York Slough located within 20 feet of shore and 100 feet east of Discharge Point No. 001.
Receiving Water	RSW-002	At a point in New York Slough located within 20 feet of shore and 100 feet west of Discharge Point No. 001.
Receiving Water	RSW-003	At a point in New York Slough located 100 feet north of Discharge Point No. 001.
Receiving Water	RSW-004	At a point in New York Slough located 300 feet north of Discharge Point No. 001.
Rainfall	R-1	The nearest official National Weather Service rainfall station or other station acceptable to the Executive Officer.

III. INFLUENT MONITORING REQUIREMENTS

The Discharger shall monitor the Contra Costa Canal and San Joaquin River intake waters at Monitoring Locations INT-001 and INT-002 as follows:

Table E-2. Intake Monitoring at Monitoring Locations INT-001 and INT-002

Parameter	Units	Sample Type	Minimum Sampling Frequency
Copper	µg/L	C-24	1/Month
Cyanide	µg/L	C-24	1/Year

IV. EFFLUENT MONITORING REQUIREMENTS

A. Discharge Point No. 001

The Discharger shall monitor Discharge Point No. 001 (treated effluent) at Monitoring Location EFF-001 as follows:

Table E-3. Effluent Monitoring at Monitoring Location EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow Rate ^[1]	MG and MGD	Continuous	Continuous
pH ^[2]	standard units	Continuous	Continuous
Temperature ^[3]	°F	Continuous	Continuous
Total Suspended Solids (TSS)	mg/L & lbs/day	C-24	1/Month
Settleable Matter	ml/l/hr	Grab	1/Month
Oil and Grease ^[4]	mg/L & lbs/day	Grab	1/Month
Lead	µg/l & lbs/day	C-24	1/Month
Zinc	µg/l & lbs/day	C-24	1/Month
Silver	µg/l & lbs/day	C-24	1/Month
Cadmium	µg/L	C-24	1/Month
Chromium	µg/L & lbs/day	C-24	1/Month
Copper	µg/L	C-24	1/Month
Nickel	µg/L	C-24	1/Month
Cyanide ^[5]	µg/L	Grab	1/Month
Dioxin-TEQ	µg/L	Grab	1/Year
Carbon Tetrachloride	µg/L	C-24	1/Month
Tetrachloroethylene	µg/L & lbs/day	Grab	1/Month
Naphthalene	µg/L & lbs/day	C-24	1/Month
Aldrin	µg/L	C-24	1/Month
Tributyltin ^[6]	µg/L	Grab	1/Year
Standard Observations ^[7]	--	--	1/Day
Acute Toxicity ^[8]	% Survival	C-24	1/2 Weeks
Chronic Toxicity ^[9]	TU _c	C-24	1/Quarter

Footnotes to Table E-3:

- [1] For each calendar month, the Discharger shall report the total flow and average flow for each day of discharge, and the average flow rate for that month.
- [2] The minimum and maximum pH values for each day shall be reported.
- [3] The maximum temperature for each day shall be reported.
- [4] Each oil and grease sampling and analysis event shall be conducted in accordance with USEPA Method 1664.
- [5] Compliance for cyanide may be demonstrated by measurement of weak acid dissociable cyanide.
- [6] Tributyltin shall be analyzed using one of the following methods: Batelle N-0959-2606 or Standard Method 6710 (online version only).
- [7] Standard observations are described in Attachments D and G.
- [8] Acute Toxicity requirements are specified in section V.A of the MRP.
- [9] Chronic Toxicity Requirements are specified in section V.B of this MRP.

B. Discharge Point No. 002

The Discharger shall monitor Discharge Point No. 002 (storm water) at Monitoring Location EFF-002 as follows:

Table E-4. Storm Water Monitoring at Monitoring Location EFF-002

Parameter	Units	Sample Type	Minimum Sampling Frequency ^[1]
Flow Rate ^[2]	MG	Estimate	1/Day
Flow Duration	Minutes	Estimate	1/Day
pH	standard units	Grab	1/Day
Total Suspended Solids (TSS)	mg/L	Grab	1/Day
Oil and Grease	mg/L	Grab	1/Day
Standard Observations	--	--	1/Day

Footnotes to Table E-4:

- [1] Significant storm water discharges shall be monitored once per day during at least one storm water event per month. These are continuous discharges of storm water for a minimum of one hour, or an intermittent discharge of storm water for a minimum of three hours in a 12-hour period.
- [2] The Discharger shall estimate the total flow for each day of discharge and describe how it arrived at the estimate.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

The Discharger shall monitor acute and chronic toxicity at Monitoring Location EFF-001 as described below.

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 species shall be rainbow trout unless the Executive Officer specifies otherwise in writing.
3. All bioassays shall be performed according to the most up-to-date protocols in 40 CFR 136, currently in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms*, 5th Edition.

4. If the Discharger demonstrates that specific identifiable substances in the discharge are rapidly rendered harmless upon discharge to the receiving water, compliance with the acute toxicity limit may be determined after 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, the bioassay test shall be repeated with new fish as soon as practical and shall be repeated until a test fish survival rate of 90 percent or greater is observed. If the control fish survival rate is less than 90 percent, the bioassay test shall be restarted with new fish and shall continue as soon as practical until an acceptable test is completed (i.e., control fish survival rate is 90 percent or greater).

B. Whole Effluent Chronic Toxicity

1. Monitoring Requirements

- a. *Sampling.* The Discharger shall collect 24-hour composite samples of the effluent at Monitoring Location EFF-001 for critical life stage toxicity testing as indicated below. For toxicity tests requiring renewals, 24-hour composite samples collected on consecutive days are required.
- b. *Test Species.* Chronic toxicity shall be monitored using critical life stage tests and the most sensitive test species identified by screening phase testing. At the time of this permit reissuance, the approved species is red abalone (*Haliotis rufescens*). The Executive Officer may change to another test species if data suggest that another test species is more sensitive to the discharge.
- c. *Methodology.* Sample collection, handling and preservation shall be in accordance with USEPA protocols. In addition, bioassays shall be conducted in compliance with the most recently promulgated test methods, as shown in Appendix E-1. These are *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, currently third edition (EPA-821-R-02-014), and *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, currently fourth Edition (EPA-821-R-02-013), with exceptions granted the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP).
- d. *Dilution Series.* The Discharger shall conduct tests at 100%, 50%, 25%, 12.5%, and 6.25%. The "%" represents percent effluent as discharged.
- e. *Frequency.* The frequency of routine and accelerated chronic toxicity monitoring shall be as specified below.

(1) Routine Monitoring: Quarterly.

(2) Accelerated Monitoring: Monthly

The Discharger shall accelerate monitoring to monthly after exceeding a three-sample median of $4 TU_c$ ¹ or a single sample maximum of $8 TU_c$. The Executive Officer may specify a different frequency for accelerated monitoring based on the TU_c results.

- (3) Return to routine monitoring if accelerated monitoring does not exceed either “trigger” in (2), above.
- (4) If accelerated monitoring confirms consistent toxicity in excess of either “trigger” in (2), above, continue accelerated monitoring and initiate toxicity reduction evaluation (TRE) procedures in accordance with section B.3, below.
- (5) Return to routine monitoring after implementing appropriate elements of the TRE, and either the toxicity drops below both “triggers” in (2), above, or, based on the TRE results, the Executive Officer authorizes a return to routine monitoring.

Monitoring conducted pursuant to a TIE/TRE effort shall satisfy the requirements for routine and accelerated monitoring while the TIE/TRE investigation is underway.

2. Reporting Requirements

- a. *Routine Reporting.* Toxicity test results for the current reporting period shall include, at a minimum, for each test:
- i. Sample dates
 - ii. Test initiation date
 - iii. Test species
 - iv. End point values for each dilution (e.g., number of young, growth rate, percent survival)
 - v. NOEC values in percent effluent
 - vi. IC_{15} , IC_{25} , IC_{40} , and IC_{50} values (or EC_{15} , EC_{25} ... etc.) as percent effluent
 - vii. TU_c values ($100/NOEL$, where $NOEL = IC_{25}$, EC_{25} , or NOEC as discussed in Appendix E-1)
 - viii. Mean percent mortality (\pm s.d.) after 96 hours in 100% effluent (if applicable)
 - ix. NOEC and LOEC values for reference toxicant tests
 - x. IC_{50} or EC_{50} values for reference toxicant tests
 - xi. Available water quality measurements for each test (pH, dissolved oxygen, temperature, conductivity, hardness, salinity, ammonia)
- b. *Compliance Summary.* The results of the chronic toxicity testing shall be provided in the self-monitoring report and shall include a summary table of chronic toxicity data from at least three of the most recent samples. The information in the table shall include items listed above under section V.B.2.a of this MRP, specifically item numbers i, iii, v, vi (IC_{25} or EC_{25}), vii, and viii.

¹ A TU_c equals 100 divided by the no observable effect level (NOEL). The NOEL is determined from IC_{25} , EC_{25} , or NOEC values. These terms, their usage, and other chronic toxicity monitoring program requirements are defined in the MRP (Attachment E).

3. Toxicity Reduction Evaluation (TRE)

- a. To be ready to respond to toxicity events, the Discharger shall prepare a generic TRE work plan by January 1, 2012. The Discharger shall review and update the work plan as necessary to remain current and applicable to the discharge and discharge facilities.
- b. Within 30 days of exceeding either trigger for accelerated monitoring, the Discharger shall submit to the Regional Water Board a specific TRE work plan, which should be the generic work plan revised as appropriate for this toxicity event after consideration of available discharge data.
- c. Within 30 days of the date of completion of the accelerated monitoring tests observed to exceed either trigger, the Discharger shall initiate a TRE in accordance with a TRE work plan that incorporates any and all comments from the Executive Officer.
- d. The TRE shall be specific to the discharge and be prepared in accordance with current technical guidance and reference materials, including USEPA guidance materials. The TRE shall be conducted as a tiered evaluation process, as summarized below:
 - i. Tier 1 consists of basic data collection (routine and accelerated monitoring).
 - ii. Tier 2 consists of evaluation of optimization of the treatment process, including operation practices and in-plant process chemicals.
 - iii. Tier 3 consists of a toxicity identification evaluation (TIE).
 - iv. Tier 4 consists of evaluation of options for additional effluent treatment processes.
 - v. Tier 5 consists of evaluation of options for modifications of in-plant treatment processes.
 - vi. Tier 6 consists of implementation of selected toxicity control measures, and follow-up monitoring and confirmation of implementation success.
- e. The TRE may be ended at any stage if monitoring finds there is no longer consistent toxicity (complying with requirements of section IV.A.3 and IV.A.4 of this Order).
- f. The objective of the TIE shall be to identify the substance or combination of substances causing the observed toxicity. All reasonable efforts using currently available TIE methods shall be employed.
- g. As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the sources and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with chronic toxicity evaluation parameters.
- h. Many recommended TRE elements parallel required or recommended efforts of source control, pollution prevention, and storm water control programs. TRE efforts should be coordinated with such efforts. To prevent duplication of efforts, evidence of complying with requirements or recommended efforts of such programs may be acceptable to comply with TRE requirements.
- i. The Regional Water Board recognizes that chronic toxicity may be episodic and identification of causes of, and reduction of, sources of chronic toxicity may not be

successful in all cases. Consideration of enforcement action by the Regional Water Board will be based in part on the Discharger’s actions and efforts to identify and control or reduce sources of consistent toxicity.

VI. RECEIVING WATER MONITORING REQUIREMENTS

The Discharger shall conduct receiving water monitoring at Monitoring Locations RSW-001, RSW-002, RSW-003, and RSW-004 as summarized in the following table.

Table E-5. Receiving Water Monitoring at Monitoring Locations RSW-001, RSW-002, RSW-003, and RSW-004

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	s.u.	Grab	1/Year	[1]
Temperature	°F	Grab	1/Year	[1]
Total Ammonia, as Nitrogen	mg/L	Grab	1/Year	[1]
Dissolved Oxygen	mg/L	Grab	1/Year	[1]
Dissolved Sulfide	mg/L	Grab	1/Year	[1]
Nitrate as Nitrogen	mg/L	Grab	1/Year	[1]
Standard Observations ^[2]	--	Visual	1/Year	--
Total Phosphorus	mg/L	Grab	1/Year	[1]
Un-ionized Ammonia	mg/L	Calculated ^[3]	1/Year	[1]
Salinity	mg/L	Grab	1/Year	[1]
Hardness	mg/L	Grab	1/Year	[1]

[1] Pollutants and pollutant parameters shall be analyzed using the analytical methods described in 40 CFR 136.

[2] Standard observations are described in Attachments D and G.

[3] Un-ionized ammonia is calculated using ionized ammonia, salinity, and hardness data.

The Discharger shall continue to collect or participate in collecting background ambient receiving water data with other dischargers through the Regional Monitoring Program. This information is required to perform RPAs and to calculate effluent limitations. To fulfill this requirement, the Discharger shall submit (or cause to have submitted on its behalf) data sufficient to characterize the concentration of each toxic pollutant listed in the CTR in the ambient receiving water. The data on the conventional water quality parameters (pH, salinity, and hardness) shall also be sufficient to characterize these parameters in the ambient receiving water at a point after the discharge has mixed with the receiving waters.

VII. LEGEND FOR MRP TABLES

Types of Samples

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

Frequency of Sampling

- 1/Day = Once each day
- 1/Week = once each week
- 1/2 Weeks = once every two weeks

- 1/Month = once each month
- 1/Quarter = once each calendar quarter (at about three month intervals)
- 2/Year = twice each calendar year (at about 6 months intervals, once during dry season, once during wet season)

Parameter and Unit Abbreviations

- BOD₅ = 5-day biochemical oxygen demand
- COD = chemical oxygen demand
- TUc = chronic toxicity units
- °C = degrees Celsius
- DO = dissolved oxygen
- µg/L = micrograms per liter
- µmhos/cm = micromhos/centimeter
- MG = million gallons
- MGD = million gallons per day
- mg/L = milligrams per liter
- ml/L-hr = milliliters per liter, per hour
- MPN/100 ml = most probable number per 100 milliliters
- % survival = percent survival
- PAHs = polycyclic aromatic hydrocarbons
- lbs/day = pounds per day
- TSS = total suspended solids
- s.u. = standard pH units

VIII. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

B. Self Monitoring Reports (SMRs)

1. SMR Format. At any time during the term of this Order, the State or Regional Water Board may notify the Discharger to electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). Until such notification is given, the Discharger shall submit paper SMRs. The CIWQS website will provide additional directions for SMR submittal in the event of a service interruption for electronic submittal.
2. SMR Due Dates and Contents. The Discharger shall submit SMRs by the due dates, and with the contents, specified below:
 - a. Monthly SMRs — Monthly SMRs shall be due 30 days after the end of each calendar month, covering that calendar month. The monthly SMR shall contain the applicable items described in sections V.B and V.C of both Attachments D and G of this Order. See Provision VI.C.6 (Effluent Characterization Study and Report) of this Order for information that must also be reported with the monthly SMR.

- b. Annual SMR — Annual SMRs shall be due February 1 each year, covering the previous calendar year. The annual SMR shall contain the items described in section V.C.1.f of the Regional Standard Provisions (Attachment G). See also Provisions VI.C.2 (Effluent Characterization Study and Report – Discharge Point 001), VI.C.4 (Stormwater Pollution Prevention Plan), VI.5.c (Main Wastewater Treatment Plan Reliability Assurance), and VI.5.d (Thermal Plume Biological Impact Study) for requirements to submit reports with the annual SMR.
- c. Additional Specifications for Submitting SMRs to CIWQS — If the Discharger submits SMRs to CIWQS, it shall submit analytical results and other information using one of the following methods:

Table E-6. SMR Reporting for CIWQS

Parameter	Method of Reporting	
	EDF/CDF data upload or manual entry	Attached File
All parameters identified in influent, effluent, and receiving water monitoring tables (except Dissolved Oxygen and Temperature)	Required for All Results	
Dissolved Oxygen Temperature	Required for Monthly Maximum and Minimum Results Only ⁽¹⁾	Discharger may use this method for all results or keep records
Cyanide Arsenic Cadmium Chromium Copper Lead Mercury Nickel Selenium Silver Zinc Dioxins and Furans (by U.S. EPA Method 1613)	Required for All Results ⁽²⁾	
Antimony Beryllium Thallium Pollutants by U.S. EPA Methods 601, 602, 608, 610, 614, 624, and 625	Not Required (unless identified in influent, effluent, or receiving water monitoring tables), But Encouraged ⁽¹⁾	Discharger may use this method and submit results with application for permit reissuance, unless data submitted by CDF/EDF upload
Analytical Method	Not Required (Discharger may select “data unavailable”) ⁽¹⁾	
Collection Time Analysis Time	Not Required (Discharger may select “0:00”) ⁽¹⁾	

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Footnotes for Table E-6:

(1) The Discharger shall continue to monitor at the minimum frequency specified in the monitoring tables, keep records of the measurements, and make the records available upon request.

- (2) These parameters require EDF/CDF data upload or manual entry regardless of whether monitoring is required by this MRP or other provisions of this Order (except for biosolids, sludge, or ash provisions).
3. Monitoring Periods. Monitoring periods for all required monitoring shall be completed as set forth in the table below:

Table E-7. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
Continuous	Day after permit effective date	All
1/Hour	Day after permit effective date	Hourly
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	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	1 st 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	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31
1/Year	January 1 following (or on) permit effective date	January 1 through December 31
1/5 Years or "once per permit term"	Day after permit effective date	Once during the permit term within 12 months prior to applying for permit reissuance.
1/Discharge Event	Anytime during the discharge event or as soon as possible after aware of the event	At a time when sampling can characterize the discharge event

4. ML and MDL Reporting. The Discharger shall report with each sample result the Reporting Level (RL) and Method Detection Limit (MDL) as determined by the procedure in 40 CFR 136. The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:
- 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).
 - 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 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 the laboratory considers appropriate.

- c. Sample results less than the laboratory’s MDL shall be reported as “Not Detected” or ND.
- d. The Discharger is to instruct laboratories to establish calibration standards so that the minimum level (ML) value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

C. Discharge Monitoring Reports (DMRs)

- 1. As described in section XIII.B.1 above, at any time during the term of this Order, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of DMRs. Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.
- 2. DMRs shall be signed and certified as required by the Federal Standard Provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to one of the addresses listed below:

Standard Mail

FedEx/UPS/Other Private Carriers

State Water Resources Control Board
Division of Water Quality
c/o DMR Processing Center
PO Box 100
Sacramento, CA 95812-1000

State Water Resources Control Board
Division of Water Quality
c/o DMR Processing Center
1001 I Street, 15th Floor
Sacramento, CA 95814

- 3. All discharge monitoring results shall be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated will not be accepted unless they follow the exact same format as EPA Form 3320-1.

IX. BYPASS REQUIREMENTS

If the Discharger bypasses any treatment units under the conditions stated in Attachment D, section I.G.2, it shall monitor flows and collect samples daily at affected discharge points for all constituents with effluent limits (except chronic toxicity) for the duration of the bypass (including acute toxicity using static renewals). Because such discharges may, pending the results of the monitoring, result in noncompliance that may endanger health or the environment, the Discharger shall follow the reporting requirements in Attachment D, section V.E.1.

**APPENDIX E-1
CHRONIC TOXICITY
DEFINITION OF TERMS AND SCREENING PHASE REQUIREMENTS**

I. Definition of Terms

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

II. Chronic Toxicity Screening Phase Requirements

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

- a. Stage 1 shall consist of a minimum of one battery of tests conducted concurrently. Selection of the type of test species and minimum number of tests shall be based on **Appendix E-2** (attached).
 - b. Stage 2 shall consist of a minimum of two test batteries conducted at a monthly frequency using the three most sensitive species based on the Stage 1 test results and as approved by the Executive Officer.
 3. Appropriate controls.
 4. Concurrent reference toxicant tests.
 5. Dilution series 100%, 62.50%, 31.25%, 15.62%, 7.81%, 3.91 %, where “%” is percent effluent as discharged, or as otherwise approved the Executive Officer.
- C. The Discharger shall submit a screening phase proposal acceptable to the Executive Officer. The proposal shall address each of the elements listed above. If within 30 days, the Executive Officer does not comment, the Discharger 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	<i>(Skeletonema costatum)</i> <i>(Thalassiosira pseudonana)</i>	Growth rate	4 days	1
Red alga	<i>(Champia parvula)</i>	Number of cystocarps	7-9 days	3
Giant kelp	<i>(Macrocystis pyrifera)</i>	Percent germination; germ tube length	48 hours	2
Abalone	<i>(Haliotis rufescens)</i>	Abnormal shell development	48 hours	2
Oyster Mussel	<i>(Crassostrea gigas)</i> <i>(Mytilus edulis)</i>	Abnormal shell development; percent survival	48 hours	2
Echinoderms - Urchins Sand dollar	<i>(Strongylocentrotus purpuratus,</i> <i>S. franciscanus)</i> <i>(Dendraster excentricus)</i>	Percent fertilization	1 hour	2
Shrimp	<i>(Mysidopsis bahia)</i>	Percent survival; growth	7 days	3
Shrimp	<i>(Holmesimysis costata)</i>	Percent survival; growth	7 days	2
Topsmelt	<i>(Atherinops affinis)</i>	Percent survival; growth	7 days	2
Silversides	<i>(Menidia beryllina)</i>	Larval growth rate; percent survival	7 days	3

Toxicity Test References:

- 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.
- 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.
- 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	<i>(Pimephales promelas)</i>	Survival; growth rate	7 days	4
Water flea	<i>(Ceriodaphnia dubia)</i>	Survival; number of young	7 days	4
Alga	<i>(Selenastrum capricornutum)</i>	Cell division rate	4 days	4

Toxicity Test Reference:

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

Toxicity Test Requirements for Stage One Screening Phase

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

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

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

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

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

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

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

WDID	2071059001
Discharger	USS-POSCO Industries
Name of Facility	Pittsburg Plant
Facility Address	900 Loveridge Road
	Pittsburg, CA 94565
	Contra Costa
Facility Contact, Title, Phone	David Allen, Environmental Group Manager (925) 439-6290
Authorized Person to Sign and Submit Reports	David Allen, Environmental Group Manager (925) 439-6290
Mailing Address	P.O. Box 471, MS67, Pittsburg, CA 94565
Billing Address	SAME
Type of Facility	Steel Finishing Plant (SIC 3312)
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	Yes
Reclamation Requirements	No
Facility Permitted Flow	28 million gallons per day (MGD)
Watershed	Suisun Basin
Receiving Water	New York Slough, part of the Sacramento-San Joaquin Delta
Receiving Water Type	Estuarine

- A.** The USS-POSCO Industries (hereinafter Discharger) owns and operates the Pittsburg Plant (hereinafter Facility) at 900 Loveridge Road, in the City of Pittsburg.

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

- B.** The Facility discharges wastewater and storm water to New York Slough, a water of the United States and part of the Sacramento-San Joaquin Delta, and is currently regulated by Order No. R2-

2006-0029 (hereinafter previous permit), which was adopted on May 10, 2006, and expired on June 30, 2011. The discharges are also regulated under Order No. R2-2010-0056 (Amendment of Waste Discharge Requirements for Municipal and Industrial Dischargers to Implement Cyanide and Copper Site Specific Objectives), which amended the cyanide effluent limitations in the previous permit.

- C. The Discharger filed a Report of Waste Discharge and submitted an application for reissuance of its Waste Discharge Requirements and NPDES permit on October 27, 2010.

II. FACILITY DESCRIPTION

A. Description of Wastewater Treatment or Controls

The Discharger owns and operates the Facility, a 420-acre steel finishing plant. The Facility finishes purchased coils of hot-rolled steel, but does not manufacture steel from raw materials. The processes include pickling with hydrochloric and sulfuric acid, cold rolling, alkaline cleaning, annealing, hot-dip galvanizing, and electrolytic tin and chromium plating.

The wastewater treatment system consists of three preliminary treatment systems specific to various wastewater streams in the Facility, and the main wastewater treatment plant located in the northeast corner of the Facility. The following treatment systems provide initial wastewater treatment in the main part of the Facility:

1. The Oil Separation System treats oily wastewaters from cold rolling mills throughout the Facility.
2. The Outgoing Treatment System reduces chromium VI contained in wastewaters from the Facility's Chromium Recovery Unit.
3. The Primary Neutralization Facility neutralizes spent alkaline cleaning baths.

Partly treated wastewater flows to the main wastewater treatment plant after preliminary treatment. In addition to wastewater from the main part of the Facility, the main wastewater treatment plant also receives storm water from the Facility's developed areas, including parking lots, buildings, roadways, and material storage areas. The main wastewater treatment plant may also receive a maximum of 5 million gallons per year of wastewater from impoundments and purge water from monitoring wells.

The main wastewater treatment plant consists of a pump station (Lift Station No. 3), an oil/water separator, a mixer building to adjust the pH with lime and/or caustic for metals precipitation, two clarifiers, and two neutralization tanks for final pH adjustment (hydrochloric acid in the first stage, and hydrochloric acid or caustic in the second stage). Solids from the clarifiers are dewatered with a filter press and hauled to the Facility's on-site landfill. The filtrate is returned to Lift Station No. 3 for treatment. Treated wastewater is discharged at Discharge Point No. 001 to New York Slough, which is part of the Sacramento-San Joaquin Delta.

During extreme storm events, when storm water flow exceeds the No. 1 Lift Station pumping capacity (approximately 1,700 gallons per minute), excess storm water is discharged at Discharge Point No. 002 to New York Slough. Historically, these discharges have occurred

approximately twice per year. Additional storm water from undeveloped, non-production areas is discharged directly to New York Slough via sheet flow. Storm water from the on-site solid waste disposal area and off-site recycling center drains to low portions of the Facility for percolation and evaporation.

B. Discharge Points and Receiving Waters

The receiving water and the location of the discharge points are shown in Table F-2 below and Attachment B. Compliance monitoring is conducted at Monitoring Locations EFF-001, as described in Attachment E, Monitoring and Reporting Program (MRP).

Table F-2. Outfall Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Combined industrial wastewater, cooling water, and storm water	38° 01' 48" N	121° 51' 32" W	New York Slough
002	Storm Water	38° 01' 51" N	121° 51' 58" W	New York Slough

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

Effluent limitations for discharges to the New York Slough and representative monitoring data from the previous permit term are as follows:

Table F-3. Historical Effluent Limitations and Monitoring Data for Conventional and Non-Conventional Pollutants for Discharge Point No. 001

Parameter	Units	Effluent Limitations		Monitoring Data (From January 2006 to September 2010)	
		Monthly Average	Daily Maximum	Highest Monthly Average	Highest Daily Discharge
pH	standard units	6.5 – 8.5		7.2 – 8.6 ^[1]	
Temperature	°F	--	93 ^[1]	--	93.7
Settleable Matter	ml/l/hr	0.1	0.2	0.05	0.05
Total Suspended Solids (TSS)	lbs/day	2,365	5,139	NR ^[2]	NR ^[2]
Oil and Grease	lbs/day	1,025	2,391	<194	<194

^[1] While the discharge on April 22, 2010, recorded a maximum pH of 8.6, the discharge at this pH level did not exceed the 60-minute time frame allowed in the permit.

^[2] Instantaneous maximum effluent limitation

^[3] NR = Not Reported

Table F-4. Historical Effluent Limitations and Monitoring Data for Toxic Pollutants at Discharge Point No. 001

Parameter	Units	Effluent Limitations		Monitoring Data (From January 2006 to September 2010)	
		Monthly Average	Daily Maximum	Highest Monthly Average	Highest Daily Discharge
Copper	µg/L	3.3	5.5	NR ^[2]	4.3
Total Chromium	lbs/day	42.8	69.4	0.70	0.73

Parameter	Units	Effluent Limitations		Monitoring Data (From January 2006 to September 2010)	
		Monthly Average	Daily Maximum	Highest Monthly Average	Highest Daily Discharge
Lead	lbs/day	15.5	31.5	0.29	0.35
Nickel	lbs/day	59.6	99.6	0.33	0.36
Silver	lbs/day	6.0	10.8	NR ^[2]	NR ^[2]
Zinc	lbs/day	5.6	16.9	0.70	2.96
Cyanide ^[1]	µg/L	6.8	14	NR ^[2]	14
Naphthalene	lbs/day	--	0.68	--	0.011
Chlorodibromomethane ^[3]	µg/L	0.4	0.8	NR ^[2]	ND ^[4]
Dichlorobromomethane ^[3]	µg/L	0.6	1.1	NR ^[2]	ND ^[4]
Tetrachloroethylene	lbs/day	--	1.03	--	0.03

^[1] Effluent limitation based on Order No. R2-2010-0056, *Amendment of Waste Discharge Requirements for Municipal and Industrial Dischargers to Implement Cyanide and Copper Site Specific Objectives.*

^[2] NR = Not Reported

^[3] Effluent limitation effective May 18, 2010.

^[4] Pollutant not detected in the effluent after May 28, 2010.

Table F-5. Historical Effluent Limitations and Monitoring Data for Conventional and Non-Conventional Pollutants for Discharge Point No. 002

Parameter	Units	Effluent Limitations		Monitoring Data (From January 2006 to September 2010)	
		Monthly Average	Daily Maximum	Highest Monthly Average	Highest Daily Discharge
pH	standard units	6.5 – 8.5		7.2 – 8.3	
Oil and Grease	mg/L	--	15	--	<5

D. Compliance Summary

Permit violations at Discharge Point No. 001 were observed during the previous permit term for acute toxicity and temperature as outlined below:

Table F-6. Discharge Point No. 001 Numeric Effluent Exceedances

Date of Violation	Exceeded Parameter	Units	Effluent Limitation	Reported Concentration
July 25, 2006	Temperature, Daily Maximum	°F	93	94
September 26, 2006	Acute Toxicity, 11-Sample 90 th Percentile	% Survival	70	65
December 4, 2006	Acute Toxicity, 11-Sample 90 th Percentile	% Survival	70	30
December 11, 2006	Acute Toxicity, 11-Sample 90 th Percentile	% Survival	70	15
January 15, 2007	Acute Toxicity, 11-Sample 90 th Percentile	% Survival	70	15
March 6, 2007	Acute Toxicity, 11-Sample 90 th Percentile	% Survival	70	30
August 13, 2008	Temperature, Daily Maximum	°F	93	99

None of these violations were subject to mandatory minimum penalties. The temperature violations were related to high ambient summertime conditions. The Discharger reported that the most likely causes of the toxicity violations were (1) over chlorination at the filter plant to treat the build up of algae, (2) biofouling in the effluent delivery system to the lab, and (3) excessive sludge levels in the clarifier because of a mechanical problem with the belt press. The

Discharger corrected these problems and there has been no acute toxicity violation since March 2007.

E. Planned Changes

No changes are planned for the Facility.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

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

B. California Environmental Quality Act (CEQA)

Under CWC section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA.

C. State and Federal Regulations, Policies, and Plans

1. Water Quality Control Plans. *The Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan) is the Regional Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. New York Slough is part of the Sacramento-San Joaquin Delta. On July 14, 2010, the Regional Water Board adopted Resolution 2010-0100, an amendment to the Basin Plan, including specific beneficial uses for the New York Slough. Approval of Resolution 2010-0100 is expected by the State Water Resources Control Board (State Water Board), Office of Administrative Law, and USEPA.

In addition, State Water Board Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. New York Slough does not meet any of the exceptions to Resolution No. 88-63. Thus, beneficial uses applicable to the New York Slough are as follows:

Table F-7. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	New York Slough	Municipal and Domestic Supply (MUN) Ocean, Commercial and Sport Fishing (COMM) Estuarine Habitat (EST) Fish Migration (MIGR) Preservation of Rare and Endangered Species (RARE) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2) Navigation (NAV)

The State Water Board’s *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 temperature objectives for surface waters.

The State Water Board’s *Water Quality Control Plan for Enclosed Bays and Estuaries – Part I, Sediment Quality* became effective on August 25, 2009. This plan supersedes other narrative sediment quality objectives, and establishes new sediment quality objectives and related implementation provisions for specifically defined sediments in most 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. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that applied in the State. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority toxic pollutants that apply to this discharge.

4. **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 USEPA promulgated for California through the NTR and to the priority pollutant objectives the Regional Water Board established in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria USEPA promulgated through the CTR. On February 24, 2005, the State Water Board adopted amendments to the SIP that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant objectives and provisions for chronic toxicity control. 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 [65 Fed. Reg. 24641 (April 27, 2000) (codified at 40 CFR 131.21)]. Under the revised regulation (also known as the Alaska Rule), USEPA must approve any new and revised standards submitted to USEPA after May 30, 2000, before they can be 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. Antidegradation Policy.** 40 CFR 131.12 requires that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy through State Water Board Resolution No. 68-16, which incorporates the federal antidegradation policy where the federal policy applies under federal law. It also requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16. Antidegradation is discussed in more detail in section IV.C.9 of this Fact Sheet.
- 7. 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 be as stringent as those in the previous permits, with some exceptions where limitations may be relaxed. Anti-backsliding is discussed in more detail in section IV.C.9 of this Fact Sheet.

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

On November 12, 2010, the USEPA approved a list of impaired water bodies [hereinafter referred to as the 303(d) list] pursuant to CWA section 303(d), which requires identification of specific water bodies where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. The Sacramento-San Joaquin Delta is listed as an impaired water body for chlordane, DDT, dieldrin, dioxin compounds, exotic species, furan compounds, mercury, polychlorinated biphenyls (PCBs), dioxin-like PCBs, and selenium. The SIP requires that effluent limitations for 303(d)-listed pollutants be consistent with total maximum daily loads (TMDLs) and associated wasteload allocations.

The Regional Water Board plans to adopt TMDLs for pollutants on the 303(d) list. TMDLs will establish wasteload allocations for point sources and load allocations for non-point sources, and will be intended to result in achieving the water quality standards for the impaired water bodies. The Facility's mercury and PCBs discharges are regulated under Order No. R2-2007-0077, which implements mercury and PCBs TMDLs.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants discharged into waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the NPDES regulations: 40 CFR 122.44(a) requires that permits include applicable technology-based limitations and standards; and 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 reasonable potential has been established for a pollutant, but there is no numeric objective for the pollutant, water quality-based effluent limitations may be established: (1) using USEPA criteria guidance under CWA section 304(a), supplemented

where necessary by other relevant information; (2) on an indicator parameter for the pollutant of concern; or (3) using a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in 40 CFR 122.44(d)(1)(vi).

A. Discharge Prohibitions

1. **Discharge Prohibition III.A (No discharge different from that described in this Order):** This prohibition is based on 40 CFR 122.21(a), duty to apply, and CWC section 13260, which requires filing an application and Report of Waste Discharge before discharges can occur. Discharges not described in the permit application and Report of Waste Discharge, and subsequently in this Order, are prohibited. The Discharger submitted a Report of Waste Discharge and application, dated October 27, 2010, for permission to discharge as specified in this permit; thus, any discharges not described in the this Order are prohibited.
2. **Discharge Prohibition III.B (No discharge with less than 4.0:1 dilution):** This prohibition is based on the dilution credit granted for cyanide and chronic toxicity in this Order. If dilution is less than 4.0:1, the cyanide and chronic toxicity limits in this Order may not be sufficient to protect beneficial uses.
3. **Discharge Prohibition III.C (No bypass or overflow of untreated or partially treated wastewaters):** This prohibition is based on 40 CFR 122.41(m) (see federal Standard Provisions, Attachment D).

B. Shallow Water Discharge and Basin Plan Discharge Prohibition 1

Basin Plan Discharge Prohibition 1 is intended to protect beneficial uses in areas that receive limited to no dilution. Basin Plan section 4.2 allows the Regional Water Board to consider exceptions to Prohibition 1 where an inordinate burden would be placed on the Discharger relative to the beneficial uses protected and an equivalent level of environmental protection can be achieved by alternate means, such as an alternative discharge site, a higher level of treatment, or improved treatment reliability. The Regional Water Board grants an exception to Basin Plan Discharge Prohibition 1 for this discharge because designing and constructing a new outfall with a diffuser roughly 50 feet into New York Slough would be an inordinate burden for the Discharger relative to the small decrease in mixing time the outfall would provide. Instead, this Order requires equivalent protection through enhanced measures to ensure treatment reliability.

Prohibition 1 is directed primarily at non-tidal waters and dead-end sloughs, and its purpose is to (a) provide an added degree of protection from the continuous effects of waste discharge, (b) provide a buffer against the effects of abnormal discharges caused by temporary upsets and malfunctions, (c) minimize public contact with undiluted wastes, and (d) reduce the aesthetic impacts of waste discharges. The Discharger's history of providing reliable treatment indicates that the potential for a treatment plant upset or malfunction is relatively small. Provision VI.C.5.c of this Order requires the Discharger to take specific precautions to continue and further ensure treatment reliability. While the discharge is technically a shallow-water discharge because the outfall daylight at the shoreline, New York Slough is subject to strong tidal currents so the discharge is diluted relatively quickly to concentrations that would not impact beneficial uses. Likewise, discharges following a treatment upset would be diluted relatively quickly. The Discharger's 1994 dilution study indicates that its wastewater is diluted to 12.5:1 about 250 feet

from shore under slack tide conditions. Dilution effects would be greater most of the time when the tide is flowing.

C. Technology-Based Effluent Limitations

1. Scope and Authority

CWA section 301(b) and 40 CFR 122.44(a) require that permits include applicable technology-based limitations and standards based on the following:

- a. Best practicable treatment control technology (BPT) represents the average of the best performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.
- b. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.
- c. Best conventional control technology (BCT) represents the control from existing industrial point sources of conventional pollutants, including biochemical oxygen demand (BOD), total suspended solids (TSS), fecal coliform, pH, and oil and grease. The BCT standard is established after considering the “cost reasonableness” of the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result, and also the cost effectiveness of additional industrial treatment beyond BPT.
- d. New source performance standards (NSPS) represent the best available demonstrated control technology standards for new sources. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

Facility operations involve iron and steel manufacturing and metal finishing. Iron and steel manufacturing processes include sulfuric acid pickling (strip, sheet, and plate), hydrochloric acid pickling (strip, sheet, and plate; fume scrubbers; and acid regeneration), cold rolling milling (single stand and multiple stands), alkaline cleaning (continuous), and hot coating (strip, sheet, and miscellaneous). Metal finishing operations include electroplating. USEPA established Effluent Limitation Guidelines (ELGs) for iron and steel manufacturing processes and metal finishing processes based on BPT, BAT, BCT, and NSPS in 40 CFR 420 and 40 CFR 433.

Table F-8 summarizes the applicable ELGs. This Order imposes the most stringent requirements (BPT, BAT, or BCT) indicated in the ELGs. Since the Facility was constructed prior to USEPA developing the ELGs in the 1980s, the NSPS ELGs do not apply.

The technology-based limits in this Order are the sum of ELG-based allotments for each process. The ELGs for iron and steel manufacturing processes are mass-based and, in most cases, based on the number of pounds of product generated through each process (i.e., pounds per 1,000 pounds of product). For fume scrubbers and acid regeneration, they are given in kilograms, without regard to the amount of product processed. The ELGs for

metal finishing (i.e., electroplating) are concentration-based. The mass allotments for electroplating are based on the electroplating process flow.

In addition to the ELGs shown in Table F-8, 40 CFR 420 and 40 CFR 433 contain many duplicative pH requirements. In each case, pH is to be limited to the range of 6.0 to 9.0. Because the Basin Plan limits the pH of shallow water discharges to 6.5 to 8.5, this Order reflects the Basin Plan's more stringent limits.

As noted in Table F-8, oil and grease ELGs do not apply to this Order because acid pickling wastewaters are not treated with cold rolling wastewaters. Similarly, for some processes, chromium and nickel ELGs do not apply because cold rolling wastewaters are not treated with descaling or combination acid pickling wastewaters, or because galvanizing operations do not discharge wastewaters from the chromate rinse step.

Table F-8. Effluent Limitation Guidelines for Iron and Steel Manufacturing and Metal Finishing

	BPT		BAT		BCT		Most Stringent ELGs	
	Daily Maximum	30-Day Average	Daily Maximum	30-Day Average	Daily Maximum	30-Day Average	Daily Maximum	Monthly Average
Sulfuric Acid Pickling [40 CFR 420 Subpart I]								
Strip, sheet, and plate (lbs/1,000 lbs of product) ^[1] [40 CFR 420.92(a)(3) (BPT), 40 CFR 420.93(a)(3) (BAT), and 40 CFR 420.97(a)(3) (BCT)]								
TSS	0.0526	0.0225	--	--	0.0526	0.0225	0.0526	0.0225
Lead	0.000338	0.000113	0.000338	0.000113	--	--	0.000338	0.000113
Zinc	0.000451	0.000150	0.000451	0.000150	--	--	0.000451	0.00015
Hydrochloric Acid Pickling [40 CFR 420 Subpart I]								
Strip, sheet, and plate (lbs/ 1,000 lbs of product) ^[1] [40 CFR 420.92(b)(2) (BPT), 40 CFR 420.93(b)(2) (BAT), and 40 CFR 420.97(b)(2) (BCT)]								
TSS	0.0818	0.0350	--	--	0.0818	0.0350	0.0818	0.0350
Lead	0.000526	0.000175	0.000526	0.000175	--	--	0.000526	0.000175
Zinc	0.000701	0.000234	0.000701	0.000234	--	--	0.000701	0.000234
Fume scrubbers (kg) ^[1] [40 CFR 420.92(b)(4) (BPT), 40 CFR 420.93(b)(4) (BAT), and 40 CFR 420.97(b)(4) (BCT)]								
TSS	5.72	2.45	--	--	5.72	2.45	5.72	2.45
Lead	0.0368	0.0123	0.0368	0.0123	--	--	0.0368	0.0123
Zinc	0.0491	0.0164	0.0491	0.0164	--	--	0.0491	0.0164
Acid regeneration (kg) ^[1] [40 CFR 420.92(b)(5) (BPT), 40 CFR 420.93(b)(5) (BAT), and 40 CFR 420.97(b)(5) (BCT)]								
TSS	38.2	16.3	--	--	38.2	16.3	38.2	16.3
Lead	0.245	0.0819	0.245	0.0819	--	--	0.245	0.0819
Zinc	0.327	0.109	0.327	0.109	--	--	0.327	0.109
Cold Rolling Mill [40 CFR 420 Subpart J]								
Recirculation—multiple stands (lbs/1,000 lbs of product) ^[2] [40 CFR 420.102(a)(2) (BPT), 40 CFR 420.103(a)(2) (BAT), and 40 CFR 420.107(a)(2) (BCT)]								
TSS	0.00626	0.00313	--	--	0.00626	0.00313	0.00626	0.00313
Oil and Grease	0.00261	0.00104	--	--	0.00261	0.00104	0.00261	0.00104
Lead	0.0000469	0.0000156	0.0000469	0.0000156	--	--	0.0000469	0.0000156
Zinc	0.0000313	0.0000104	0.0000313	0.0000104	--	--	0.0000313	0.0000104
Naphthalene	0.0000104	--	0.0000104	--	--	--	0.0000104	--
Tetrachloroethylene	0.0000156	--	0.0000156	--	--	--	0.0000156	--
Direct application—single stand (lbs/ 1,000 lbs of product) ^[2]								

	BPT		BAT		BCT		Most Stringent ELGs	
	Daily Maximum	30-Day Average	Daily Maximum	30-Day Average	Daily Maximum	30-Day Average	Daily Maximum	Monthly Average
[40 CFR 420.102(a)(4) (BPT), 40 CFR 420.103(a)(4) (BAT), and 40 CFR 420.107(a)(4) (BCT)]								
TSS	0.0225	0.0133	--	--	0.0225	0.0133	0.0225	0.0133
Oil and Grease	0.00939	0.00376	--	--	0.00939	0.00376	0.00939	0.00376
Lead	0.000169	0.0000563	0.000169	0.0000563	--	--	0.000169	0.0000563
Zinc	0.000113	0.0000376	0.000113	0.0000376	--	--	0.000113	0.0000376
Naphthalene	0.0000376	--	0.0000376	--	--	--	0.0000376	--
Tetrachloroethylene	0.0000563	--	0.0000563	--	--	--	0.0000563	--
Direct application—multiple stands (lbs/ 1,000 lbs of product) ^[2]								
[40 CFR 420.102(a)(5) (BPT), 40 CFR 420.103(a)(5) (BAT), and 40 CFR 420.107(a)(5) (BCT)]								
TSS	0.100	0.0501	--	--	0.100	0.0501	0.100	0.0501
Oil and Grease	0.0417	0.0167	--	--	0.0417	0.0167	0.0417	0.0167
Lead	0.00075	0.00025	0.000751	0.000250	--	--	0.00075	0.00025
Zinc	0.00050	0.000167	0.000501	0.000167	--	--	0.00050	0.000167
Naphthalene	0.000167	--	0.000167	--	--	--	0.000167	--
Tetrachloroethylene	0.000250	--	0.000250	--	--	--	0.000250	--
Alkaline Cleaning [40 CFR 420 Subpart K]								
Continuous (lbs/ 1,000 lbs of product)								
[40 CFR 420.112(b) (BPT) and 40 CFR 420.117(b) (BCT)]								
TSS	0.102	0.0438	--	--	0.102	0.0438	0.102	0.0438
Oil and Grease	0.0438	0.0146	--	--	0.0438	0.0146	0.0438	0.0146
Hot Coating [40 CFR 420 Subpart L]								
Strip, sheet, and miscellaneous (lbs/1,000 lbs of product) ^[3]								
[40 CFR 420.122(a) (BPT) and 40 CFR 420.127(a) (BCT)]								
TSS	0.175	0.0751	--	--	0.175	0.0751	0.175	0.0751
Oil and Grease	0.0751	0.025	--	--	0.0751	0.025	0.0751	0.025
Lead	0.00113	0.000376	0.00113	0.000376	--	--	0.00113	0.000376
Zinc	0.00150	0.000500	0.00150	0.000500	--	--	0.00150	0.000500
Metal Finishing [40 CFR 433 Subpart A]								
Electroplating (mg/L) ^[4]								
[40 CFR 433.13 (BPT) and 40 CFR 433.14 (BAT)]								
Cadmium	0.69	0.26	0.69	0.26	--	--	0.69	0.26
Chromium	2.77	1.71	2.77	1.71	--	--	2.77	1.71
Copper	3.38	2.07	3.38	2.07	--	--	3.38	2.07

	BPT		BAT		BCT		Most Stringent ELGs	
	Daily Maximum	30-Day Average	Daily Maximum	30-Day Average	Daily Maximum	30-Day Average	Daily Maximum	Monthly Average
Lead	0.69	0.43	0.69	0.43	--	--	0.69	0.43
Nickel	3.98	2.38	3.98	2.38	--	--	3.98	2.38
Silver	0.43	0.24	0.43	0.24	--	--	0.43	0.24
Zinc	2.61	1.48	2.61	1.48	--	--	2.61	1.48
Cyanide	1.2	0.65	1.2	0.65	--	--	1.2	0.65
Total Toxic Organics	2.13	--	2.13	--	--	--	2.13	--
Oil and Grease	52	26	--	--	--	--	52	26
TSS	60	31	--	--	--	--	60	31

- ^[1] Oil and grease ELGs do not apply because acid pickling wastewaters are not treated with cold rolling wastewaters.
- ^[2] Chromium and nickel ELGs do not apply because cold rolling wastewaters are not treated with descaling or combination acid pickling wastewaters.
- ^[3] Chromium (hexavalent) ELGs do not apply because galvanizing operations do not discharge wastewaters from the chromate rinse step.
- ^[4] These ELGs refer to total metals.
- ^[5] "Total Toxic Organics" refers to those listed in 40 CFR 433.11(e).

2. Facility Production Rates

The technology-based effluent limitations for iron and steel manufacturing are calculated using reasonable estimates of actual production. Table F-9 lists production rates for most iron and steel manufacturing processes in pounds per day. The fume scrubbers and acid regeneration ELGs do not depend on production rates. The electroplating ELGs are concentration-based; therefore, the electroplating production rate is expressed as flow, specifically 2.45 million gallons per day (MGD).

3. Limitations Calculations

The technology-based limits in this Order were calculated by first calculating the monthly average and daily maximum mass allotments for each pollutant and process, as shown in Table F-10.

For most iron and steel manufacturing processes, the mass-based ELGs in Table F-8 are multiplied by the mass-based production rates in Table F-9 to result in the process allotments shown in Table F-9:

$$\begin{aligned} \text{Limit (lbs/day)} = \\ \text{ELG (lbs/1,000 lbs product)} \times \text{Production Rate (lbs/day)} / 1,000 \end{aligned}$$

For the fume scrubbers and acid regeneration processes, the mass-based ELGs in Table F-8 are fixed allotments; they do not depend on production rates:

$$\begin{aligned} \text{Limit (lbs/day)} = \\ \text{ELGs (kg/day)} \times 2.2 \text{ lb/kg} \end{aligned}$$

For the metal finishing (electroplating) process, the concentration-based ELGs in Table F-8 are multiplied by the flow of 2.45 MGD to result in the process allotments shown in Table F-9:

$$\begin{aligned} \text{Limits (lbs/day)} = \\ \text{ELGs (mg/L)} \times \text{Production Rate (MGD)} \times 8.34 \text{ (unit conversion factor)} \end{aligned}$$

To more easily track the calculations in Tables F-9 and F-10, each process is given a letter. Table F-10 shows how, for each pollutant, the allotments in Table F-9 for each process (coded by letter) are added to determine the technology-based limits in this Order. In the Order, each limit is rounded to two digits.

The technology-based limitations in this Order are the same or more stringent than those in the previous permit. In most cases, they are more stringent due to lower process rates than in the past. For zinc, naphthalene, and tetrachloroethylene, this Order retained the limits from the previous permit because they are more stringent than the newly-calculated limits. This Order does not apply the technology-based limitations for cadmium, copper, nickel, and cyanide because the water quality-based limitations discussed in fact sheet section IV.D are more stringent. This Order also did not apply the technology-based limitation for total toxic

organics because the discharge has very low concentrations of total toxic organics compared to the technology-based limitation. The highest total toxic organics concentration from 2006 through 2010 was 6.2 µg/L, or about 0.29% of the ELG (2130 µg/L).

Table F-9. Effluent Limitation Allotments Based on Facility Production Rates

Category	Process	ELGs Monthly Average (lbs/1,000 lbs product) ^[1]	ELGs Daily Maximum (lbs/1,000 lbs product) ^[1]	Production Rate (lbs/day) ^[2]	Average Monthly (lbs/day)	Maximum Daily (lbs/day)
Sulfuric Acid Pickling						
A	Strip, sheet, and plate			3,600,000		
	TSS	0.0225	0.0526		81	189
	Lead	0.000113	0.000338		0.41	1.2
	Zinc	0.00015	0.000451		0.54	1.6
Hydrochloric Acid Pickling						
B	Strip, sheet, and plate			10,800,000		
	TSS	0.0350	0.0818		378	883
	Lead	0.000175	0.000526		1.9	5.7
	Zinc	0.000234	0.000701		2.5	7.6
C	Fume scrubbers			[3]		
	TSS	2.45 kg/day	5.72 kg/day		5.4	12.6
	Lead	0.0123 kg/day	0.0368 kg/day		0.027	0.081
	Zinc	0.0164 kg/day	0.0491 kg/day		0.036	0.11
D	Acid regeneration			[3]		
	TSS	16.3 kg/day	38.2 kg/day		35.9	84
	Lead	0.0819 kg/day	0.245 kg/day		0.181	0.540
	Zinc	0.109 kg/day	0.327 kg/day		0.240	0.72
Cold Rolling Mill						
E	Recirculation—multiple stands			10,800,000		
	TSS	0.00313	0.00626		34	68
	Oil and Grease	0.00104	0.00261		11	28
	Lead	0.0000156	0.0000469		0.17	0.51
	Zinc	0.0000104	0.0000313		0.11	0.34
	Naphthalene	--	0.0000104		--	0.11
	Tetrachloroethylene	--	0.0000156		--	0.17
F	Direct application—single stand			7,200,000		
	TSS	0.0133	0.0225		81	162
	Oil and Grease	0.00376	0.00939		27	68
	Lead	0.0000563	0.000169		0.41	1.2
	Zinc	0.0000376	0.000113		0.27	0.81
	Naphthalene	--	0.0000376		--	0.27
	Tetrachloroethylene	--	0.0000563		--	0.41
G	Direct application—multiple stands			3,600,000		
	TSS	0.0501	0.100		180	360
	Oil and Grease	0.017	0.042		60	150
	Lead	0.00025	0.00075		0.90	2.7
	Zinc	0.000167	0.00050		0.60	1.8

	Naphthalene	--	0.000167		--	0.60
	Tetrachloroethylene	--	0.000250		--	0.90
Alkaline Cleaning						
H	Continuous					
	TSS	0.0438	0.102	10,800,000	473	1,102
	Oil and Grease	0.0146	0.0438		158	473
Hot Coating						
I	Strip, sheet, and miscellaneous					
	TSS	0.0751	0.175	3,600,000	270	630
	Oil and Grease	0.025	0.0751		90	270
	Lead	0.000376	0.00113		1.4	4.1
	Zinc	0.00050	0.0015		1.8	5.4
Metal Finishing						
J	Electroplating					
	Cadmium ^[4]	0.26 mg/L	0.69 mg/L	2.45 MGD	5.3	14
	Chromium ^[4]	1.71 mg/L	2.77 mg/L		35	57
	Copper ^[4]	2.07 mg/L	3.38 mg/L		42	69
	Lead ^[4]	0.43 mg/L	0.69 mg/L		8.8	14
	Nickel ^[4]	2.38 mg/L	3.98 mg/L		49	81
	Silver ^[4]	0.24 mg/L	0.43 mg/L		4.9	8.8
	Zinc ^[4]	1.48 mg/L	2.61 mg/L		30	53
	Cyanide	0.65 mg/L	1.2 mg/L		13	25
	Total Toxic Organics ^[5]	--	2.13 mg/L		--	44
	Oil and Grease	26 mg/L	52 mg/L		531	1,063
	TSS	31 mg/L	60 mg/L		633	1,226

^[1] Unless indicated, the ELGs are given in pounds per 1,000 pounds of product.

^[2] Unless indicated, the production rates are given in pounds per day.

^[3] The ELGs for fume scrubbers and acid regeneration are in kg/day; they are not based on production rates.

^[4] These ELGs refer to total metals.

^[5] "Total Toxic Organics" refers to those listed in 40 CFR 433.11(e).

Table F-10. Technology-Based Limitations

Pollutant	Process	Average Monthly (lbs/day)	Maximum Daily (lbs/day)
TSS	A	81	189
	B	378	883
	C	5.4	12.6
	D	35.9	84
	E	34	68
	F	81	162
	G	180	360
	H	473	1,102
	I	270	630
	J	633	1,226
Total		2,171	4,717
Oil and Grease	E	11	28
	F	27	68
	G	60	150
	H	158	473
	I	90	270
	J	531	1,063
Total		877	2052
Lead ⁽¹⁾	A	0.41	1.2
	B	1.9	5.7
	C	0.027	0.081
	D	0.181	0.54
	E	0.17	0.51
	F	0.41	1.2
	G	0.90	2.7
	I	1.4	4.1
	J	8.8	14
Total		14	30
Zinc ⁽¹⁾	A	0.54	1.6
	B	2.5	7.6
	C	0.036	0.11
	D	0.24	0.72
	E	0.11	0.34
	F	0.27	0.81
	G	0.60	1.8
	I	1.8	5.4
	J	30	53
Total		36	71
Napthalene	E	--	0.11
	F	--	0.27
	G	--	0.60
Total		--	0.98
Tetrachloroethylene	E	--	0.17
	F	--	0.41
	G	--	0.90
Total		--	1.5

Cadmium ^[1]			
	J	5.3	14
	Total	5.3	14
Chromium ^[1]			
	J	35	57
		35	57
Copper ^[1]			
	J	42	69
	Total	42	69
Nickel ^[1]			
	J	49	81
	Total	49	81
Silver ^[1]			
	J	4.9	8.8
	Total	4.9	8.8
Cyanide			
	J	13	25
	Total	13	25
Total Toxic Organics ^[2]			
	J	--	44
	Total	--	44

^[1] These ELGs refer to total metals.

^[2] "Total Toxic Organics" refers to those listed in 40 CFR 433.11(e).

4. Basin Plan Technology-Based Effluent Limitations

Technology-based effluent limitations for pH and settleable matter are based on Basin Plan Table 4-2 and 40 CFR 401.17.

D. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

- a. 40 CFR 122.44(d)(1)(i) requires 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, when necessary, calculating WQBELs is intended to (1) protect the designated beneficial uses of the receiving water, and (2) achieve applicable WQOs in the CTR, NTR, and the Basin Plan.
- b. NPDES regulations and the SIP provide the basis to establish Maximum Daily Effluent Limitations (MDELs).
 - i. **NPDES Regulations.** 40 CFR 122.45(d) states "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."
 - ii. **SIP.** SIP section 1.4 requires that 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 Water Quality Objectives

The WQOs applicable to the receiving waters for this discharge are from the Basin Plan; the CTR, established by USEPA at 40 CFR 131.38; and the NTR, established by USEPA at 40 CFR 131.36. Some pollutants have 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 Basin Plan's narrative toxicity objective (section 3.3.18) states in part, "All 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, "Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered." Effluent limitations and provisions contained in the Order are 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.
- 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 other toxic organic pollutants for waters of San Francisco Bay upstream to, and including, the Sacramento-San Joaquin River Delta
- d. **Basin Plan Receiving Water Salinity Policy.** The Basin Plan (like the CTR and the NTR) states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water shall be considered in determining the applicable WQO. Freshwater objectives shall apply to discharges to waters with salinities equal to or less than one part per thousand (ppt) at least 95 percent of the time. Saltwater objectives 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. As confirmed by Regional Monitoring Program data, New York Slough has salinities that transition between these two categories (estuarine), so the criteria shall be the lower of the marine or freshwater criteria (the latter calculated based on ambient hardness) for each substance.
- e. **Receiving Water Hardness.** Ambient hardness values are used to calculate freshwater WQOs that are hardness dependent. Hardness data are collected through the Regional Monitoring Program for water bodies in the San Francisco Bay region. The objectives for this Order were determined using a hardness value of 104 mg/L. The hardness was calculated using the adjusted geometric mean of hardness values at the Sacramento River and San Joaquin River RMP stations (BG 20 and BG 30).

- f. **Site-Specific Metal Translators.** 40 CFR 122.45(c) requires effluent limitations for metals to be expressed as total recoverable metal. Because applicable water quality criteria for the metals are typically expressed in the dissolved form, factors or translators must be used to convert metals concentrations from dissolved to total recoverable and vice versa. In the CTR, USEPA establishes default translators that are used in NPDES permitting activities; however, site-specific conditions, such as water temperature, pH, suspended solids, and organic carbon, greatly impact the form of metal (dissolved, filterable, or otherwise) present and therefore available in the water to cause toxicity. In general, the dissolved form 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.
- g. **Copper Translators.** The Basin Plan contains site-specific objectives for copper in San Francisco Bay. However, the translators in the Basin Plan apply only to deepwater wastewater discharges to San Francisco Bay, not shallow water discharges. The Basin Plan notes that shallow water wastewater dischargers must develop translators applicable to their discharge locations. The Discharger has not submitted site-specific copper translators; therefore, default translators from 40 CFR 131.38(b)(2), Table 2, were used for all metals in this Order.

3. Determining the Need for WQBELs

40 CFR 122.44(d)(1)(i) requires 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” (i.e., which have “Reasonable Potential”). Assessing whether a pollutant has Reasonable Potential is the fundamental step in determining whether or not a WQBEL is required.

a. Reasonable Potential Analysis

Regional Water Board staff used the methods and procedures prescribed in SIP section 1.3 to analyze the effluent and background data and the nature of facility operations to determine if the discharge has Reasonable Potential. The Reasonable Potential Analysis (RPA) compares the effluent data with numeric and narrative WQOs in the Basin Plan, NTR, and CTR.

b. Reasonable Potential Methodology

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.

- i. 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.

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

c. Effluent Data

The RPA was based on the effluent monitoring data collected by the Discharger from January 2006 through September 2010 for most pollutants. Regional Water Board staff analyzed these data and the nature of the discharge to determine if the discharge has Reasonable Potential.

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 objectives intended to protect human health from carcinogenic effects, the arithmetic mean of observed ambient water concentrations. For RPA purposes, the ambient background concentrations are the observed maximum detected water column concentrations from the Sacramento River RMP station (BG 20) and the San Joaquin River RMP station (BG30) from 1993 through 2008.

e. RPA Determination

The MECs, most stringent applicable WQOs, and background concentrations used in the RPA are presented in the table below, along with the RPA result (yes or no) for each pollutant analyzed. Reasonable Potential was not determined for all pollutants because there are not applicable WQOs for all pollutants, and monitoring data were unavailable for others. The pollutants that exhibit Reasonable Potential for Discharge Point No. 001 are aldrin, cadmium, carbon tetrachloride, copper, cyanide, dioxin-TEQ, and nickel.

Table F-11. Summary of RPA Results – Discharge Point No. 001

CTR #	Priority Pollutants	MEC or Minimum DL ^{[1],[2]} (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL ^{[1],[2]} (µg/L)	RPA Results ^[3]
1	Antimony	2.8	6.0	Not Available	No
2	Arsenic	7.4	10	3.7	No
3	Beryllium	0.078	4.0	Not Available	No
4	Cadmium	1.2	1.2	0.055	Yes
5a	Chromium (III)	Not Available	50	Not Available	Ud
5b	Chromium (VI)	5.1	11	Not Available	No
6	Copper	4.3	7.2	9.86	Yes
7	Lead	3.0	3.3	2.35	No

CTR #	Priority Pollutants	MEC or Minimum DL ^{[1],[2]} (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL ^{[1],[2]} (µg/L)	RPA Results ^[3]
9	Nickel (303d listed)	4.9	8.3	21.8	Yes
10	Selenium (303d listed)	1.7	5.0	0.45	No
11	Silver	0.03	2.2	0.057	No
12	Thallium	0.34	1.7	Not Available	No
13	Zinc	37	86	18.2	No
14	Cyanide	14	2.9	Not Available	Yes
16	2,3,7,8-TCDD (303d listed)	<2.6E-07	1.3E-08	Not Available	No
	Dioxin TEQ (303d listed)	1.1E-07	1.3E-08	2.8E-08	Yes
17	Acrolein	<2.5	320	Not Available	No
18	Acrylonitrile	<1.0	0.059	Not Available	No
19	Benzene	<0.25	1.0	Not Available	No
20	Bromoform	<0.25	4.3	Not Available	No
21	Carbon Tetrachloride	0.37	0.25	Not Available	Yes
22	Chlorobenzene	<0.25	70	Not Available	No
23	Chlorodibromomethane	0.32 ^[4]	0.41	Not Available	No
24	Chloroethane	<0.25	No Criteria	Not Available	Ud
25	2-Chloroethylvinyl ether	<0.5	No Criteria	Not Available	Ud
26	Chloroform	3.6	No Criteria	Not Available	Ud
27	Dichlorobromomethane	<0.25 ^[4]	0.56	Not Available	No
28	1,1-Dichloroethane	<0.25	5.0	Not Available	No
29	1,2-Dichloroethane	<0.25	0.38	Not Available	No
30	1,1-Dichloroethylene	<0.25	0.057	Not Available	No
31	1,2-Dichloropropane	<0.25	0.52	Not Available	No
32	1,3-Dichloropropylene	<0.25	0.50	Not Available	No
33	Ethylbenzene	<0.25	300	Not Available	No
34	Methyl Bromide	<0.25	48	Not Available	No
35	Methyl Chloride	<0.25	No Criteria	Not Available	Ud
36	Methylene Chloride	<0.25	4.7	Not Available	No
37	1,1,2,2-Tetrachloroethane	<0.25	0.17	Not Available	No
38	Tetrachloroethylene	0.59	0.80	Not Available	No
39	Toluene	0.58	150	Not Available	No
40	1,2-Trans-Dichloroethylene	<0.25	700	Not Available	No
41	1,1,1-Trichloroethane	<0.25	200	Not Available	No
42	1,1,2-Trichloroethane	<0.25	0.60	Not Available	No
43	Trichloroethylene	0.75	2.7	Not Available	No
44	Vinyl Chloride	<0.25	0.50	Not Available	No
45	2-Chlorophenol	0.74	120	Not Available	No
46	2,4-Dichlorophenol	<0.5	93	Not Available	No
47	2,4-Dimethylphenol	<0.5	540	Not Available	No
48	2-Methyl- 4,6-Dinitrophenol	<1.5	13.4	Not Available	No
49	2,4-Dinitrophenol	<1.0	70	Not Available	No
50	2-Nitrophenol	<1.0	No Criteria	Not Available	Ud
51	4-Nitrophenol	<1.5	No Criteria	Not Available	Ud
52	3-Methyl 4-Chlorophenol	<0.5	No Criteria	Not Available	Ud
53	Pentachlorophenol	<1.0	0.28	Not Available	No
54	Phenol	<0.5	21,000	Not Available	No
55	2,4,6-Trichlorophenol	<0.5	2.1	Not Available	No
56	Acenaphthene	<0.025	1,200	0.0019	No
57	Acenaphthylene	<0.025	No Criteria	0.00049	Ud
58	Anthracene	<0.025	9,600	0.00039	No
59	Benzidine	<1.0	0.00012	Not Available	No

CTR #	Priority Pollutants	MEC or Minimum DL ^{[1],[2]} (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL ^{[1],[2]} (µg/L)	RPA Results ^[3]
60	Benzo(a)Anthracene	<0.025	0.0044	0.00147	No
61	Benzo(a)Pyrene	<0.025	0.0044	0.0011	No
62	Benzo(b)Fluoranthene	<0.02	0.0044	0.0019	No
63	Benzo(ghi)Perylene	<0.025	No Criteria	0.0013	Ud
64	Benzo(k)Fluoranthene	<0.02	0.0044	0.00093	No
65	Bis(2-Chloroethoxy)Methane	<0.5	No Criteria	Not Available	Ud
66	Bis(2-Chloroethyl)Ether	<0.5	0.031	Not Available	No
67	Bis(2-Chloroisopropyl)Ether	<0.5	1,400	Not Available	No
68	Bis(2-Ethylhexyl)Phthalate	<0.5	1.8	Not Available	No
69	4-Bromophenyl Phenyl Ether	<0.5	No Criteria	Not Available	Ud
70	Butylbenzyl Phthalate	<0.5	3,000	Not Available	No
71	2-Chloronaphthalene	<0.5	1,700	Not Available	No
72	4-Chlorophenyl Phenyl Ether	<0.5	No Criteria	Not Available	Ud
73	Chrysene	<0.025	0.0044	0.0012	No
74	Dibenzo(a,h)Anthracene	<0.025	0.0044	0.00067	No
75	1,2-Dichlorobenzene	<0.25	600	Not Available	No
76	1,3-Dichlorobenzene	<0.25	400	Not Available	No
77	1,4-Dichlorobenzene	<0.25	5.0	Not Available	No
78	3,3 Dichlorobenzidine	<1.0	0.04	Not Available	No
79	Diethyl Phthalate	0.5	23,000	Not Available	No
80	Dimethyl Phthalate	<0.5	313,000	Not Available	No
81	Di-n-Butyl Phthalate	<0.5	2,700	Not Available	No
82	2,4-Dinitrotoluene	<0.5	0.11	Not Available	No
83	2,6-Dinitrotoluene	<0.5	No Criteria	Not Available	Ud
84	Di-n-Octyl Phthalate	<0.5	No Criteria	Not Available	Ud
85	1,2-Diphenylhydrazine	<0.5	0.04	Not Available	No
86	Fluoranthene	<0.025	300	0.0034	No
87	Fluorene	<0.025	1,300	0.00085	No
88	Hexachlorobenzene	<0.5	0.00075	0.00013	No
89	Hexachlorobutadiene	<0.5	0.44	Not Available	No
90	Hexachlorocyclopentadiene	<1.5	50	Not Available	No
91	Hexachloroethane	<0.5	1.9	Not Available	No
92	Indeno(1,2,3-cd)Pyrene	<0.025	0.0044	0.0037	No
93	Isophorone	<0.5	8.4	Not Available	No
94	Naphthalene	0.03	No Criteria	0.0076	Ud
95	Nitrobenzene	<0.5	17	Not Available	No
96	N-Nitrosodimethylamine	<0.5	0.00069	Not Available	No
97	N-Nitrosodi-n-Propylamine	<0.5	0.005	Not Available	No
98	N-Nitrosodiphenylamine	<0.5	5.0	Not Available	No
99	Phenanthrene	<0.025	No Criteria	0.0035	Ud
100	Pyrene	<0.025	960	0.0064	No
101	1,2,4-Trichlorobenzene	<0.5	5.0	Not Available	No
102	Aldrin	0.0022	0.00013	0.000040	Yes
103	Alpha-BHC	<0.025	0.0039	0.00035	No
104	beta-BHC	<0.005	0.014	0.00029	No
105	gamma-BHC	<0.025	0.019	0.001	No
106	delta-BHC	<0.005	No Criteria	0.00012	Ud
107	Chlordane (303d listed)	<0.05	0.00057	0.0003	No
108	4,4'-DDT (303d listed)	<0.005	0.00059	0.00035	No
109	4,4'-DDE (linked to DDT)	<0.005	0.00059	0.00097	No
110	4,4'-DDD	<0.005	0.00083	0.00045	No

CTR #	Priority Pollutants	MEC or Minimum DL ^{[1],[2]} (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL ^{[1],[2]} (µg/L)	RPA Results ^[3]
111	Dieldrin (303d listed)	<0.005	0.00014	0.00038	No
112	Alpha-Endosulfan	<0.005	0.0087	0.000062	No
113	beta-Endosulfan	<0.005	0.0087	0.000042	No
114	Endosulfan Sulfate	<0.005	110	0.00028	No
115	Endrin	<0.005	0.0023	0.00022	No
116	Endrin Aldehyde	<0.01	0.76	Not Available	No
117	Heptachlor	<0.005	0.00021	0.000016	No
118	Heptachlor Epoxide	<0.005	0.0001	0.00017	No
126	Toxaphene	<0.5	0.0002	Not Available	No
	Tributyltin	<2.0	0.0074	Not Available	No
	Total PAHs	Not Available	15	0.029	Cannot Determine
	Total Ammonia (mg/L)	Not Available	1.27	0.23	Cannot Determine

^[1] The MEC or maximum background concentration is the actual detected concentration unless there is a “<” sign before it, in which case the value shown is the minimum detection level.

^[2] The MEC or maximum background concentration is “Not Available” when there are no monitoring data for the constituent.

^[3] RPA Results = Yes, if MEC => WQO, or B > WQO and MEC is detected;
 = No, if MEC and B are < WQO or all effluent data are undetected;
 = Undetermined (Ud), if no criteria have been promulgated;
 = Cannot Determine, if there are insufficient data.

^[4] Data prior to May 2007 were not considered in the RPA. The Discharger identified sources of chlorodibromomethane and dichlorobromomethane as the bulk commercial bleach used for disinfection on-site for the filter plant and cooling towers. In May 2007, the Discharger switched to hydrogen peroxide for disinfection. Data prior to the switch to hydrogen peroxide is not representative of the current effluent and is inappropriate for RPA use.

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

ii. Pollutants with no Reasonable Potential. WQBELs are not included in this Order for constituents that do not demonstrate Reasonable Potential; however, monitoring for such pollutants is still required. If concentrations of these constituents are found to have increased significantly, section VI.C.2 of the Order requires the Discharger to investigate the source of the increase. Remedial measures are required if the increase poses a threat to water quality.

4. WQBEL Calculations

a. Pollutants with Reasonable Potential

WQBELs were developed for the toxic and priority pollutants that were determined to have Reasonable Potential. The WQBELs were calculated based on appropriate WQOs

and the appropriate procedures specified in SIP section 1.4. The WQOs used for each pollutant with Reasonable Potential are discussed below.

b. Dilution Credit

i. Cyanide

Basin Plan Table 4-6 lists site-specific dilution credits for calculating cyanide effluent limits for shallow water dischargers. For this discharge, the Basin Plan assigns a dilution credit of 3.25:1.

ii. Chronic Toxicity

Basin Plan section 4.5.5.3.2 allows dilution credits for chronic toxicity comparable to those allowed for numeric chemical-specific objectives, accounting for effluent variability, with the intent to protect against consistent chronic toxicity and severe episodic events. SIP section 1.4.2 sets forth a basis and method for mixing zones and dilution credits. While chronic toxicity is not a CTR pollutant subject to the SIP, this Order relies on SIP section 1.4.2 to determine an appropriate mixing zone and dilution credit for chronic toxicity. SIP section 1.4.2.2 requires that a mixing zone be as small as practical and not:

- Compromise the integrity of the entire water body;
- Cause acutely toxic conditions to aquatic life passing through the mixing zone;
- Restrict the passage of aquatic life;
- Adversely impact biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under federal or State endangered species laws;
- Produce undesirable or nuisance aquatic life;
- Result in floating debris, oil, or scum;
- Produce objectionable color, taste, odor, or turbidity;
- Cause objectionable bottom deposits;
- Cause nuisance;
- Dominate the receiving water body or overlap a mixing zone from different outfalls; or
- Be allowed at or near any drinking water intake.

This Order establishes a mixing zone for chronic toxicity that is approximately a 50-foot semicircle with the center at the point of the shoreline discharge. Based on the results of the Discharger's 1994 CORMIX dilution model, a mixing zone approximately 50 feet from shore corresponds to a dilution of about 4:1 under slack tide conditions. This is further supported by the Discharger's thermal plume study.¹ Using temperature data from actual field results, the isotherms indicate that 8:1 dilution exists at approximately 20 feet from the outfall. However, the temperature data may not have been collected at worst-case conditions.

¹ Thermal Plume Study in New York Slough, Pittsburg, California. January 30, 2009. Brown and Caldwell.

None of the SIP section 1.4.2 conditions above are likely to occur as a result of granting this mixing zone, which is very small compared to the size of New York Slough (about 500 feet wide by 3 miles in length) so it will not compromise the entire water body. The discharge is not acutely toxic, nor does it contain significant amounts of nutrients, debris, oil, scum, color, odor, turbidity, or settleable matter. Effluent limits based on no dilution will control these pollutants. This mixing zone is also located in an area with frequent and strong tidal currents, so it is not likely to restrict the passage of aquatic life, adversely impact biologically sensitive or critical habitats or cause a nuisance. The mixing zone does not overlap with any other mixing zones, nor is it near a drinking water intake.

The mixing zone is as small as practicable. It corresponds with the minimal dilution necessary (based on the CORMIX model) for the Discharger to achieve compliance with Basin Plan Table 4-5 (based on the 99th percentile of the applicable data from January 2006 through October 2010).

d. Calculation of Pollutant-Specific QBELs - Discharge Point No. 001

i. Aldrin

- (a) *Aldrin WQO*. The most stringent applicable WQO for aldrin is from the CTR for protection of human health, based on the consumption of water and aquatic organisms, of 0.00013 µg/L.
- (b) *RPA Results*. This Order establishes effluent limitations for aldrin because the MEC of 0.0022 µg/L exceeds the most stringent applicable WQO for this pollutant, demonstrating Reasonable Potential by Trigger 1.
- (c) *Aldrin QBELs*. QBELs for aldrin, calculated using SIP procedures with a default coefficient of variation (CV) of 0.6 and no dilution credit, are an AMEL of 0.00013 µg/L and an MDEL of 0.00026 µg/L.
- (d) *Feasibility of Compliance*. Sufficient data to determine the distribution of the effluent data set or to calculate a mean and standard deviation were unavailable. The feasibility of the Discharger to comply with final effluent limitations is undetermined.
- (e) *Anti-backsliding*. Anti-backsliding requirements are satisfied because the previous permit did not include aldrin QBELs.

ii. Cadmium

- (a) *Cadmium WQOs*. The most stringent applicable WQOs for cadmium are the Basin Plan's freshwater acute and chronic objectives for the protection of aquatic life of 4.1 µg/L and 1.2 µg/L, as calculated using the receiving water hardness value of 104 mg/L as CaCO₃.

- (b) *RPA Results*. This Order establishes effluent limitations for cadmium because the MEC of 1.2 µg/L equals the most stringent applicable WQO for this pollutant, demonstrating Reasonable Potential by Trigger 1.
- (c) *Cadmium WQBELs*. WQBELs for cadmium, calculated using SIP procedures with a default CV of 0.6 and no dilution credit, are an AMEL of 1.0 µg/L and an MDEL of 1.9 µg/L.
- (d) *Anti-backsliding*. Anti-backsliding requirements are satisfied because the previous permit did not include cadmium WQBELs.

iii. Carbon Tetrachloride

- (a) *Carbon Tetrachloride WQO*. The most stringent applicable WQO for carbon tetrachloride is from the CTR for protection of human health, based on the consumption of water and aquatic organisms, of 0.25 µg/L.
- (b) *RPA Results*. This Order establishes effluent limitations for carbon tetrachloride because the MEC of 0.37 µg/L exceeds the most stringent applicable WQO for this pollutant, demonstrating Reasonable Potential by Trigger 1.
- (c) *Carbon Tetrachloride WQBELs*. WQBELs for carbon tetrachloride, calculated using SIP procedures with a default CV of 0.6 and no dilution credit, are an AMEL of 0.25 µg/L and an MDEL of 0.50 µg/L.
- (d) *Anti-backsliding*. Anti-backsliding requirements are satisfied because the previous permit did not include carbon tetrachloride WQBELs.

iv. Copper

- (a) *Copper WQOs*. The most stringent applicable WQOs for copper are the Basin Plan's site-specific chronic and acute marine WQOs of 6.0 µg/L and 9.4 µg/L, expressed as dissolved metal. Using a receiving water hardness of 104 mg/L as CaCO₃, the resulting chronic WQC is 7.2 µg/L and acute WQC is 11.3µg/L.
- (b) *RPA Results*. This Order establishes effluent limitations for copper because the maximum observed ambient background concentration of 9.9 µg/L exceeds the most stringent applicable WQO for this pollutant, and the pollutant was detected in effluent samples, demonstrating Reasonable Potential by Trigger 2.
- (c) *Copper WQBELs*. WQBELs for copper, calculated using SIP procedures with a CV of 0.42 and no dilution credit, are an AMEL of 6.3 µg/L and an MDEL of 10.7 µg/L. The previous permit contained a copper AMEL of 3.3 µg/L and MDEL of 5.5 µg/L. This Order retains the more stringent limits to avoid backsliding.
- (d) *Copper Intake Credit*. SIP section 1.4.4 states that the Regional Water Board may establish effluent limitations that allow discharges to contain pollutant concentrations no greater than intake water concentrations when specific

conditions are met. The previous permit allowed an intake water credit for copper for Discharge Point No. 001. This Order revises and updates the intake water credit. The discharge meets the conditions for an intake water credit set forth in SIP section 1.4.4. Each of the below-listed SIP requirements is followed by an evaluation in *italics*.

1. The observed maximum ambient background concentration and the intake water concentration of the pollutant must exceed the most stringent applicable WQO for that pollutant.

The maximum observed background copper concentration of was 9.86 µg/L, which is greater than the lowest applicable copper criterion of 7.2 µg/L.

2. The intake water credit must be consistent with any TMDL applicable to the discharge.

No copper TMDL has been established for New York Slough and the Sacramento-San Joaquin Delta.

3. The intake water must be from the same water body as the receiving water body.

The intake and discharge are both within the Sacramento-San Joaquin Delta. Approximately 40% of the intake water is from New York Slough; the intake structure (INT-001) is located approximately 1,600 feet upstream of Discharge Point No. 001. The balance of the intake water comes from the Contra Costa Canal, which originates approximately 10 miles upstream. The Contra Costa Canal intake structure (INT-002) is located approximately 200 yards west of Loveridge Road.

4. The Facility must not alter the intake water pollutant chemically or physically in a manner that adversely affects water quality and beneficial uses.

Copper is not used in any Facility process. The Discharger does not alter the intake water chemically or physically in a manner that would change the intake copper.

5. The timing and location of the discharge must not cause adverse effects on water quality and beneficial uses that would not occur if the intake water pollutant had been left in the receiving water body.

Effluent copper concentrations are typically lower than those of the San Joaquin River RMP station. Nothing suggests that the time and location of the discharge would adversely affect water quality or beneficial uses since the copper would have been in the Sacramento-San Joaquin Delta anyway.

To qualify for intake water credits, discharges may contain pollutant concentrations no greater than intake water concentrations. In other words, effluent sample concentrations at Discharge Point No. 001 that exceed the copper limitations in Table 8 can, nevertheless, be considered in compliance with those limitations if the

effluent copper concentration is also no greater than the intake water copper concentration. For this Order, intake water concentrations are characterized statistically so effluent concentrations may be evaluated to determine whether they fall within or beyond the range expected for influent concentrations. If effluent concentrations exceed the range expected for influent concentrations, the Discharger does not qualify for the intake water credit and the effluent limits apply.

Because there are two intakes, the previous permit used a flow-weighted average of the two intakes. To simplify the requirement, this permit uses the 99th percentile copper concentration (15 µg/L) of the combined data from both intakes. Combining the data is appropriate because a statistical analysis (two-sided t-test) comparing the copper concentrations at both intakes indicates that there is no significant difference in copper concentrations between the two locations. The 99th percentile represents the upper range of the variability of the copper intake concentrations due to sampling and analysis variability. It results in an intake credit that captures the variability between influent and effluent data, and prevents discharge of additional pollutant mass. A higher percentile might include extreme and possibly spurious values, which might mask a legitimate violation; a lower percentile might result in violations due to sample variability instead of addition of pollutants.

- (e) *Feasibility of Compliance.* Statistical analysis of copper effluent data collected from January 2007 through September 2010 shows that the 95th percentile (3.7 µg/L) is greater than the AMEL (3.3 µg/L) and the 99th percentile (5.0 µg/L) is less than the MDEL (5.5 µg/L). Although the 95th percentile is greater than the AMEL, the intake credit will ensure that compliance is feasible.
- (f) *Anti-backsliding.* Anti-backsliding requirements are satisfied because this permit retains the more stringent copper WQBELs established in the previous permit.

v. Cyanide

- (a) *Cyanide WQOs.* The most stringent applicable WQOs for cyanide are the Basin Plan's site-specific chronic and acute marine WQOs of 2.9 µg/L and 9.4 µg/L.
- (b) *RPA Results.* This Order establishes effluent limitations for cyanide because the MEC of 14 µg/L exceeds the most stringent applicable WQO for this pollutant, demonstrating Reasonable Potential by Trigger 1.
- (c) *Cyanide WQBELs.* WQBELs for cyanide, calculated using SIP procedures with a CV of 0.74 and a dilution credit of $D = 2.25$, are an AMEL of 7.4 µg/L and an MDEL of 16 µg/L. Order No. R2-2010-0056, which amended the previous permit, contained an AMEL of 6.8 µg/L and an MDEL of 14 µg/L. This Order retains the more stringent limitations to avoid backsliding.
- (d) *Anti-backsliding.* Anti-backsliding requirements are satisfied because this permit retains the more stringent cyanide WQBELs established in Order No. R2-2010-0056.

vi. Dioxin-TEQ

- (a) *Dioxin-TEQ WQO*. The Basin Plan narrative WQO for bioaccumulative substances states, “Many pollutants can accumulate on particulates, in sediments, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.”

Because the consensus of the scientific community is that dioxins and furans associate with particulates, accumulate in sediments, and bioaccumulate in the fatty tissues of fish and other organisms, the Basin Plan’s narrative bioaccumulation WQO applies to these pollutants. Elevated levels of dioxins and furans in fish tissue demonstrate that the narrative bioaccumulation WQO is not being met. USEPA has therefore included San Francisco Bay, the Sacramento-San Joaquin Delta, and Suisun Bay as impaired by dioxins and furans in the current CWA section 303(d) listing of receiving waters where WQOs are not being met after imposition of technology-based requirements.

The CTR establishes a numeric WQO for 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD) of 1.3×10^{-8} µg/L to protect human health. When the CTR was promulgated, USEPA stated its support of the regulation of other dioxin and dioxin-like compounds through the use of toxicity equivalencies (TEQs) in NPDES permits. USEPA stated specifically, “For California waters, if the discharge of dioxin or dioxin-like compounds has reasonable potential to cause or contribute to a violation of a narrative criterion, numeric WQBELs for dioxin or dioxin-like compounds should be included in NPDES permits and should be expressed using a TEQ scheme” [65 Fed. Reg. 31682, 31695 (2000)].

This Order uses a TEQ scheme based on a set of toxicity equivalency factors (TEFs) the World Health Organization (WHO) developed in 1998, and a set of bioaccumulation equivalency factors (BEFs) USEPA developed for the Great Lakes region (40 CFR 132, Appendix F), to convert the concentration of any congener of dioxin or furan into an equivalent concentration of 2,3,7,8-TCDD. The CTR criterion is used as a criterion for dioxin-TEQ because dioxin-TEQ represents a toxicity-weighted concentration equivalent to 2,3,7,8-TCDD, thus translating the narrative bioaccumulation objective into a numeric criterion appropriate for the RPA.

To determine if the discharge of dioxin or dioxin-like compounds has reasonable potential to cause or contribute to a violation of the Basin Plan’s narrative bioaccumulation WQO, TEFs and BEFs were used to express the measured concentrations of 16 dioxin congeners in effluent and background samples as 2,3,7,8-TCDD. These “equivalent” concentrations were then compared to the CTR numeric criterion for 2,3,7,8-TCDD (1.3×10^{-8} µg/L). Although the 1998 WHO scheme includes TEFs for dioxin-like PCBs, they are not included in this Order’s TEQ scheme. The CTR has established a specific water quality standard for PCBs, and dioxin-like PCBs are included in the analysis of total PCBs.

- (b) *RPA Results*. This Order establishes effluent limitations for dioxin-TEQ because the estimated MEC of 1.1×10^{-7} µg/L exceeds the WQO for dioxin-TEQ translated from the bioaccumulation objective (1.3×10^{-8} µg/L), demonstrating Reasonable Potential by Trigger 1.
- (c) *Dioxin TEQ WQBELS*. WQBELS for dioxin-TEQ, calculated using SIP procedures with a default CV of 0.6 and no dilution credit, are an AMEL of 1.3×10^{-8} and an MDEL of 2.6×10^{-8} µg/L.
- (d) *Feasibility of Compliance*. The Discharger is required to monitor and report dioxin-TEQ consistent with Attachment G, section V.C.1.c.(3), using applicable minimum levels, TEFs, and BEFs. Dioxin data collected between March 2006 and July 2010, when analyzed consistent with these requirements, results in an MEC of 2.3×10^{-10} µg/L. Since there is insufficient effluent data to determine the distribution of the effluent data set or to calculate a mean and standard deviation, feasibility to comply with the effluent limitations is determined by comparing the MEC (2.3×10^{-10} µg/L) to the AMEL (1.3×10^{-8} µg/L) and MDEL (2.6×10^{-8} µg/L). Since the MEC is lower than the WQBELS, compliance with these effluent limits is feasible.
- (e) *Anti-backsliding*. Anti-backsliding requirements are satisfied because the previous permit did not include dioxin-TEQ WQBELS.

viii. Nickel

- (a) *Nickel WQOs*. The most stringent applicable WQOs for nickel are the Basin Plan's saltwater acute and chronic objectives for the protection of aquatic life of 75 µg/L and 8.3 µg/L, as calculated using the receiving water hardness value of 104 mg/L as CaCO₃.
- (b) *RPA Results*. This Order establishes effluent limitations for nickel because the maximum observed ambient background concentration of 21.8 µg/L exceeds the most stringent applicable WQO for this pollutant, and the pollutant was detected in effluent samples, demonstrating Reasonable Potential by Trigger 2.
- (c) *Nickel WQBELS*. WQBELS for nickel, calculated using SIP procedures with a CV of 0.38 and no dilution credit, are an AMEL of 7.3 µg/L and an MDEL of 12 µg/L.
- (d) *Anti-backsliding*. Anti-backsliding requirements are satisfied because the previous permit did not include nickel WQBELS.

d. Effluent Limitation Calculations – Discharge Point No. 001

The table below summarizes the WQBEL calculations for Discharge Point No. 001.

Table F-12. WQBEL Calculations for Discharge Point No. 001

PRIORITY POLLUTANTS	Cadmium	Copper	Nickel (303d listed)	Cyanide	Carbon Tetrachloride	Aldrin	Dioxin TEQ (303d listed)
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Basis and Criteria type	Basin Plan Table 3-4	Basin Plan SSO	Basin Plan and CTR Saltwater Aquatic Life	Basin Plan SSO	CTR HH	CTR HH	CTR HH
Criteria -Acute	4.1	11.3	75	9.4	-----	3.0	-----
Criteria -Chronic	1.2	7.2	8.3	2.9	-----	-----	-----
HH criteria	5.0	1,000	100	150	0.25	0.00013	1.3E-08
Lowest WQO	1.2	7.2	8.3	2.9	0.25	0.00013	1.3E-08
Water Effects ratio (WER)	1	1	1	1	1	1	1
Dilution Factor (D)	0	0	0	2.25	0	0	0
No. of samples per month	4	4	4	4	4	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y	Y	Y	N	N	N
HH criteria analysis required? (Y/N)	N	N	N	Y	Y	Y	Y
Background (Maximum Conc for Aquatic Life calc)	0.055	9.9	21.8	0	Not Available	0.000004	5.3E-08
Background (Average Conc for Human Health calc)	-----	-----	-----	-----	Not Available	0.0000023	7.5E-08
Is the pollutant on the 303d list and/or bioaccumulative (Y/N)?	N	N	N	N	N	N	Y
ECA acute	4.1	11.3	75	30.6	-----	-----	-----
ECA chronic	1.2	7.2	8.3	9.4	-----	-----	-----
ECA HH	-----	-----	-----	150	0.25	0.00013	1.3E-08
No. of data points <10 or at least 80 percent of data reported non detect? (Y/N)	Y	N	N	N	Y	Y	Y
Avg of effluent data points	0.11	1.95	2.62	3.7	0.21	0.0041	5.3E-08
Std Dev of effluent data points	0.19	0.84	0.97	2.8	0.10	0.0041	7.5E-08

PRIORITY POLLUTANTS	Cadmium	Copper	Nickel (303d listed)	Cyanide	Carbon Tetrachloride	Aldrin	Dioxin TEQ (303d listed)
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
CV calculated	N/A	0.43	0.37	0.74	N/A	N/A	N/A
CV (Selected) - Final	0.60	0.43	0.37	0.74	0.60	0.60	0.60
ECA acute mult99	0.32	0.43	0.45	0.27	-----	-----	-----
ECA chronic mult99	0.53	0.63	0.66	0.46	-----	-----	-----
LTA acute	1.3	4.8	34	8.1	-----	-----	-----
LTA chronic	0.6	4.6	5.4	4.4	-----	-----	-----
minimum of LTAs	0.6	4.6	5.4	4.4	-----	-----	-----
AMEL mult95	1.6	1.4	1.3	1.7	1.6	1.6	1.6
MDEL mult99	3.1	2.4	2.2	3.8	3.1	3.1	3.1
AMEL (aq life)	1.0	6.3	7.3	7.4	-----	-----	-----
MDEL(aq life)	1.9	10.7	12	16.4	-----	-----	-----
MDEL/AMEL Multiplier	2.0	1.7	1.6	2.2	2.0	2.0	2.0
AMEL (human hlth)	-----	-----	-----	150	0.25	0.00013	1.3E-08
MDEL (human hlth)	-----	-----	-----	333	0.50	0.00026	2.6E-08
minimum of AMEL for Aq. life vs HH	1.0	6.3	7.3	7.4	0.25	0.00013	1.3E-08
minimum of MDEL for Aq. Life vs HH	1.9	11	12	16	0.50	0.00026	2.6E-08
Current limit in permit (30-day average)	-----	3.3	-----	6.8	-----	-----	-----
Current limit in permit (daily)	-----	5.5	-----	14	-----	-----	-----
Final limit - AMEL	1.0	3.3	7.3	6.8	0.25	0.00013	1.3E-08
Final limit - MDEL	1.9	5.5	12	14	0.50	0.00026	2.6E-08

5. Temperature

The instantaneous maximum effluent limitation of 93°F is unchanged from the previous permit and based, in part, on current performance. While the maximum effluent temperature from 2005-2010 was 94°F, the limit remains at 93°F to avoid backsliding. This limit is consistent with the Thermal Plan (see General Water Quality Provisions section 4) as described below.

For estuaries, the Thermal Plan (Specific Water Quality Objectives section 5.A[1]) requires the following:

- a. The maximum temperature not exceed the natural receiving water temperature by more than 20° F.
- b. Elevated temperature waste discharges, either individually or combined with other discharges, not create a zone, defined by water temperatures of more than 1° F above natural receiving water temperature, that exceeds 25 percent of the cross-sectional area of the main river channel at any point.
- c. No discharge is to cause a surface water temperature rise greater than 4° F above the natural temperature of the receiving water at any time or place.

Additionally, the Thermal Plan (Specific Water Quality Objectives section 5.A[2]) requires that the maximum temperature of the thermal waste discharge not exceed 86°F.

On November 16, 1976, the Regional Water Board granted the Discharger exemptions to these Thermal Plan sections (Resolution No. 76-16). The State Water Board upheld the exemptions on December 20, 1979 (Resolution No. 79-108). These resolutions were based on the Discharger's Thermal Study conducted in June 1973, which concluded that elevated temperatures in Discharge Point No. 001 do not adversely affect beneficial uses. The study found that the thermal plume predominately occurs near the surface, and the location and magnitude of the plume changes significantly based on the tidal cycle.

Provision VI.C.2.d of the previous permit required the Discharger to conduct a study to determine whether the temperature of the discharge at Discharge Point No. 001 continues to be protective of beneficial uses. The Discharger's January 30, 2009, study entitled *Thermal Plume Study in New York Slough, Pittsburg, California* characterizes the thermal plume resulting from the current discharge. The study indicates that the plume does not exceed 25 percent of the cross-sectional area of New York Slough.

Additional information is warranted to ensure the exemption will not compromise the protection and propagation of a balanced indigenous population of shellfish, fish, and wildlife, as required by Clean Water Act section 316(a). Provision VI.C.5.d of this Order requires the Discharger to perform this assessment.

6. Whole Effluent Acute Toxicity

This Order includes effluent limitations for whole-effluent acute toxicity for Discharge Point No. 001 that are unchanged from the previous permit and based on Basin Plan Table 4-3.

7. Whole Effluent Chronic Toxicity

The previous permit established 5 TUc as a three-sample median and 10 TUc as a single-sample maximum as the chronic toxicity effluent limitations. This permit reduces these limitations to 4.0 TUc as a three-sample median and 8.0 TUc as a single-sample maximum.

These whole effluent chronic toxicity limitations are a numeric translation of the Basin Plan narrative chronic toxicity objective. Basin Plan section 3.3.18 requires that there be no chronic toxicity in ambient waters, and Basin Plan section 4.5.5.3.2 requires that chronic toxicity effluent limitations be based on Best Professional Judgment. For purposes of this Order, Best Professional Judgment is applied as follows.

For shallow water dischargers, Basin Plan Table 4-5 establishes conditions requiring accelerated monthly monitoring when the routine monitoring frequency is quarterly. These conditions are chronic toxicity results of 1 TUc as a three-sample median or 2 TUc as a single-sample maximum. This Order establishes chronic toxicity limitations based on these conditions; it also incorporates a dilution credit. Basin Plan section 4.5.5.3.2 allows a dilution credit if it is comparable to what would be allowed for a numeric chemical-specific objective.

A dilution credit is necessary and warranted because the effluent contains low to moderate levels of chronic toxicity (2.9±2.3 TUc average from 2000 through 2010), and the Discharger has made a good faith effort to eliminate the toxicity. The Discharger submitted Toxicity Identification Evaluations dated November 6, 1996; February 6, 1997; September 20, 1998; December 19, 1998; and September 28, 2000, and summarized its finding in a report dated January 21, 2003. The Toxicity Identification Evaluations did not identify the source of the toxicity. The Discharger speculates that the source may be a by-product of a reaction occurring within the wastewater from pollutants throughout the Facility.

As discussed in section IV.D.4.b.ii, above, a dilution credit of 4:1 reflects a mixing zone that is as small as practicable, meaning that it is the smallest mixing zone that complies with SIP section 1.4.2.2 and results in effluent limits with which the Discharger can comply (based on a comparison of the 99th percentile of the Discharger's chronic toxicity data from July 2006 through October 2010 and the effluent limit resulting from a 4:1 dilution credit).

E. Effluent Limitations – Discharge Point No. 002

Most Facility storm water is routed to the treatment plant and discharged at Discharge Point E-001. Storm water is only discharged at Discharge Point E-002 during relatively large storms, when the storm water volume exceeds the pumping capacity or treatment plant capacity. This happened only five times during the term of the previous permit.

The storm water effluent limits are based on the nature of Facility operations and the resulting contaminants possibly in storm water runoff. The Discharger stores large quantities of unprocessed and processed steel rolls outdoors where they could be exposed to storm

water. Oil and grease and pH are of concern because the steel is exposed to oil and grease during processing and acids are used in electroplating processes. The oil and grease and pH limitations are retained from the previous permit and based on Basin Plan Table 4-2. Metals and other priority pollutants could also be of concern due to the Discharger's plating operations and use of cleaning solvents; however, data regarding such pollutants in the Discharger's storm water are unavailable. The Monitoring and Reporting Program (Attachment E) requires monitoring for metals and other priority pollutants.

F. Anti-backsliding and Antidegradation

40 CFR 131.12 requires that State water quality standards include an antidegradation policy consistent with federal policy. The State Water Board established California's antidegradation policy through State Water Board Resolution 68-16, which incorporates federal policy where federal policy applies. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both State and federal antidegradation policies.

This 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 authorized in the last permit. The limitations in this Order comply with antidegradation requirements because they hold the Discharger to performance levels that will neither cause nor contribute to water quality impairment, nor further water quality degradation. This is because this Order does not provide for an increase in the permitted design flow, allow for a reduced level of treatment, or increase effluent limitations.

Because antidegradation requirements are met, 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. Therefore, further analysis in this permit is unnecessary, and findings authorizing degradation are thus unnecessary. The discharge is consistent with 40 CFR 131.12 and State Water Board Resolution No. 68-16.

1. Technology-Based Limitations at Discharge Point 001

- a. Less Stringent Limitations.** There are no technology-based limitations less stringent than the previous permit.
- b. More Stringent Limitations.** The technology-based effluent limitations for total suspended solids, oil and grease, lead, nickel, chromium, and silver are more stringent than those in the previous permit, thereby ensuring that existing receiving water quality will not be degraded and that anti-backsliding requirement will be met.
- c. Limitations Retained from the Previous Permit.** This Order retains technology-based limitations for pH and settleable matter, thereby ensuring that existing receiving water quality will not be degraded and that anti-backsliding requirement will be met.
- d. Limitations Not Retained from the Previous Permit.** This Order does not retain technology-based limitations for cadmium and nickel because it contains WQBELs for these pollutants that are more stringent than the technology-based limitations, thereby

ensuring that existing receiving water quality will not be degraded and that anti-backsliding requirement will be met.

2. **WQBELs at Discharge Point 001**

- a. **Less Stringent Limitations.** There are no WQBELs less stringent than the previous permit.
- b. **WQBELs Retained from the Previous Permit.** Limitations for temperature, copper, and cyanide are unchanged from the previous permit. Retaining WQBELs for these parameters ensures that existing receiving water quality will not be degraded and that anti-backsliding requirement will be met.
- c. **New WQBELs.** This Order establishes new WQBELs for aldrin, cadmium, carbon tetrachloride, dioxin-TEQ, and nickel. Establishing new effluent limitations effectively creates limitations more stringent than those in the previous permit, thereby ensuring that existing receiving water quality will not be degraded and that anti-backsliding requirement will be met.
- d. **WQBELs Not Retained from the Previous Permit.** This Order does not retain WQBELs for chlorodibromomethane, dichlorobromomethane, and mercury. This Order does not retain chlorodibromomethane and dichlorobromomethane WQBELs because the RPA did not show reasonable potential for these pollutants to violate WQOs. Elimination of WQBELs for these pollutants is consistent with State Water Board Order No. WQ-2001-16, and does not violate anti-backsliding policies. It is also consistent with antidegradation policies because the reasonable potential analysis shows these pollutants have no bearing on New York Slough water quality. This Order does not retain mercury WQBELs because mercury is now regulated under Regional Water Board Order No. R2-2007-0077.

3. **Technology-Based Limitations at Discharge Point 002**

The effluent limits for Discharge Point 002 are based on the nature of Facility operations and the resulting contaminants possibly in storm water runoff. The Discharger stores large quantities of unprocessed and processed steel rolls outdoors where they could be exposed to stormwater. Oil and grease and pH are of concern because the steel is exposed to oil and grease during processing and acids are used in electroplating processes. The oil and grease and pH limitations are retained from the previous permit and based on Basin Plan Table 4-2.

V. **RATIONALE FOR RECEIVING WATER LIMITATIONS**

Receiving water limitations are retained from the previous permit and reflect applicable water quality standards from Basin Plan Chapter 3.

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;

- Facilitate self-policing in the prevention and abatement of pollution arising from waste discharge; and
- Develop or assist in the development of limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards, and prepare water and wastewater quality inventories.

The MRP is a standard requirement in almost all NPDES permits issued by the Regional Water Board, including this Order. It contains definitions of terms and sets out requirements for reporting of routine monitoring data in accordance with NPDES regulations, the CWC, and Regional Water Board policies. The MRP also defines the sampling stations and frequency, the pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all parameters for which effluent limitations are specified. Monitoring for additional constituents, for which no effluent limitations are established, is also required to provide data for future RPAs.

A. Influent Monitoring Requirements

The MRP requires influent monitoring requirements for copper and cyanide. Influent monitoring for copper is necessary to determine future copper intake credits. Influent monitoring for cyanide is required pursuant to Basin Plan section 4.7.2.2.

B. Effluent Monitoring Requirements

The MRP retains most effluent monitoring requirements from the previous permit. Important changes in effluent monitoring requirements are summarized below.

1. Discharge Point No. 001

The SIP states that the Regional Water Board will require periodic monitoring for pollutants for which criteria or objectives apply and for which no effluent limitations have been established. This Order requires the Discharger to conduct annual monitoring at Monitoring Location EFF-001 for all CTR priority pollutants, as discussed in the MRP (Attachment E) and in accordance with the Regional Standard Provisions (Attachment G). The Regional Water Board will use the additional data to conduct future RPAs and determine if WQBELs are necessary.

To demonstrate compliance with established effluent limitations, this Order carries over the existing monitoring requirements for most parameters from the previous permit. Because the RPA showed no reasonable potential for chlorodibromomethane, dichlorobromomethane, and selenium, the monitoring frequencies for these pollutants have been decreased to “annually,” consistent with other priority pollutants without reasonable potential. Additionally, monitoring requirements for cadmium, nickel, carbon tetrachloride, and aldrin have been added to this Order to determine compliance with new effluent limitations. Monitoring requirements for mercury were removed because it is required by Regional Water Board Order No. R2-2007-0077. Monitoring requirements for standard observations have been added to be consistent with similar facilities in the region.

2. Discharge Point No. 002

This Order carries over most of the existing monitoring requirements from the previous permit. Monitoring requirements for priority pollutants have been added to this Order so that an RPA can be performed for the next permit cycle. Monitoring requirements for standard observations have been added to this Order to be consistent with similar facilities in the region. Monitoring for specific conductance has been eliminated because it is unnecessary. Specific conductance measurements provide an estimate of salinity. No salinity would be expected at Discharge Point No. 002 because it is storm water.

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** 96-hour bioassay testing is required once every two weeks at Monitoring Location EFF-001 to demonstrate compliance with the effluent limitation for acute toxicity.
2. **Chronic Toxicity.** Quarterly chronic whole effluent toxicity testing is required at Monitoring Location EFF-001 to demonstrate compliance with effluent limitations for chronic toxicity.

D. Receiving Water Monitoring Requirements

Receiving water monitoring is necessary to evaluate compliance with receiving water limitations and the discharge's effects on the receiving water. Total ammonia, un-ionized ammonia, nitrates, and phosphorus have been added to ensure compliance with Receiving Water Limitations V.A.2 and V.B.4&5.

On April 15, 1992, the Regional Water Board adopted Resolution No. 92-043 directing the Executive Officer to implement the San Francisco Bay Regional Monitoring Program for Trace Substances (RMP). Subsequent to a public hearing and various meetings, Regional Water Board staff requested major permit holders in this Region, under authority of CWC section 13267, 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 RMP. Section VI.C.2.b of this Order specifies that the Discharger may continue to participate in the RMP, which involves collection of data on pollutants and toxicity in water, sediment and biota of the estuary, or collect the data individually.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions (Provision VI.A)

Federal Standard Provisions, which in accordance with 40 CFR 122.41 and 122.42 apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D of this Order. 40 CFR 122.41(a)(1) and (b) through (n) establish conditions that apply to all state issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. 40 CFR 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. The Regional Standard Provisions (Attachment G) supplement the Federal Standard Provisions. In accordance with 40 CFR 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR 122.41(j)(5) and

(k)(2) because the enforcement authority under the CWC is more stringent. In lieu of these conditions, this Order incorporates by reference CWC section 13387(e).

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

The Discharger is required to monitor the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are contained in the MRP (**Attachment E**), Standard Provisions (**Attachment D**), and the Regional Standard Provisions (**Attachment G**). This provision requires compliance with these documents and is authorized by 40 CFR 122.41(h) and (j), and CWC sections 13267 and 13383.

C. Special Provisions (Provision VI.C)

1. Reopener Provisions

These provisions are based on 40 CFR 122.63 and allow modification of this Order and its effluent limitations as necessary in response to updated WQOs, regulations, or other new relevant information that may be established in the future and other circumstances allowed by law.

2. Effluent Characterization Study – Discharge Point No. 001

This Order does not include effluent limitations for the selected constituents addressed in the Regional Standard Provisions (Attachment G) that do not demonstrate Reasonable Potential, but this provision requires the Discharger to continue monitoring for these pollutants as described in the Regional Standard Provisions and as specified in the MRP (Attachment E). If concentrations of these constituents increase significantly, the Discharger is required to investigate the sources of the increases and establish remedial measures, if the increases result in reasonable potential to cause or contribute to an excursion above water quality standards. This provision is based on the Basin Plan, the SIP, and CWC 13267.

3. Best Management Practices and Pollution Minimization Program

This provision is based on Basin Plan section 4.13.2 and SIP section 2.4.5.

4. Storm Water Pollution Prevention Plan and Annual Report

This provision is based on Basin Plan section 4.8, and on CWA section 402(p) that establishes a framework for regulating municipal and industrial storm water discharges under the NPDES program. The Discharger has industrial activities (SIC code 3312) that require coverage for its storm water discharges.

5. Other Special Provisions

a. Cyanide Action Plan

This provision is based on Basin Plan section 4.7.2.2. It is necessary to ensure that use of cyanide site-specific objectives is consistent with antidegradation policies.

On July 21, 2010, the Discharger reported that there were no known or identified products or materials used at the Facility that contain cyanide, or that would explain the consistent presence of low levels of cyanide in the wastewater. The Discharger is currently investigating the possibility that a biological or chemical reaction may be occurring in the wastewater that creates cyanide as a by-product, or that laboratory “false-positives” are occurring due to a matrix interference or method errors. This Cyanide Action Plan requires the Discharger to continue its investigation to determine the source of cyanide.

b. Copper Action Plan

This provision is based on Basin Plan section 7.2.1.2. It is necessary to ensure that reliance on copper site-specific objectives is consistent with antidegradation policies.

c. Main Wastewater Treatment Plant Reliability Assurance Study

As discussed in Fact Sheet section IV.B, this provision is required to ensure protection against abnormal discharges caused by temporary upsets and malfunctions. This is a condition that is needed to justify an exemption to Basin Plan Discharge Prohibition 1.

d. Thermal Plume Biological Impact Study

As discussed in Fact Sheet section IV.D.5, this provision is required to ensure that the Discharger’s thermal plume does not compromise the protection and propagation of a balanced indigenous population of shellfish, fish, and wildlife. This is a condition that is needed to justify exemptions to the Thermal Plan.

VIII. PUBLIC PARTICIPATION

The Regional Water Board is considering the issuance of WDRs that will serve as a NPDES permit for the Facility. As a step in the WDR adoption process, the Regional Water Board has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided by publication in the Contra Costa Times on May 3, 2011.

B. Written Comments

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

To receive a full response from Regional Water Board staff and to be considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by **5:00 p.m. on May 31, 2011.**

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: July 13, 2011
Time: 9:00 am
Location: Elihu Harris State Office Building
1515 Clay Street, 1st Floor Auditorium
Oakland, CA 94612
Contact: Vince Christian, (510) 622-2336, email VChristian@waterboards.ca.gov

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

Please be aware that dates and venues may change. The Regional Water Board's Web address is <http://www.waterboards.ca.gov/sanfranciscobay> where one can access the current agenda for changes in dates and locations.

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 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, 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 8:45 a.m. and 5:00 p.m., Monday through Friday. Copying of documents may be arranged 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 Vince Christian, (510) 622-2336 (email VChristian@waterboards.ca.gov).

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ATTACHMENT G
REGIONAL STANDARD PROVISIONS, AND MONITORING
AND REPORTING REQUIREMENTS
(SUPPLEMENT TO ATTACHMENT D)

For

NPDES WASTEWATER DISCHARGE PERMITS

March 2010

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

**REGIONAL STANDARD PROVISIONS, AND MONITORING AND
REPORTING REQUIREMENTS
(SUPPLEMENT TO ATTACHMENT D)**

FOR

NPDES WASTEWATER DISCHARGE PERMITS

APPLICABILITY

This document applies to dischargers covered by a National Pollutant Discharge Elimination System (NPDES) permit. This document does not apply to Municipal Separate Storm Sewer System (MS4) NPDES permits.

The purpose of this document is to supplement the requirements of Attachment D, Standard Provisions. The requirements in this supplemental document are designed to ensure permit compliance through preventative planning, monitoring, recordkeeping, and reporting. In addition, this document requires proper characterization of issues as they arise, and timely and full responses to problems encountered. To provide clarity on which sections of Attachment D this document supplements, this document is arranged in the same format as Attachment D.

I. STANDARD PROVISIONS - PERMIT COMPLIANCE

A. Duty to Comply – Not Supplemented

B. Need to Halt or Reduce Activity Not a Defense – Not Supplemented

C. Duty to Mitigate – This supplements I.C. of Standard Provisions (Attachment D)

- 1. Contingency Plan** - The Discharger shall maintain a Contingency Plan as originally required by Regional Water Board Resolution 74-10 and as prudent in accordance with current municipal facility emergency planning. The Contingency Plan shall describe procedures to ensure that existing facilities remain in, or are rapidly returned to, operation in the event of a process failure or emergency incident, such as employee strike, strike by suppliers of chemicals or maintenance services, power outage, vandalism, earthquake, or fire. The Discharger may combine the Contingency Plan and Spill Prevention Plan into one document. Discharge in violation of the permit where the Discharger has failed to develop and implement a Contingency Plan as described below will be the basis for considering the discharge a willful and negligent violation of the permit pursuant to California Water Code Section 13387. The Contingency Plan shall, at a minimum, contain the provisions of a. through g. below.

- a. Provision of personnel for continued operation and maintenance of sewerage facilities during employee strikes or strikes against contractors providing services.
 - b. Maintenance of adequate chemicals or other supplies and spare parts necessary for continued operations of sewerage facilities.
 - c. Provisions of emergency standby power.
 - d. Protection against vandalism.
 - e. Expedient action to repair failures of, or damage to, equipment and sewer lines.
 - f. Report of spills and discharges of untreated or inadequately treated wastes, including measures taken to clean up the effects of such discharges.
 - g. Programs for maintenance, replacement, and surveillance of physical condition of equipment, facilities, and sewer lines.
- 2. Spill Prevention Plan** - The Discharger shall maintain a Spill Prevention Plan to prevent accidental discharges and minimize the effects of such events. The Spill Prevention Plan shall:
- a. Identify the possible sources of accidental discharge, untreated or partially treated waste bypass, and polluted drainage;
 - b. Evaluate the effectiveness of present facilities and procedures, and state when they became operational; and
 - c. Predict the effectiveness of the proposed facilities and procedures, and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

This Regional Water Board, after review of the Contingency and Spill Prevention Plans or their updated revisions, may establish conditions it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions may be incorporated as part of the permit upon notice to the Discharger.

D. Proper Operation & Maintenance – This supplements I.D of Standard Provisions (Attachment D)

- 1. Operation and Maintenance (O&M) Manual** - The Discharger shall maintain an O&M Manual to provide the plant and regulatory personnel with a source of information describing all equipment, recommended operational strategies, process control monitoring, and maintenance activities. To remain a useful and relevant document, the O&M Manual shall be kept updated to reflect significant changes in treatment facility equipment and operational practices. The O&M Manual shall be maintained in usable condition and be available for reference and use by all relevant personnel and Regional Water Board staff.
- 2. Wastewater Facilities Status Report** - The Discharger shall regularly review, revise, or update, as necessary, its Wastewater Facilities Status Report. This report shall document how

the Discharger operates and maintains its wastewater collection, treatment, and disposal facilities to ensure that all facilities are adequately staffed, supervised, financed, operated, maintained, repaired, and upgraded as necessary 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.

3. **Proper Supervision and Operation of Publicly Owned Treatment Works (POTWs) -** POTWs shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Division 4, Chapter 14, Title 23 of the California Code of Regulations.

E. Property Rights – Not Supplemented

F. Inspection and Entry – Not Supplemented

G. Bypass – Not Supplemented

H. Upset – Not Supplemented

I. Other – This section is an addition to Standard Provisions (Attachment D)

1. Neither the treatment nor the discharge of pollutants shall create pollution, contamination, or nuisance as defined by California Water Code Section 13050.
2. Collection, treatment, storage, and disposal systems shall be operated in a manner that precludes public contact with wastewater, except in cases where excluding the public is infeasible, such as private property. If public contact with wastewater could reasonably occur on public property, warning signs shall be posted.
3. If the Discharger submits a timely and complete Report of Waste Discharge for permit reissuance, this permit continues in force and effect until a new permit is issued or the Regional Water Board rescinds the permit.

J. Storm Water – This section is an addition to Standard Provisions (Attachment D)

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

1. Storm Water Pollution Prevention Plan (SWPP Plan)

The SWPP Plan shall be designed in accordance with good engineering practices and shall address the following objectives:

- a. To identify pollutant sources that may affect the quality of storm water discharges; and
- b. To identify, assign, and implement control measures and management practices to reduce pollutants in storm water discharges.

The SWPP Plan may be combined with the existing Spill Prevention Plan as required in accordance with Section C.2. The SWPP Plan shall be retained on-site and made available upon request of a representative of the Regional Water Board.

2. Source Identification

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

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

- d. A list of pollutants that have a reasonable potential to be present in storm water discharges in significant quantities.

3. Storm Water Management Controls

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

- a. Storm water pollution prevention personnel

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

- b. Good housekeeping

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

- c. Spill prevention and response

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

- d. Source control

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

- e. Storm water management practices

Storm water management practices are practices other than those that control the sources of pollutants. Such practices include treatment or conveyance structures, such as drop inlets, channels, retention and detention basins, treatment vaults, infiltration galleries, filters, oil/water separators, etc. Based on assessment of the potential of various sources to contribute pollutants to storm water discharges in significant quantities, additional storm water management practices to remove pollutants from storm water discharges shall be implemented and design criteria shall be described.

f. Sediment and erosion control

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

g. Employee training

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

h. Inspections

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

i. Records

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

4. Annual Verification of SWPP Plan

An annual facility inspection shall be conducted to verify that all elements of the SWPP Plan are accurate and up-to-date. The results of this review shall be reported in the Annual Report to the Regional Water Board described in Section V.C.f.

K. Biosolids Management – This section is an addition to Standard Provisions (Attachment D)

Biosolids must meet the following requirements prior to land application. The Discharger must either demonstrate compliance or, if it sends the biosolids to another party for further treatment or distribution, must give the recipient the information necessary to ensure compliance.

1. Exceptional quality biosolids meet the pollutant concentration limits in Table III of 40 CFR Part 503.13, Class A pathogen limits, and one of the vector attraction reduction requirements in 503.33(b)(1)-(b)(8). Such biosolids do not have to be tracked further for compliance with general requirements (503.12) and management practices (503.14).
2. Biosolids used for agricultural land, forest, or reclamation shall meet the pollutant limits in Table I (ceiling concentrations) and Table II or Table III (cumulative loadings or pollutant concentration limits) of 503.13. They shall also meet the general requirements (503.12) and management practices (503.14) (if not exceptional quality biosolids) for Class A or Class B pathogen levels with associated access restrictions (503.32) and one of the 10 vector attraction reduction requirements in 503.33(b)(1)-(b)(10).
3. Biosolids used for lawn or home gardens must meet exceptional quality biosolids limits.

4. Biosolids sold or given away in a bag or other container must meet the pollutant limits in either Table III or Table IV (pollutant concentration limits or annual pollutant loading rate limits) of 503.13. If Table IV is used, a label or information sheet must be attached to the biosolids packing that explains Table IV (see 503.14). The biosolids must also meet the Class A pathogen limits and one of the vector attraction reduction requirements in 503.33(b)(1)-(b)(8).

II. STANDARD PROVISIONS – PERMIT ACTION – Not Supplemented

III. STANDARD PROVISIONS – MONITORING

A. Sampling and Analyses – This section is a supplement to III.A and III.B of Standard Provisions (Attachment D)

1. Use of Certified Laboratories

Water and waste analyses shall be performed by a laboratory certified for these analyses in accordance with California Water Code Section 13176.

2. Use of Appropriate Minimum Levels

Table C lists the suggested analytical methods for the 126 priority pollutants and other toxic pollutants that should be used, unless a particular method or minimum level (ML) is required in the MRP.

For priority pollutant monitoring, when there is more than one ML value for a given substance, the Discharger may select any one of the analytical methods cited in Table C for compliance determination, or any other method described in 40 CFR part 136 or approved by USEPA (such as the 1600 series) if authorized by the Regional Water Board. However, the ML must be below the effluent limitation and water quality objective. If no ML value is below the effluent limitation and water quality objective, then the method must achieve an ML no greater than the lowest ML value indicated in Table C. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

3. Frequency of Monitoring

The minimum schedule of sampling analysis is specified in the MRP portion of the permit.

a. Timing of Sample Collection

- 1) The Discharger shall collect samples of influent on varying days selected at random and shall not include any plant recirculation or other sidestream wastes, unless otherwise stipulated by the MRP.
- 2) The Discharger shall collect samples of effluent on days coincident with influent sampling unless otherwise stipulated by the MRP or the Executive Officer. The Executive Officer may approve an alternative sampling plan if it is demonstrated to

be representative of plant discharge flow and in compliance with all other permit requirements.

- 3) The Discharger shall collect grab samples of effluent during periods of day-time maximum peak effluent flows (or peak flows through secondary treatment units for facilities that recycle effluent flows).
 - 4) Effluent sampling for conventional pollutants shall occur on at least one day of any multiple-day bioassay test the MRP requires. During the course of the test, on at least one day, the Discharger shall collect and retain samples of the discharge. In the event a bioassay test does not comply with permit limits, the Discharger shall analyze these retained samples for pollutants that could be toxic to aquatic life and for which it has effluent limits.
 - i. The Discharger shall perform bioassay tests on final effluent samples; when chlorine is used for disinfection, bioassay tests shall be performed on effluent after chlorination-dechlorination; and
 - ii. The Discharger shall analyze for total ammonia nitrogen and calculate the amount of un-ionized ammonia whenever test results fail to meet the percent survival specified in the permit.
- b. Conditions Triggering Accelerated Monitoring
- 1) If the results from two consecutive samples of a constituent monitored in a 30-day period exceed the monthly average limit for any parameter (or if the required sampling frequency is once per month and the monthly sample exceeds the monthly average limit), the Discharger shall, within 24 hours after the results are received, increase its sampling frequency to daily until the results from the additional sampling show that the parameter is in compliance with the monthly average limit.
 - 2) If any maximum daily limit is exceeded, the Discharger shall increase its sampling frequency to daily within 24 hours after the results are received that indicate the exceedance of the maximum daily limit until two samples collected on consecutive days show compliance with the maximum daily limit.
 - 3) If final or intermediate results of an acute bioassay test indicate a violation or threatened violation (e.g., the percentage of surviving test organisms of any single acute bioassay test is less than 70 percent), the Discharger shall initiate a new test as soon as practical, and the Discharger shall investigate the cause of the mortalities and report its findings in the next self monitoring report (SMR).
 - 4) The Discharger shall calibrate chlorine residual analyzers against grab samples as frequently as necessary to maintain accurate control and reliable operation. If an effluent violation is detected, the Discharger shall collect grab samples at least every 30 minutes until compliance with the limit is achieved, unless the Discharger monitors chlorine residual continuously. In such cases, the Discharger shall continue to conduct continuous monitoring as required by its permit.

- 5) When a bypass occurs (except one subject to provision III.A.3.b.6 below), the Discharger shall monitor flows and collect samples on a daily basis for all constituents at affected discharge points that have effluent limits for the duration of the bypass (including acute toxicity using static renewals), except chronic toxicity, unless otherwise stipulated by the MRP.
- 6) Unless otherwise stipulated by the MRP, when a bypass approved pursuant to Attachment D, Standard Provisions, Sections I.G.2 or I.G.4, occurs, the Discharger shall monitor flows and, using appropriate procedures as specified in the MRP, collect and retain samples for affected discharge points on a daily basis for the duration of the bypass. The Discharger shall analyze for total suspended solids (TSS) using 24-hour composites (or more frequent increments) and for bacteria indicators with effluent limits using grab samples. If TSS exceeds 45 mg/L in any composite sample, the Discharger shall also analyze the retained samples for that discharge for all other constituents that have effluent limits, except oil and grease, mercury, dioxin-TEQ, and acute and chronic toxicity. Additionally, at least once each year, the Discharger shall analyze the retained samples for one approved bypass discharge event for all other constituents that have effluent limits, except oil and grease, mercury, dioxin-TEQ, and acute and chronic toxicity. This monitoring shall be in addition to the minimum monitoring specified in the MRP.

c. Storm Water Monitoring

The requirements of this section only apply to facilities that are not covered by an NPDES permit for storm water discharges and where not all site storm drainage from process areas (i.e., areas of the treatment facility where chemicals or wastewater could come in contact with storm water) is directed to the headworks. For storm water not directed to the headworks during the wet season (October 1 to April 30), the Discharger shall:

- 1) Conduct visual observations of the storm water discharge locations during daylight hours at least once per month during a storm event that produces significant storm water discharge to observe the presence of floating and suspended materials, oil and grease, discoloration, turbidity, and odor, etc.
- 2) Measure (or estimate) the total volume of storm water discharge, collect grab samples of storm water discharge from at least two storm events that produce significant storm water discharge, and analyze the samples for oil and grease, pH, TSS, and specific conductance.

The grab samples shall be taken during the first 30 minutes of the discharge. If collection of the grab samples during the first 30 minutes is impracticable, grab samples may be taken during the first hour of the discharge, and the Discharger shall explain in the Annual Report why the grab sample(s) could not be taken in the first 30 minutes.

- 3) Testing for the presence of non-storm water discharges shall be conducted no less than twice during the dry season (May 1 to September 30) at all storm water discharge locations. Tests may include visual observations of flows, stains, sludges, odors, and other abnormal conditions; dye tests; TV line surveys; or analysis and

validation of accurate piping schematics. Records shall be maintained describing the method used, date of testing, locations observed, and test results.

- 4) Samples shall be collected from all locations where storm water is discharged. Samples shall represent the quality and quantity of storm water discharged from the facility. If a facility discharges storm water at multiple locations, the Discharger may sample a reduced number of locations if it establishes and documents through the monitoring program that storm water discharges from different locations are substantially identical.
- 5) Records of all storm water monitoring information and copies of all reports required by the permit shall be retained for a period of at least three years from the date of sample, observation, or report.

d. Receiving Water Monitoring

The requirements of this section only apply when the MRP requires receiving water sampling.

- 1) Receiving water samples shall be collected on days coincident with effluent sampling for conventional pollutants.
- 2) Receiving water samples shall be collected at each station on each sampling day during the period within one hour following low slack water. Where sampling during lower slack water is impractical, sampling shall be performed during higher slack water. Samples shall be collected within the discharge plume and down current of the discharge point so as to be representative, unless otherwise stipulated in the MRP.
- 3) Samples shall be collected within one foot of the surface of the receiving water, unless otherwise stipulated in the MRP.

B. Biosolids Monitoring – This section supplements III.B of Standard Provisions (Attachment D)

When biosolids are sent to a landfill, sent to a surface disposal site, or applied to land as a soil amendment, they must be monitored as follows:

1. Biosolids Monitoring Frequency

Biosolids disposal must be monitored at the following frequency:

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

(Metric tons are on a dry weight basis)

2. Biosolids Pollutants to Monitor

Biosolids shall be monitored for the following constituents:

Land Application: arsenic, cadmium, copper, mercury, molybdenum, nickel, lead, selenium, and zinc

Municipal Landfill: Paint filter test (pursuant to 40 CFR 258)

Biosolids-only Landfill or Surface Disposal Site (if no liner and leachate system): arsenic, chromium, and nickel

C. Standard Observations – This section is an addition to III of Standard Provisions (Attachment D)

1. Receiving Water Observations

The requirements of this section only apply when the MRP requires standard observations of the receiving water. Standard observations shall include the following:

- a. *Floating and suspended materials* (e.g., oil, grease, algae, and other macroscopic particulate matter): presence or absence, source, and size of affected area.
- b. *Discoloration and turbidity*: description of color, source, and size of affected area.
- c. *Odor*: presence or absence, characterization, source, distance of travel, and wind direction.
- d. *Beneficial water use*: presence of water-associated waterfowl or wildlife, fisherpeople, and other recreational activities in the vicinity of each sampling station.
- e. *Hydrographic condition*: time and height of corrected high and low tides (corrected to nearest National Oceanic and Atmospheric Administration location for the sampling date and time of sample collection).
- f. *Weather conditions*:
 - 1) Air temperature; and
 - 2) Total precipitation during the five days prior to observation.

2. Wastewater Effluent Observations

The requirements of this section only apply when the MRP requires wastewater effluent standard observations. Standard observations shall include the following:

- a. *Floating and suspended material of wastewater origin* (e.g., oil, grease, algae, and other macroscopic particulate matter): presence or absence.

- b. *Odor*: presence or absence, characterization, source, distance of travel, and wind direction.

3. Beach and Shoreline Observations

The requirements of this section only apply when the MRP requires beach and shoreline standard observations. Standard observations shall include the following:

- a. *Material of wastewater origin*: presence or absence, description of material, estimated size of affected area, and source.
- b. *Beneficial use*: estimate number of people participating in recreational water contact, non-water contact, or fishing activities.

4. Land Retention or Disposal Area Observations

The requirements of this section only apply to facilities with on-site surface impoundments or disposal areas that are in use. This section applies to both liquid and solid wastes, whether confined or unconfined. The Discharger shall conduct the following for each impoundment:

- a. Determine the amount of freeboard at the lowest point of dikes confining liquid wastes.
- b. Report evidence of leaching liquid from area of confinement and estimated size of affected area. Show affected area on a sketch and volume of flow (e.g., gallons per minute [gpm]).
- c. Regarding odor, describe presence or absence, characterization, source, distance of travel, and wind direction.
- d. Estimate number of waterfowl and other water-associated birds in the disposal area and vicinity.

5. Periphery of Waste Treatment and/or Disposal Facilities Observations

The requirements of this section only apply when the MRP specifies periphery standard observations. Standard observations shall include the following:

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

IV. STANDARD PROVISIONS – RECORDS

A. Records to be Maintained – This supplements IV.A of Standard Provisions (Attachment D)

The Discharger shall maintain records 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. The minimum period of retention specified in Section IV, Records, of the Federal

Standard Provisions 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 USEPA, Region IX.

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

B. Records of monitoring information shall include – This supplements IV.B of Standard Provision (Attachment D)

1. Analytical Information

Records shall include analytical method detection limits, minimum levels, reporting levels, and related quantification parameters.

2. Flow Monitoring Data

For all required flow monitoring (e.g., influent and effluent flows), the additional records shall include the following, unless otherwise stipulated by the MRP:

- a. Total volume for each day; and
- 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 or mass of solids removed from each collection unit (e.g., grit, skimmings, undigested biosolids, or combination) for each calendar month or other time period as appropriate, but not to exceed annually; and
 - 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 or mass of dewatered biosolids for each calendar month;
 - 2) Solids content of the dewatered biosolids; and
 - 3) Final disposition of dewatered biosolids (disposal location and disposal method).

4. Disinfection Process

For the disinfection process, these additional records shall be maintained documenting process operation and performance:

- a. For bacteriological analyses:

- 1) Wastewater flow rate at the time of sample collection; and
 - 2) Required statistical parameters for cumulative bacterial values (e.g., moving median or geometric mean for the number of samples or sampling period identified in this Order).
- b. For the chlorination process, when chlorine is used for disinfection, at least daily average values for the following:
- 1) Chlorine residual of treated wastewater as it enters the contact basin (mg/L);
 - 2) Chlorine dosage (kg/day); and
 - 3) Dechlorination chemical dosage (kg/day).

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. Dates and times of bypass beginning and end;
- c. Total bypass duration;
- d. Estimated total bypass volume; and
- e. Description of, or reference to other reports describing, the bypass event, the cause, the corrective actions taken (except for wet weather blending that is in compliance with permit conditions), and any additional monitoring conducted.

6. Treatment Facility Overflows

This section applies to records for overflows at the treatment facility. This includes the headworks and all units and appurtenances downstream. The Discharger shall retain a chronological log of overflows at the treatment facility and records supporting the information provided in section V.E.2.

C. Claims of Confidentiality – Not Supplemented

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information – Not Supplemented

B. Signatory and Certification Requirements – Not Supplemented

C. Monitoring Reports – This section supplements V.C of Standard Provisions (Attachment D)

1. Self Monitoring Reports

For each reporting period established in the MRP, the Discharger shall submit an SMR to the Regional Water Board in accordance with the requirements listed in this document and at the frequency the MRP specifies. The purpose of the SMR is to document treatment performance, effluent quality, and compliance with the waste discharge requirements of this Order.

a. Transmittal letter

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

- 1) Identification of all violations of effluent limits or other waste discharge requirements found during the reporting period;
- 2) Details regarding violations: parameters, magnitude, test results, frequency, and dates;
- 3) Causes of violations;
- 4) Discussion of corrective actions taken or planned to resolve violations and prevent recurrences, and dates or time schedule of action implementation (if previous reports have been submitted that address corrective actions, reference to the earlier reports is satisfactory);
- 5) Data invalidation (Data should not be submitted in an SMR if it does not meet quality assurance/quality control standards. However, if the Discharger wishes to invalidate any measurement after it was submitted in an SMR, a letter shall identify the measurement suspected to be invalid and state the Discharger's intent to submit, within 60 days, a formal request to invalidate the measurement. This request shall include the original measurement in question, the reason for invalidating the measurement, all relevant documentation that supports 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.);
- 6) If the Discharger blends, the letter shall describe the duration of blending events and certify whether blended effluent was in compliance with the conditions for blending; and
- 7) Signature (The transmittal letter shall be signed according to Section V.B of this Order, Attachment D – Standard Provisions.).

b. Compliance evaluation summary

Each report shall include a compliance evaluation summary. This summary shall include each parameter for which the permit specifies effluent limits, the number of

samples taken during the monitoring period, and the number of samples that exceed applicable effluent limits.

c. Results of analyses and observations

- 1) Tabulations of all required analyses and observations, including parameter, date, time, sample station, type of sample, test result, method detection limit, method minimum level, and method reporting level, if applicable, signed by the laboratory director or other responsible official.
- 2) When determining compliance with an average monthly effluent limitation and more than one sample result is available in a month, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of detected but not quantified (DNQ) or nondetect (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:
 - i. The data set shall be ranked from low to high, reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
 - ii. 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.

If a sample result, or the arithmetic mean or median of multiple sample results, is below the reporting limit, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the Discharger conducts a Pollutant Minimization Program, the Discharger shall not be deemed out of compliance.

- 3) Dioxin-TEQ Reporting: The Discharger shall report for each dioxin and furan congener the analytical results of effluent monitoring, including the quantifiable limit (reporting level), the method detection limit, and the measured concentration. The Discharger shall report all measured values of individual congeners, including data qualifiers. When calculating dioxin-TEQ, the Discharger shall set congener concentrations below the minimum levels (ML) to zero. The Discharger shall calculate and report dioxin-TEQs using the following formula, where the MLs, toxicity equivalency factors (TEFs), and bioaccumulation equivalency factors (BEFs) are as provided in Table A:

$$\text{Dioxin-TEQ} = \sum (C_x \times \text{TEF}_x \times \text{BEF}_x)$$

where: C_x = measured or estimated concentration of congener x
 TEF_x = toxicity equivalency factor for congener x
 BEF_x = bioaccumulation equivalency factor for congener x

Table A

Minimum Levels, Toxicity Equivalency Factors,
and Bioaccumulation Equivalency Factors

Dioxin or Furan Congener	Minimum Level (pg/L)	1998 Toxicity Equivalency Factor (TEF)	Bioaccumulation Equivalency Factor (BEF)
2,3,7,8-TCDD	10	1.0	1.0
1,2,3,7,8-PeCDD	50	1.0	0.9
1,2,3,4,7,8-HxCDD	50	0.1	0.3
1,2,3,6,7,8-HxCDD	50	0.1	0.1
1,2,3,7,8,9-HxCDD	50	0.1	0.1
1,2,3,4,6,7,8-HpCDD	50	0.01	0.05
OCDD	100	0.0001	0.01
2,3,7,8-TCDF	10	0.1	0.8
1,2,3,7,8-PeCDF	50	0.05	0.2
2,3,4,7,8-PeCDF	50	0.5	1.6
1,2,3,4,7,8-HxCDF	50	0.1	0.08
1,2,3,6,7,8-HxCDF	50	0.1	0.2
1,2,3,7,8,9-HxCDF	50	0.1	0.6
2,3,4,6,7,8-HxCDF	50	0.1	0.7
1,2,3,4,6,7,8-HpCDF	50	0.01	0.01
1,2,3,4,7,8,9-HpCDF	50	0.01	0.4
OCDF	100	0.0001	0.02

d. Data reporting for results not yet available

The Discharger shall make all reasonable efforts to obtain analytical data for required parameter sampling in a timely manner. Certain analyses require additional time to complete analytical processes and report results. For cases where required monitoring parameters require additional time to complete analytical processes and reports, and results are not available in time to be included in the SMR for the subject monitoring period, the Discharger shall describe such circumstances in the SMR and include the data for these parameters and relevant discussions of any observed exceedances in the next SMR due after the results are available.

e. Flow data

The Discharger shall provide flow data tabulation pursuant to Section IV.B.2.

f. Annual self monitoring report requirements

By the date specified in the MRP, the Discharger shall submit an annual report to the Regional Water Board covering the previous calendar year. The report shall contain the following:

- 1) Annual compliance summary table of treatment plant performance, including documentation of any blending events;
 - 2) Comprehensive discussion of treatment plant performance and compliance with the permit (This discussion shall include any corrective actions taken or planned, such as changes to facility equipment or operation practices that may be needed to achieve compliance, and any other actions taken or planned that are intended to improve performance and reliability of the Discharger's wastewater collection, treatment, or disposal practices.);
 - 3) Both tabular and graphical summaries of the monitoring data for the previous year if parameters are monitored at a frequency of monthly or greater;
 - 4) List of approved analyses, including the following:
 - (i) List of analyses for which the Discharger is certified;
 - (ii) List of analyses performed for the Discharger by a separate certified laboratory (copies of reports signed by the laboratory director of that laboratory shall not be submitted but be retained onsite); and
 - (iii) List of "waived" analyses, as approved;
 - 5) Plan view drawing or map showing the Discharger's facility, flow routing, and sampling and observation station locations;
 - 6) Results of annual facility inspection to verify that all elements of the SWPP Plan are accurate and up to date (only required if the Discharger does not route all storm water to the headworks of its wastewater treatment plant); and
 - 7) Results of facility report reviews (The Discharger shall regularly review, revise, and update, as necessary, the O&M Manual, the Contingency Plan, the Spill Prevention Plan, and Wastewater Facilities Status Report so that these documents remain useful and relevant to current practices. At a minimum, reviews shall be conducted annually. The Discharger shall include, in each Annual Report, a description or summary of review and evaluation procedures, recommended or planned actions, and an estimated time schedule for implementing these actions. The Discharger shall complete changes to these documents to ensure they are up-to-date.).
- g. Report submittal

The Discharger shall submit SMRs to:

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

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 a process approved by the Executive Officer (see, for example, the letter dated December 17, 1999, "Official Implementation of Electronic Reporting System [ERS]" and the progress report letter dated December 17, 2000).
- 2) *Monthly or Quarterly Reporting Requirements*: For each reporting period (monthly or quarterly as specified in the MRP), the Discharger shall submit an electronic SMR to the Regional Water Board in accordance with the provisions of Section V.C.1.a-e, except for requirements under Section V.C.1.c(1) where ERS does not have fields for dischargers to input certain information (e.g., sample time). However, until USEPA approves the electronic signature or other signature technologies, Dischargers that use ERS shall submit a hard copy of the original transmittal letter, an ERS printout of the data sheet, and a violation report (a receipt of the electronic transmittal shall be retained by the Discharger). This electronic SMR submittal suffices for the signed tabulations specified under Section V.C.1.c(1).
- 3) *Annual Reporting Requirements*: Dischargers who have submitted data using the ERS for at least one calendar year are exempt from submitting the portion of the annual report required under Section V.C.1.f(1) and (3).

D. Compliance Schedules – Not supplemented

E. Twenty-Four Hour Reporting – This section supplements V.E of Standard Provision (Attachment D)

1. Spill of Oil or Other Hazardous Material Reports

- a. Within 24 hours of becoming aware of a spill of oil or other hazardous material that is not contained onsite and completely cleaned up, the Discharger shall report by telephone to the Regional Water Board at (510) 622-2369.
- b. The Discharger shall also report such spills to the State Office of Emergency Services [telephone (800) 852-7550] only when the spills are in accordance with applicable reporting quantities for hazardous materials.
- c. The Discharger shall submit a written report to the Regional Water Board within five working days following telephone notification unless directed otherwise by Regional Water Board staff. A report submitted electronically is acceptable. The written report shall include the following:
 - 1) Date and time of spill, and duration if known;
 - 2) Location of spill (street address or description of location);

- 3) Nature of material spilled;
- 4) Quantity of material involved;
- 5) Receiving water body affected, if any;
- 6) Cause of spill;
- 7) Estimated size of affected area;
- 8) Observed impacts to receiving waters (e.g., oil sheen, fish kill, water discoloration);
- 9) Corrective actions taken to contain, minimize, or clean up the spill;
- 10) Future corrective actions planned to be taken to prevent recurrence, and schedule of implementation; and
- 11) Persons or agencies notified.

2. Unauthorized Discharges from Municipal Wastewater Treatment Plants¹

The following requirements apply to municipal wastewater treatment plants that experience an unauthorized discharge at their treatment facilities and are consistent with and supercede requirements imposed on the Discharger by the Executive Officer by letter of May 1, 2008, issued pursuant to California Water Code Section 13383.

a. Two (2)-Hour Notification

For any unauthorized discharges that result in a discharge to a drainage channel or a surface water, the Discharger shall, as soon as possible, but not later than two (2) hours after becoming aware of the discharge, notify the State Office of Emergency Services (telephone 800-852-7550), the local health officers or directors of environmental health with jurisdiction over the affected water bodies, and the Regional Water Board. The notification to the Regional Water Board shall be via the Regional Water Board's online reporting system at www.wbers.net, and shall include the following:

- 1) Incident description and cause;
- 2) Location of threatened or involved waterway(s) or storm drains;
- 3) Date and time the unauthorized discharge started;
- 4) Estimated quantity and duration of the unauthorized discharge (to the extent known), and the estimated amount recovered;

¹ California Code of Regulations, Title 23, Section 2250(b), defines an unauthorized discharge to be a discharge, not regulated by waste discharge requirements, of treated, partially treated, or untreated wastewater resulting from the intentional or unintentional diversion of wastewater from a collection, treatment or disposal system.

- 5) Level of treatment prior to discharge (e.g., raw wastewater, primary treated, undisinfected secondary treated, and so on); and
- 6) Identity of the person reporting the unauthorized discharge.

b. 24-hour Certification

Within 24 hours, the Discharger shall certify to the Regional Water Board, at www.wbers.net, that the State Office of Emergency Services and the local health officers or directors of environmental health with jurisdiction over the affected water bodies have been notified of the unauthorized discharge.

c. 5-Day Written Report

Within five business days, the Discharger shall submit a written report, via the Regional Water Board's online reporting system at www.wbers.net, that includes, in addition to the information required above, the following:

- 1) Methods used to delineate the geographical extent of the unauthorized discharge within receiving waters;
- 2) Efforts implemented to minimize public exposure to the unauthorized discharge;
- 3) Visual observations of the impacts (if any) noted in the receiving waters (e.g., fish kill, discoloration of water) and the extent of sampling if conducted;
- 4) Corrective measures taken to minimize the impact of the unauthorized discharge;
- 5) Measures to be taken to minimize the chances of a similar unauthorized discharge occurring in the future;
- 6) Summary of Spill Prevention Plan or O&M Manual modifications to be made, if necessary, to minimize the chances of future unauthorized discharges; and
- 7) Quantity and duration of the unauthorized discharge, and the amount recovered.

d. Communication Protocol

To clarify the multiple levels of notification, certification, and reporting, the current communication requirements for unauthorized discharges from municipal wastewater treatment plants are summarized in Table B that follows.

Table B

Summary of Communication Requirements for Unauthorized Discharges¹ from
Municipal Wastewater Treatment Plants

Discharger is required to:	Agency Receiving Information	Time frame	Method for Contact
1. Notify	California Emergency Management Agency (Cal EMA)	As soon as possible, but not later than 2 hours after becoming aware of the unauthorized discharge.	Telephone – (800) 852-7550 (obtain a control number from Cal EMA)
	Local health department	As soon as possible, but not later than 2 hours after becoming aware of the unauthorized discharge.	Depends on local health department
	Regional Water Board	As soon as possible, but not later than 2 hours after becoming aware of the unauthorized discharge.	Electronic ² www.wbers.net
2. Certify	Regional Water Board	As soon as possible, but not later than 24 hours after becoming aware of the unauthorized discharge.	Electronic ³ www.wbers.net
3. Report	Regional Water Board	Within 5 business days of becoming aware of the unauthorized discharge.	Electronic ⁴ www.wbers.net

¹ California Code of Regulations, Title 23, Section 2250(b), defines an unauthorized discharge to be a discharge, not regulated by waste discharge requirements, of treated, partially treated, or untreated wastewater resulting from the intentional or unintentional diversion of wastewater from a collection, treatment or disposal system.

² In the event that the Discharger is unable to provide online notification within 2 hours of becoming aware of an unauthorized discharge, it shall phone the Regional Water Board’s spill hotline at (510) 622-2369 and convey the same information contained in the notification form. In addition, within 3 business days of becoming aware of the unauthorized discharge, the Discharger shall enter the notification information into the Regional Water Board’s online system in electronic format.

³ In most instances, the 2-hour notification will also satisfy 24-hour certification requirements. This is because the notification form includes fields for documenting that OES and the local health department have been contacted. In other words, if the Discharger is able to complete all the fields in the notification form within 2 hours, certification requirements are also satisfied. In the event that the Discharger is unable to provide online certification within 24 hours of becoming aware of an unauthorized discharge, it shall phone the Regional Water Board’s spill hotline at (510) 622-2369 and convey the same information contained in the certification form. In addition, within 3 business days of becoming aware of the unauthorized discharge, the Discharger shall enter the certification information into the Regional Water Board’s online system in electronic format.

⁴ If the Discharger cannot satisfy the 5-day reporting requirements via the Regional Water Board’s online reporting system, it shall submit a written report (preferably electronically in pdf) to the appropriate Regional Water Board case manager. In cases where the Discharger cannot satisfy the 5-day reporting requirements via the online reporting system, it must still complete the Regional Water Board’s online reporting requirements within 15 calendar days of becoming aware of the unauthorized discharge.

- F. **Planned Changes – Not supplemented**
- G. **Anticipated Noncompliance – Not supplemented**
- H. **Other Noncompliance – Not supplemented**
- I. **Other Information – Not supplemented**

- VI. **STANDARD PROVISIONS – ENFORCEMENT – Not Supplemented**
- VII. **ADDITIONAL PROVISIONS – NOTIFICATION LEVELS – Not Supplemented**
- VIII. **DEFINITIONS – THIS SECTION IS AN ADDITION TO STANDARD PROVISIONS (ATTACHMENT D)**

More definitions can be found in Attachment A of this NPDES Permit.

1. Arithmetic Calculations

- a. Geometric mean is the antilog of the log mean or the back-transformed mean of the logarithmically transformed variables, which is equivalent to the multiplication of the antilogarithms. The geometric mean can be calculated with either of the following equations:

$$\text{Geometric Mean} = \text{Anti log} \left(\frac{1}{N} \sum_{i=1}^N \text{Log}(C_i) \right)$$

or

$$\text{Geometric Mean} = (C_1 * C_2 * \dots * C_N)^{1/N}$$

Where “N” is the number of data points for the period analyzed and “C” is the concentration for each of the “N” data points.

- b. Mass emission rate is obtained from the following calculation for any calendar day:

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

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

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

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

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

- c. Maximum allowable mass emission rate, whether for a 24-hour, weekly 7-day, monthly 30-day, or 6-month period, is a limitation expressed as a daily rate determined with the formulas in the paragraph above, using the effluent concentration limit specified in the permit for the period and the specified allowable flow.
- d. POTW removal efficiency is the ratio of pollutants removed by the treatment facilities to pollutants entering the treatment facilities (expressed as a percentage). The Discharger shall determine removal efficiencies using monthly averages (by calendar month unless otherwise specified) of pollutant concentration of influent and effluent samples collected at about the same time and using the following equation (or its equivalent):

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

2. Biosolids means the solids, semi-liquid suspensions of solids, residues, screenings, grit, scum, and precipitates separated from or created in wastewater by the unit processes of a treatment system. It also includes, but is not limited to, all supernatant, filtrate, centrate, decantate, and thickener overflow and underflow in the solids handling parts of the wastewater treatment system.
3. Blending is the practice of recombining wastewater that has been biologically treated with wastewater that has bypassed around biological treatment units.
4. Bottom sediment sample is (1) a separate grab sample taken at each sampling station for the determination of selected physical-chemical parameters, or (2) four grab samples collected from different locations in the immediate vicinity of a sampling station while the boat is anchored and analyzed separately for macroinvertebrates.
5. Composite sample is a sample composed of individual grab samples collected manually or by an automatic sampling device on the basis of time or flow as specified in the MRP. For flow-based composites, the proportion of each grab sample included in the composite sample shall be within plus or minus five percent (+/-5%) of the representative flow rate of the waste stream being measured at the time of grab sample collection. Alternatively, equal volume grab samples may be individually analyzed with the flow-weighted average calculated by averaging flow-weighted ratios of each grab sample analytical result. Grab samples comprising time-based composite samples shall be collected at intervals not greater than those specified in the MRP. The quantity of each grab sample comprising a time-based composite sample shall be a set of flow proportional volumes as specified in the MRP. If a particular time-based or flow-based composite sampling protocol is not specified in the MRP, the Discharger shall determine and implement the most representative sampling protocol for the given parameter subject to Executive Officer approval.
6. Depth-integrated sample is defined as a water or waste sample collected by allowing a sampling device to fill during a vertical traverse in the waste or receiving water body being sampled. The

Discharger shall collect depth-integrated samples in such a manner that the collected sample will be representative of the waste or water body at that sampling point.

7. Flow sample is an accurate measurement of the average daily flow volume using a properly calibrated and maintained flow measuring device.
8. Grab sample is an individual sample collected in a short period of time not exceeding 15 minutes. Grab samples represent only the condition that exists at the time the wastewater is collected.
9. Initial dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with receiving water around the point of discharge.
10. Overflow is the intentional or unintentional spilling or forcing out of untreated or partially treated wastes from a transport system (e.g., through manholes, at pump stations, and at collection points) upstream from the treatment plant headworks or from any part of a treatment plant facility.
11. Priority pollutants are those constituents referred to in 40 CFR Part 122 as promulgated in the Federal Register, Vol. 65, No. 97, Thursday, May 18, 2000, also known as the California Toxics Rule, the presence or discharge of which could reasonably be expected to interfere with maintaining designated uses.
12. Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage. It excludes infiltration and runoff from agricultural land.
13. Toxic pollutant means any pollutant listed as toxic under federal Clean Water Act section 307(a)(1) or under 40 CFR 401.15.
14. Untreated waste is raw wastewater.
15. Waste, waste discharge, discharge of waste, and discharge are used interchangeably in the permit. The requirements of the permit apply to the entire volume of water, and the material therein, that is disposed of to surface and ground waters of the State of California.

Table C

List of Monitoring Parameters and Analytical Methods

CTR No.	Pollutant/Parameter	Analytical Method ⁷	Minimum Levels ⁸ (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
1.	Antimony	204.2					10	5	50	0.5	5	0.5		1000
2.	Arsenic	206.3				20		2	10	2	2	1		1000
3.	Beryllium						20	0.5	2	0.5	1			1000
4.	Cadmium	200 or 213					10	0.5	10	0.25	0.5			1000
5a.	Chromium (III)	SM 3500												
5b.	Chromium (VI)	SM 3500				10	5							1000
	Chromium (total) ⁹	SM 3500					50	2	10	0.5	1			1000
6.	Copper	200.9					25	5	10	0.5	2			1000
7.	Lead	200.9					20	5	5	0.5	2			10,000
8.	Mercury	1631 (note) ¹⁰												
9.	Nickel	249.2					50	5	20	1	5			1000
10.	Selenium	200.8 or SM 3114B or C						5	10	2	5	1		1000
11.	Silver	272.2					10	1	10	0.25	2			1000
12.	Thallium	279.2					10	2	10	1	5			1000
13.	Zinc	200 or 289					20		20	1	10			
14.	Cyanide	SM 4500 CN ⁻ C or I				5								
15.	Asbestos (only required for dischargers to MUN waters) ¹¹	0100.2 ¹²												
16.	2,3,7,8-TCDD and 17 congeners (Dioxin)	1613												
17.	Acrolein	603	2.0	5										
18.	Acrylonitrile	603	2.0	2										
19.	Benzene	602	0.5	2										
33.	Ethylbenzene	602	0.5	2										
39.	Toluene	602	0.5	2										
20.	Bromoform	601	0.5	2										
21.	Carbon Tetrachloride	601	0.5	2										
22.	Chlorobenzene	601	0.5	2										
23.	Chlorodibromomethane	601	0.5	2										
24.	Chloroethane	601	0.5	2										
25.	2-Chloroethylvinyl Ether	601	1	1										

⁷ The suggested method is the USEPA Method unless otherwise specified (SM = Standard Methods). The Discharger may use another USEPA-approved or recognized method if that method has a level of quantification below the applicable water quality objective. Where no method is suggested, the Discharger has the discretion to use any standard method.

⁸ Minimum levels are from the *State Implementation Policy*. They are the concentration of the lowest calibration standard for that technique based on a survey of contract laboratories. 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., USEPA 200.9); Hydride = Gaseous Hydride Atomic Absorption; CVAA = Cold Vapor Atomic Absorption; DCP = Direct Current Plasma.

⁹ Analysis for total chromium may be substituted for analysis of chromium (III) and chromium (VI) if the concentration measured is below the lowest hexavalent chromium criterion (11 µg/l).

¹⁰ The Discharger shall use ultra-clean sampling (USEPA Method 1669) and ultra-clean analytical methods (USEPA Method 1631) for mercury monitoring. The minimum level for mercury is 2 ng/l (or 0.002 µg/l).

¹¹ MUN = Municipal and Domestic Supply. This designation, if applicable, is in the Findings of the permit.

¹² *Determination of Asbestos Structures over 10 [micrometers] in Length in Drinking Water Using MCE Filters*, USEPA 600/R-94-134, June 1994.

CTR No.	Pollutant/Parameter	Analytical Method ⁷	Minimum Levels ⁸ (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
26.	Chloroform	601	0.5	2										
75.	1,2-Dichlorobenzene	601	0.5	2										
76.	1,3-Dichlorobenzene	601	0.5	2										
77.	1,4-Dichlorobenzene	601	0.5	2										
27.	Dichlorobromomethane	601	0.5	2										
28.	1,1-Dichloroethane	601	0.5	1										
29.	1,2-Dichloroethane	601	0.5	2										
30.	1,1-Dichloroethylene or 1,1-Dichloroethene	601	0.5	2										
31.	1,2-Dichloropropane	601	0.5	1										
32.	1,3-Dichloropropylene or 1,3-Dichloropropene	601	0.5	2										
34.	Methyl Bromide or Bromomethane	601	1.0	2										
35.	Methyl Chloride or Chloromethane	601	0.5	2										
36.	Methylene Chloride or Dichloromethane	601	0.5	2										
37.	1,1,2,2-Tetrachloroethane	601	0.5	1										
38.	Tetrachloroethylene	601	0.5	2										
40.	1,2-Trans-Dichloroethylene	601	0.5	1										
41.	1,1,1-Trichloroethane	601	0.5	2										
42.	1,1,2-Trichloroethane	601	0.5	2										
43.	Trichloroethene	601	0.5	2										
44.	Vinyl Chloride	601	0.5	2										
45.	2-Chlorophenol	604	2	5										
46.	2,4-Dichlorophenol	604	1	5										
47.	2,4-Dimethylphenol	604	1	2										
48.	2-Methyl-4,6-Dinitrophenol or Dinitro-2-methylphenol	604	10	5										
49.	2,4-Dinitrophenol	604	5	5										
50.	2-Nitrophenol	604		10										
51.	4-Nitrophenol	604	5	10										
52.	3-Methyl-4-Chlorophenol	604	5	1										
53.	Pentachlorophenol	604	1	5										
54.	Phenol	604	1	1		50								
55.	2,4,6-Trichlorophenol	604	10	10										
56.	Acenaphthene	610 HPLC	1	1	0.5									
57.	Acenaphthylene	610 HPLC		10	0.2									
58.	Anthracene	610 HPLC		10	2									
60.	Benzo(a)Anthracene or 1,2 Benzanthracene	610 HPLC	10	5										
61.	Benzo(a)Pyrene	610 HPLC		10	2									
62.	Benzo(b)Fluoranthene or 3,4 Benzofluoranthene	610 HPLC		10	10									
63.	Benzo(ghi)Perylene	610 HPLC		5	0.1									
64.	Benzo(k)Fluoranthene	610 HPLC		10	2									
74.	Dibenzo(a,h)Anthracene	610 HPLC		10	0.1									
86.	Fluoranthene	610 HPLC	10	1	0.05									
87.	Fluorene	610 HPLC		10	0.1									
92.	Indeno(1,2,3-cd) Pyrene	610 HPLC		10	0.05									
100.	Pyrene	610 HPLC		10	0.05									
68.	Bis(2-Ethylhexyl)Phthalate	606 or 625	10	5										
70.	Butylbenzyl Phthalate	606 or 625	10	10										
79.	Diethyl Phthalate	606 or 625	10	2										

CTR No.	Pollutant/Parameter	Analytical Method ⁷	Minimum Levels ⁸ (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
80.	Dimethyl Phthalate	606 or 625	10	2										
81.	Di-n-Butyl Phthalate	606 or 625		10										
84.	Di-n-Octyl Phthalate	606 or 625		10										
59.	Benzidine	625		5										
65.	Bis(2-Chloroethoxy)Methane	625		5										
66.	Bis(2-Chloroethyl)Ether	625	10	1										
67.	Bis(2-Chloroisopropyl)Ether	625	10	2										
69.	4-Bromophenyl Phenyl Ether	625	10	5										
71.	2-Chloronaphthalene	625		10										
72.	4-Chlorophenyl Phenyl Ether	625		5										
73.	Chrysene	625		10	5									
78.	3,3'-Dichlorobenzidine	625		5										
82.	2,4-Dinitrotoluene	625	10	5										
83.	2,6-Dinitrotoluene	625		5										
85.	1,2-Diphenylhydrazine (note) ¹³	625		1										
88.	Hexachlorobenzene	625	5	1										
89.	Hexachlorobutadiene	625	5	1										
90.	Hexachlorocyclopentadiene	625	5	5										
91.	Hexachloroethane	625	5	1										
93.	Isophorone	625	10	1										
94.	Naphthalene	625	10	1	0.2									
95.	Nitrobenzene	625	10	1										
96.	N-Nitrosodimethylamine	625	10	5										
97.	N-Nitrosodi-n-Propylamine	625	10	5										
98.	N-Nitrosodiphenylamine	625	10	1										
99.	Phenanthrene	625		5	0.05									
101.	1,2,4-Trichlorobenzene	625	1	5										
102.	Aldrin	608	0.005											
103.	α-BHC	608	0.01											
104.	β-BHC	608	0.005											
105.	γ-BHC (Lindane)	608	0.02											
106.	δ-BHC	608	0.005											
107.	Chlordane	608	0.1											
108.	4,4'-DDT	608	0.01											
109.	4,4'-DDE	608	0.05											
110.	4,4'-DDD	608	0.05											
111.	Dieldrin	608	0.01											
112.	Endosulfan (alpha)	608	0.02											
113.	Endosulfan (beta)	608	0.01											
114.	Endosulfan Sulfate	608	0.05											
115.	Endrin	608	0.01											
116.	Endrin Aldehyde	608	0.01											
117.	Heptachlor	608	0.01											
118.	Heptachlor Epoxide	608	0.01											
119-125	PCBs: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260	608	0.5											
126.	Toxaphene	608	0.5											

¹³ Measurement for 1,2-Diphenylhydrazine may use azobenzene as a screen: if azobenzene is measured at >1 ug/l, then the Discharger shall analyze for 1,2-Diphenylhydrazine.