

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

STAFF SUMMARY REPORT (Adrienne Miller)
MEETING DATE: May 12, 2010

ITEM: **5B**

SUBJECT: **Crockett Cogeneration LLP, Crockett Cogeneration Plant, Crockett, Contra Costa County** – Reissuance of NPDES Permit

CHRONOLOGY: September 2004—NPDES Permit Reissued

DISCUSSION: This item would reissue the NPDES permit for the Crockett Cogeneration Plant, a natural gas-fired steam electric co-generation facility. The Plant generates electricity for Pacific Gas and Electric Company with a design net electrical output of 240 Megawatts. Heat is recovered to produce steam for the neighboring C&H Sugar Company sugar refinery. The Plant discharges treated process wastewater and industrial storm water to Carquinez Strait through a deepwater outfall it shares with C&H Sugar.

The Revised Tentative Order (Appendix A) contains updated technology-based and water quality-based limits, and is consistent with recently approved Basin Plan amendments. Crockett Cogeneration LLP commented (Appendix B) on the draft order that we distributed for public review. As explained in our Response to Comments (Appendix C), we have resolved its concerns, in some cases through appropriate revisions included in the Revised Tentative Order. We expect this item to remain uncontested.

RECOMMENDATION: Adoption of the Revised Tentative Order

File Number: 2119.1201
CIWQS Place ID: 216164

Appendices: A. Revised Tentative Order
B. Written Comments
C. Response to Comments

APPENDIX A

Revised Tentative Order



Linda S. Adams
Secretary for
Environmental Protection

California Regional Water Quality Control Board



Arnold Schwarzenegger
Governor

San Francisco Bay Region

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REVISED TENTATIVE ORDER NO. R2-2010-XXXX NPDES NO. CA0029904

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

Table 1. Discharger Information

Discharger	Crockett Cogeneration LLP
Name of Facility	Crockett Cogeneration Plant
Facility Address	550 Loring Avenue
	Crockett, CA 94525
	Contra Costa County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a minor discharge.	

Discharges from the Crockett Cogeneration Plant from the discharge points identified below are subject to waste discharge requirements as set forth in this Order.

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Treated Process Wastewater; Intermittent C&H Sugar Wash Down Water	38° 03' 22" N	122° 13' 05" W	Carquinez Strait
002	Storm Water; Wash Down Water; Air Conditioner Condensation	38° 03' 22" N	122° 13' 50" W	Carquinez Strait

Table 3. Administrative Information

This Order was adopted by the Regional Water Board on:	May 12, 2010
This Order shall become effective on:	July 1, 2010
This Order shall expire on:	June 30, 2015
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 **May 12, 2010**.

Bruce H. Wolfe, Executive Officer

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I. FACILITY INFORMATION

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

Table 4. Facility Information

Discharger	Crockett Cogeneration LLP
Name of Facility	Crockett Cogeneration Plant
Facility Address	550 Loring Avenue
	Crockett, CA 94525
	Contra Costa County
Facility Contact, Title, and Phone	Christopher Sargent, Environmental Coordinator, 510-787-4101
Mailing Address	Same as Facility Address
Type of Facility	Steam Electric Cogeneration Plant
Facility Design Flow	500,400 gallons per day (gpd) (monthly average design flow capacity at Discharge Point 001)
	178,000 gpd (actual long-term average flow at Discharge Point 001)
	791,000 gpd (actual maximum daily flow at Discharge Point 001)

II. FINDINGS

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

A. Background. Crockett Cogeneration LLP (hereinafter the Discharger) is currently discharging under Order No. R2-2004-0026 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0029904. The Discharger submitted a Report of Waste Discharge, dated December 29, 2008, and applied to renew its NPDES permit to discharge treated process wastewater, wash down water, and storm water from its Crockett Cogeneration Plant to Carquinez Strait.

For the 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 and Discharge Description. The Discharger owns and operates the Crockett Cogeneration Plant (Plant), which is a natural gas-fired steam electric co-generation facility. The Discharger generates electricity for Pacific Gas and Electric Company, with a design net electrical output of 240 Megawatts (MW). Heat is recovered from the gas turbines to produce 425 pound-force per square inch gauge (psig) of steam at a maximum rate of 400,000 pounds per hour (lbs/hr) for the neighboring sugar refinery belonging to the C&H Sugar Company.

Process wastewater includes three low-volume waste streams: approximately 24,500 gallons per day (gpd) of evaporative cooler blowdown, 153,000 gpd of demineralizer regenerant waste, and 28,800 gpd of boiler blowdown, which has a temperature of approximately 150°F. The Discharger installed two air-cooled heat exchangers to lower the temperature of boiler blowdown, and municipal water from East Bay Municipal Utility District is added as necessary to the boiler blowdown sump to control the discharge temperature. The wastestreams are mixed in a 150,000

gallon neutralization tank. If necessary, sulfuric acid and caustic soda are added to control pH prior to discharge at Discharge Point 001. Intermittently, C&H Sugar performs conveyor belt wash downs, and some of this wash down, which contains sugar, drains to the Plant's water treatment sump. Final effluent is discharged at Discharge Point 001 to Carquinez Strait via C&H Sugar's deep water outfall, which is located 200 feet offshore and 47 feet below mean low water. Peak Plant flows occur occasionally when more than one demineralizer regeneration occurs in one day, which depends on water supply quality.

The Discharger also collects storm water runoff from a two-acre area; an annual volume of 90,000 gallons of wash down water from the exterior of the air-cooled condenser system; an annual volume of 360,000 gallons of wash down water from walkways and stairways; and a limited quantity of condensation from the exterior surface of three roof-mounted air conditioners in catch basins throughout the site. This wastewater is discharged at Discharge Point 002 to Carquinez Strait. A manually-operated valve at manhole #3 is used to prevent the discharge of accidental spills or contaminated storm water.

Attachment B provides a Plant area map. Attachment C provides a Plant flow schematic.

- C. Legal Authorities.** This Order is issued pursuant to Clean Water Act (CWA) Section 402 and implements 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 point source discharges from the Plant to surface waters. 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 this Order's requirements, is hereby incorporated into this Order and constitutes part of this Order's Findings. Attachments A through E and G are also incorporated into this Order.
- E. California Environmental Quality Act (CEQA).** Under CWC Section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA.
- F. Technology-Based Effluent Limitations.** CWA Section 301(b) and NPDES regulations at 40 CFR 122.44 require that permits include conditions meeting applicable technology-based requirements at minimum and any more stringent effluent limitations necessary to meet applicable water quality standards. The Fact Sheet includes a detailed discussion of technology-based effluent limitation development.
- 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 where 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 the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard (Reasonable Potential). Where Reasonable Potential has been established for a

pollutant that has no numeric criterion or objective, 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. The Basin Plan was duly adopted by the Regional Water Board and approved by the State Water Resources Control Board (State Water Board), the Office of Administrative Law (OAL), and USEPA. Requirements of this Order implement the Basin Plan.

The Basin Plan specifically identifies present and potential uses for Carquinez Strait, which are presented in Table 5. The Basin Plan implements State Water Board Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply (MUN). Because of the tidal and marine influence on these receiving waters, total dissolved solids levels are expected to exceed 3,000 milligrams per liter (mg/L) and thereby qualify for an exception to State Water Board Resolution No. 88-63. The MUN designation therefore does not apply to the receiving water of this discharge.

Table 5. Basin Plan Beneficial Uses of Carquinez Strait

Discharge Point	Receiving Water Name	Beneficial Uses
001 002	Carquinez Strait	Industrial Service Supply (IND) Ocean, Commercial, and Sport Fishing (COMM) Estuarine Habitat (EST) Fish Migration (MIGR) Preservation of Rare and Endangered Species (RARE) Fish Spawning (SPWN) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2) Navigation (NAV)

I. Thermal Plan. The State Water Board adopted its *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. The Thermal Plan contains temperature objectives for surface waters.

This Order contains temperature limitations for discharge at Discharge Point 001 and the receiving water in accordance with the Thermal Plan requirements for a new discharger that discharges an elevated temperature waste to an estuary. Since the Plant was constructed after the Thermal Plan was adopted, it is classified as a new discharge. Per the Thermal Plan’s definition of estuaries and coastal lagoons, “Carquinez Strait downstream to Carquinez Bridge” is defined as estuarine waters. Therefore, Discharge Point 001 discharges to an estuary. Since none of the three waste streams discharged at Discharge Point 001 are discharged for the purpose of transporting waste heat, this

effluent is classified as elevated temperature waste, rather than thermal waste. Therefore, the specific Thermal Plan water quality objectives at Section 5.B.(1) for this type of discharge apply to the discharge at Discharge Point 001.

- J. 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 40 criteria in the NTR apply 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.
- K. 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* (herein after the 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 with respect 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. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives, and provisions for chronic toxicity control. Requirements of this Order implement the SIP.
- L. Compliance Schedules and Interim Requirements.** SIP Section 2.1 provides that, based on an existing discharger's request and demonstration that it is infeasible to achieve immediate compliance with an effluent limitation derived from a CTR criterion, a compliance schedule may be allowed in an NPDES permit. The State Water Board adopted Resolution No. 2008-0025 on April 15, 2008, titled *Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits*, which includes compliance schedule policies for pollutants that are not addressed by the SIP. This policy became effective on August 27, 2008. This Order does not contain any compliance schedules.
- M. 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), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.
- N. Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based limits and WQBELs for individual pollutants. The technology-based limitations consist of restrictions on total suspended solids (TSS), oil and grease, and pH. The Fact Sheet (Attachment F) 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 these minimum federal technology-based requirements as necessary to meet water quality standards.

In this Order, WQBELs 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 are 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. All beneficial uses and water quality objectives contained in the Basin Plan were approved under State law and submitted to USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless “applicable water quality standards for the purposes of the CWA” pursuant to 40 CFR 131.21(c)(1). Collectively, this Order’s restrictions on individual pollutants are no more stringent than required to implement the CWA requirements.

- O. Antidegradation Policy.** NPDES regulations at 40 CFR 131.12 require 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 No. 68-16, which incorporates the federal antidegradation policy where it applies and requires that existing water quality be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16.
- P. Anti-Backsliding Requirements.** CWA Sections 402(o)(2) and 303(d)(4) and NPDES regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as those in Order No. R2-2004-0026, which is consistent with CWA anti-backsliding requirements and federal regulations.
- Q. Monitoring and Reporting.** NPDES regulations at 40 CFR 122.48 require 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 (MRP) establishes monitoring and reporting requirements to implement federal and State requirements. Attachment E contains this MRP.
- R. Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions that apply 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 under 40 CFR 122.42. The Regional Water Board has also included in this Order special provisions that apply to the Discharger. The Fact Sheet (Attachment F) provides rationale for the special provisions contained in this Order. Regional Standard Provisions are in Attachment G.
- S. Provisions and Requirements Implementing State Law.** There are no provisions or requirements in this Order that are included to implement State law only. Such provisions or requirements are not required or authorized under the federal CWA, and consequently, violations of such provisions or requirements are not subject to the enforcement remedies that are available for NPDES violations.
- T. 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 their written comments and recommendations. The Fact Sheet (Attachment F) provides details of the notification.

U. Consideration of Public Comment. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. The Fact Sheet provides Public Hearing details.

IT IS HEREBY ORDERED that this Order supersedes Order No. R2-2004-0026, 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.** Discharge of treated wastewater at a location or in a manner different from that described in this Order is prohibited.
- B.** Discharge at Discharge Point 001 to Carquinez Strait such that the treated wastewater does not receive an initial dilution of at least 10:1 is prohibited.
- C.** The bypass of untreated or partially treated wastewater to waters of the United States is prohibited, except as provided in Attachment D Subsections I.G.2 and I.G.4.
- D.** Discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid is prohibited.
- E.** The discharge shall not contain residuals of oxidizing or non-oxidizing biocides used for microbiological control in cooling or process water systems.
- F.** The discharge of metal cleaning wastewaters, such as boiler and heat exchanger cleaning wastes, is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations for Conventional and Non-Conventional Pollutants – Discharge Point 001

The Discharger shall comply with the following effluent limitations for Discharge Point 001, with compliance measured at Monitoring Location E-001, as described in the attached MRP (Attachment E).

Table 6. Effluent Limitations – Discharge Point 001

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Total Suspended Solids (TSS)	mg/L	30	45	---	---
	lbs/day ⁽¹⁾	44	67	---	---
Oil and Grease	mg/L	10	20	---	---
	lbs/day ⁽¹⁾	15	30	---	---
pH ⁽²⁾	s.u.	---	---	6.0	9.0

Footnotes to Table 6:

Units:

- mg/L = milligrams per liter
- lbs/day = pounds per day
- s.u. = standard units
- mL/L-hr = milliliters per liter per hour

- (1) Mass-based limitations are based on the long-term average flow of approximately 178,000 gpd.
- (2) If the Discharger monitors pH continuously, pursuant to 40 CFR 401.17, the Discharger shall be in compliance with the pH limitation specified herein provided that both of the following conditions are satisfied: (i) the total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and (ii) no individual excursion from the range of pH values shall exceed 60 minutes.

B. Effluent Limitations for Toxic Pollutants – Discharge Point 001

The Discharger shall comply with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location E-001, as described in the attached MRP (Attachment E).

Table 7. Effluent Limitations for Toxic Pollutants

Parameter	Units	Final Effluent Limitations ^{(1),(2)}	
		Average Monthly	Maximum Daily
Copper	µg/L	72	190
Lead	µg/L	3.1	9.3
Selenium	µg/L	30	51
Zinc	µg/L	230	600
Cyanide	µg/L	15	46

Footnotes to Table 7:

Units:

- µg/L = micrograms per liter

- (1) a. Limitations for toxic pollutants apply to the average concentration of all samples collected during the averaging period (daily = 24-hour period; monthly = calendar month).
- b. All metals limitations are expressed as total recoverable metal.

C. Effluent Limitation for Temperature – Discharge Point 001

The Discharger shall comply with the following effluent limitations at Discharge Point 001, with compliance measured as described in the attached MRP (Attachment E):

1. The maximum temperature of the discharge shall not exceed the natural receiving water temperature by more than 20 degrees Fahrenheit;
2. Elevated temperature waste discharges, either individually or combined with other discharges, shall not create a zone, defined by water temperatures of more than 1 degree Fahrenheit above natural receiving water temperature, which exceeds 25 percent of the cross-sectional area of Carquinez Strait at any point;
3. No discharge shall cause a surface water temperature rise greater than 4 degrees Fahrenheit above the natural temperature of Carquinez Strait at any time or place; and
4. Additional limitations shall be imposed when necessary to assure protection of beneficial uses.

D. Acute Toxicity – Discharge Point 001

1. Representative samples of the effluent at Discharge Point 001, with compliance measured at Monitoring Location E-001, as described in the attached MRP, shall meet the following limits for acute toxicity. Bioassays shall be conducted in compliance with MRP Section V.A (Attachment E).

- (1) a three (3) sample median value of not less than 90 percent survival, and
- (2) a single sample value of not less than 70 percent survival.

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

3 sample median: A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit if one of the past two or less bioassay tests shows less than 90 percent survival.

Single sample limitation: A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit.

3. Bioassays shall be performed using the most up-to-date USEPA protocol and the most sensitive species based on the most recent screening test results. Bioassays shall be conducted in compliance with *Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms*, currently 5th Edition (EPA-821-R-02-012).
4. If the Discharger can demonstrate to the satisfaction of the Executive Officer that toxicity exceeding the levels cited above is caused by ammonia and that the ammonia in the discharge is not adversely impacting receiving water quality or beneficial uses, then such toxicity does not constitute a violation of this effluent limitation.

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.)

B. Monitoring and Reporting Program Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order. The Discharger shall also comply with applicable sampling and reporting requirements in the standard provisions listed in VI.A, above.

C. Special Provisions

1. Reopener Provisions

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

- If present or future investigations demonstrate that the discharges governed by this Order will have, or will cease to have, a Reasonable Potential to cause or contribute to adverse impacts on water quality and/or beneficial uses of the receiving waters.
- If new or revised WQOs or Total Maximum Daily Loads (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 contained 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.
- If translator or other water quality studies provide a basis for determining that a permit condition should be modified.
- If an administrative or judicial decision on a separate NPDES permit or WDRs addresses requirements similar to this discharge.
- Or as otherwise authorized by law.

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

2. Special Studies, Technical Reports, and Additional Monitoring Requirements

a. Effluent Characterization for Selected Constituents

The Discharger shall continue to monitor and evaluate the discharge measured at Monitoring Location E-001 for the constituents listed in Regional Standard Provisions (Attachment G) according to the sampling frequency specified in the MRP (Attachment E). Compliance with this requirement shall be achieved in accordance with the specifications stated in the Regional Standard Provisions.

The Discharger shall evaluate on an annual basis if concentrations of any constituent increase over past performance. The Discharger shall investigate the cause of any such increase. The investigation may include, but need not be limited to, an increase in the effluent monitoring frequency, monitoring of internal process streams, and monitoring of influent sources. This requirement may be satisfied through identification of these constituents as “pollutants of concern” in the Discharger’s Pollutant Minimization Program described in Provision VI.C.3, below. A summary of the annual evaluation of data and source investigation activities shall also be reported in the annual self-monitoring report.

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

b. Ambient Background Receiving Water Study

The Discharger shall collect or participate in collecting background ambient receiving water monitoring data for priority pollutants for which the Regional Water Board is required to perform reasonable potential analyses and calculate effluent limitations. The data for the conventional water quality parameters (pH, salinity, and hardness) shall be sufficient to characterize these parameters in the receiving water at a point after the discharge has mixed with the receiving waters. This provision may be met, in part, through the Regional Monitoring Program for Trace Substances (RMP) administered by the San Francisco Estuary Institute or a similar ambient monitoring program for San Francisco Bay. This Order may be reopened, as appropriate, to incorporate effluent limits or other requirements based on Regional Water Board review of these data.

The Discharger shall submit, or cause to have submitted on its behalf, a final report that presents all these data to the Regional Water Board 180 days prior to Order expiration. This final report shall be submitted prior to or with the application for permit reissuance.

3. Best Management Practices and Pollution Minimization

a. Pollution Minimization Program (PMP)

The Discharger shall continue to improve, in a manner acceptable to the Executive Officer, its PMP to reduce pollutant loadings to the treatment plant and therefore to the receiving waters.

b. Annual Pollution Prevention (P2) Report

The Discharger shall submit an annual report, acceptable to the Executive Officer, no later than February 28 of each calendar year. The annual report shall cover January through December of the preceding year. For those agencies choosing to submit earlier in the year, the report shall cover the preceding 12 months two months prior to the submittal date. As an example, a report submitted on June 30, shall cover the preceding 12 months ending in April. Each annual report shall include at least the following information:

- (1) *Brief description of the treatment plant, treatment plant processes and service area.*
- (2) *Discussion of current pollutants of concern.* Periodically, the Discharger shall determine which pollutants are currently a problem and/or which pollutants may be potential future problems. This discussion shall address why the pollutants were identified as pollutants of concern.
- (3) *Identification of sources of pollutants of concern.* This discussion shall address how the Discharger identifies pollutant sources. The Discharger should also identify sources or potential sources not directly within its ability or authority to control, such as pollutants in the potable water supply and air deposition.
- (4) *Identification and implementation of measures to reduce the sources of the pollutants of concern.* This discussion shall identify and prioritize tasks to address the Discharger's pollutants of concern. The Discharger may implement the tasks themselves or participate in a regional, State, or national group to address its pollutants of concern whenever it is efficient and appropriate to do so. A time line shall be included for the implementation of each task.
- (5) *Outreach to employees.* The Discharger shall inform its employees regarding pollutants of concern, potential sources, and how they might be able to help reduce the discharge of these pollutants. The Discharger may provide a forum for employees to provide input to the program.
- (6) *Continuation of Public Outreach Program.* The Discharger shall prepare a public outreach program to communicate pollution minimization measures to its service area. Outreach may include participation in existing community events such as county fairs, initiating new community events such as displays and contests during Pollution Prevention Week, conducting school outreach programs, conducting plant tours, and providing public information in various media. Information shall be specific to target audiences. The Discharger shall coordinate with other agencies as appropriate.
- (7) *Discussion of criteria used to measure the PMP's and tasks' effectiveness.* The Discharger shall establish criteria to evaluate the effectiveness of its PMP. This discussion shall address specific criteria used to measure the effectiveness of each task identified in Provision VI.C.3.b.(3–6), above.

- (8) *Documentation of efforts and progress.* This discussion shall detail all of the Discharger's activities in the PMP during the reporting year.
- (9) *Evaluation of the PMP's and tasks' effectiveness.* The Discharger shall use the criteria established in b.(7), above, to evaluate the PMP's and tasks' effectiveness.
- (10) *Identification of specific tasks and time schedules for future efforts.* Based on the evaluation of effectiveness, the Discharger shall describe how it will continue or change its PMP tasks to more effectively reduce the loading of pollutants to the treatment plant and therefore in its effluent.

c. PMP for Pollutants with Effluent Limitations

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

- (1) A sample result is reported as DNQ and the effluent limitation is less than the RL;
or
- (2) A sample result is reported as ND and the effluent limitation is less than the MDL, using definitions described in the SIP.

d. PMP Submittals for Pollutants with Effluent Limitations

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

- (1) An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling, or alternative measures approved by the Executive Officer when it is demonstrated that source monitoring is unlikely to produce useful analytical data;
- (2) Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system, or alternative measures approved by the Executive Officer, when it is demonstrated that influent monitoring is unlikely to produce useful analytical data;
- (3) Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;
- (4) Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and

- (5) The annual P2 report required by 3.b. above, shall specifically address the following items:
 - i. all PMP monitoring results for the previous year,
 - ii. a list of potential sources of the reportable priority pollutant(s),
 - iii. a summary of all actions undertaken pursuant to the control strategy, and
 - iv. a description of actions to be taken in the following year.

4. Storm Water Pollution Prevention Plan and Annual Report – Discharge Point 002

The Discharger shall submit an updated Storm Water Pollution Prevention Plan (SWPPP) addressing storm water discharges at Discharge Point 002 acceptable to the Executive Officer with the annual report due February 1 of each year. If the Discharger determines that it does not need to update its SWPPP, it shall submit a letter to the Executive Officer that indicates no revisions are necessary and the last year an update was submitted. The Discharger shall implement the SWPPP, and the SWPPP shall comply with the requirements contained in the attached Federal Standard Provisions (Attachment D).

The SWPPP has two purposes: 1) to identify and evaluate sources of pollutants associated with industrial activities that may affect the quality of storm water discharges, and 2) to identify and implement site-specific best management practices (BMPs) to reduce or prevent pollutants associated with industrial activities in storm water discharges. The SWPPP shall include:

- (1) Identification of the specific individual or team responsible for developing the SWPPP and assisting in SWPPP implementation;
- (2) A site map that identifies the storm water conveyance system and discharge points. The site map shall also outline all the Plant's impervious areas and indicate where materials are directly exposed to precipitation;
- (3) A list of significant materials handled and stored at the site and a description of the locations where these materials are stored, received, shipped, and handled, as well as the typical quantities;
- (4) A description of industrial activities and potential pollutants that could be discharged in storm water discharges;
- (5) An assessment of the potential pollutant sources to discern which potential pollutants are likely to be present in storm water discharges;
- (6) A description of the specific storm water BMPs to be implemented at the Plant; and
- (7) A reference to or incorporation of any other Plant plans that contain storm water control measures.

The SWPPP shall be retained on site and made available upon request of the Regional Water Board.

The Discharger shall conduct one annual comprehensive site evaluation during each reporting period (July 1 – June 30), which shall include a review of all monitoring records, a visual inspection of all potential pollutant sources for evidence of these pollutants entering

the drainage system, and a review and evaluation of all BMPs employed. The Discharger shall submit an Annual Storm Water Report by July 1 of each year 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 the inspections; (b) a comprehensive discussion of the compliance record and any corrective actions taken or planned to ensure compliance with waste discharge requirements; (c) a comprehensive discussion of source identification and control programs for constituents that do not have effluent limitations; and (d) a summary of changes made in BMPs implemented during the previous year and changes planned for the following year.

5. Action Plan for Copper

The Discharger shall implement source control and pollution prevention for copper in accordance with the following tasks and time schedule.

Table 8. Copper Action Plan

Task	Compliance Date
<p>1. Review Potential Copper Sources The Discharger shall submit an inventory of all potential copper sources to the discharge.</p>	<p>By August 31, 2010</p>
<p>2. Implement Copper Control Program The Discharger shall submit a plan for and begin implementation of a program to reduce copper discharges identified in Task 1.</p>	<p>February 28, 2011, with the 2010 Annual Pollution Prevention report</p>
<p>3. Implement Additional Measures If the Regional Water Board notifies the Discharger that the three-year rolling mean copper concentration of the receiving water exceeds 2.8 µg/L, then the Discharger shall evaluate the effluent copper concentration trend. If the trend is increasing, within 90 days of the notification, the Discharger shall develop and begin implementation of additional measures to control copper discharges and shall report annually on the progress and effectiveness of measures taken together with a schedule for measures to be taken in the next 12 months.</p>	<p>With the Annual Pollution Prevention reports starting with the report due after the notification.</p>
<p>4. Studies to Reduce Copper Pollutant Impact Uncertainties The Discharger shall submit a 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, the Discharger may collaborate and conduct these studies within a group, like the Regional Monitoring Program for Trace Substances (RMP) administered by the San Francisco Estuary Institute.</p>	<p>February 28, 2011, with the 2010 Annual Pollution Prevention report</p>

Task	Compliance Date
<p>4. Report Status of Copper Control Program Submit a report to the Regional Water Board documenting implementation of the copper control program. 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, the Discharger may collaborate and provide this information in a single report for an entire group.</p>	<p>With the Annual Pollution Prevention reports due February 28, starting with the 2010 Annual Pollution Prevention report due February 28, 2011</p>

6. Action Plan for Cyanide

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

Table 9. Cyanide Action Plan

Task	Compliance Date
<p>1. Review Potential Cyanide Contributors The Discharger shall submit an inventory of potential sources of cyanide to the discharge. If no sources are identified, Tasks 2 and 3 are not required.</p>	<p>Within 90 days of Order adoption</p>
<p>2. Implement Cyanide Control Program The Discharger shall submit a plan for and begin implementation of a program to minimize cyanide discharges. At a minimum, the plan shall consist 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>February 28, 2011, with the 2010 Annual Pollution Prevention report</p>
<p>3. Implement Additional Cyanide Control Measures If the Discharger is notified by the Regional Water Board that ambient monitoring shows cyanide concentrations of 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 with actions to identify and abate cyanide sources responsible for the elevated ambient concentrations and shall report annually 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 the Annual Pollution Prevention reports starting with the report due after the notification.</p>
<p>4. Report Status of Cyanide Control Program Submit a report to the Regional Water Board documenting implementation of the cyanide control program.</p>	<p>With Annual Pollution Prevention reports due February 28</p>

VII. COMPLIANCE DETERMINATION

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

A. General

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in Attachment A to the MRP (Attachment E) and Fact Sheet Section VI. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of

the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

B. Multiple Sample Data

When determining compliance with an AMEL or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of DNQ or ND. In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

ATTACHMENT A – DEFINITIONS

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

$$\text{Arithmetic mean} = \mu = \Sigma x / n$$

where:

Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Average Monthly Effluent Limitation (AMEL) is 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) is 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 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 waste load 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 San Francisco 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 is 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 is 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:

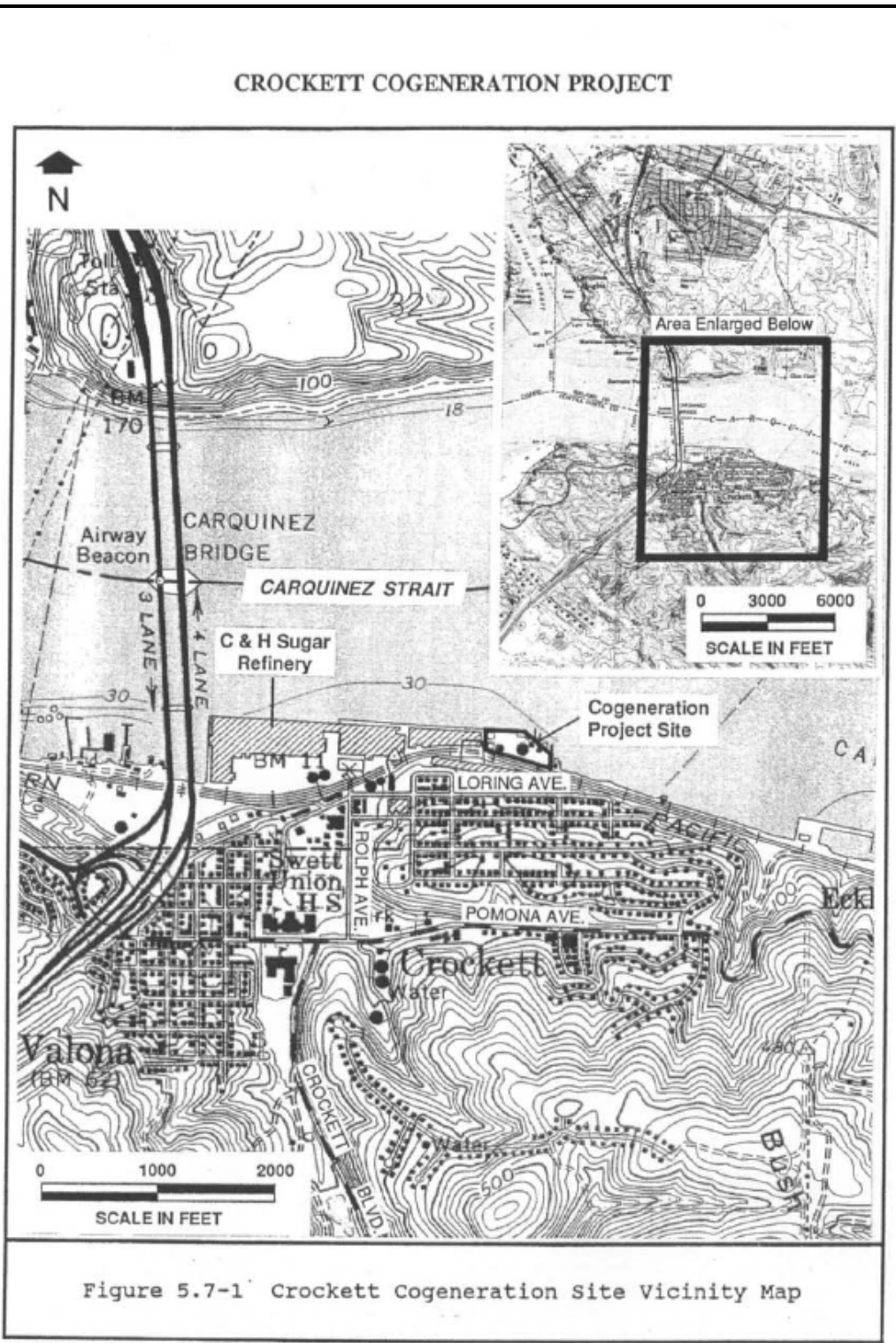
$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:

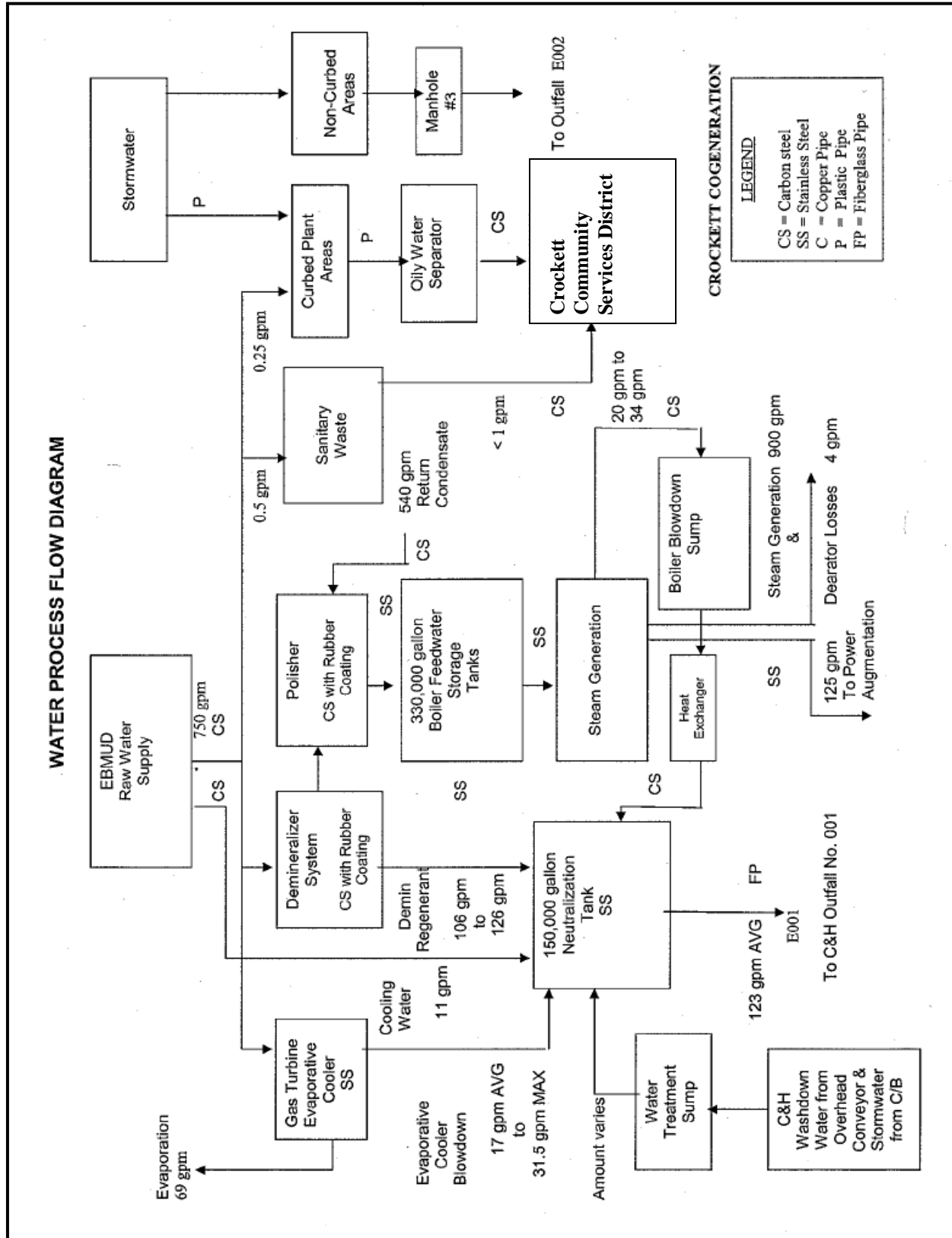
- x is the observed value;
- μ is the arithmetic mean of the observed values; and
- n is the number of samples.

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 Plant 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 – FACILITY MAP



ATTACHMENT C – PROCESS FLOW DIAGRAM



ATTACHMENT D –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 (CWC) 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 CWA Section 307(a) for toxic pollutants and with standards for sewage sludge use or disposal established under CWA Section 405(d) within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not 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), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 C.F.R. § 122.41(i); CWC § 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 bypass date. (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); CWC § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with 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 office. For purposes of this Section, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any 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 contained 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));
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to

effluent limitations in this Order nor to notification requirements under Section 122.42(a)(1) (see Additional Provisions-Notification Levels VII.A.1) (40 C.F.R. § 122.41(l)(1)(ii).); or

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 CWC provisions, including, but not limited to, Sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

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

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 ($\mu\text{g/L}$) (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).)

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 (µg/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)

National Pollutant Discharge Elimination System (NPDES) regulations at 40 CFR 122.48 require that all NPDES permits specify monitoring and reporting requirements. California Water Code (CWC) Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement the federal and State regulations.

I. GENERAL MONITORING PROVISIONS

- A. The Discharger shall comply with the MRP and with all Regional Standard Provisions (Attachment G). The MRP may be amended by the Executive Officer pursuant to U.S. Environmental Protection Agency (USEPA) regulations at 40 CFR 122.62, 122.63, and 124.5 and CWC Sections 13267 and 13383.
- B. The Discharger shall conduct all analyses using current USEPA methods that have been approved by the USEPA Regional Administrator pursuant to 40 CFR 136.4 and 40 CFR 136.5, or equivalent methods that are commercially and reasonably available and that provide quantification of sampling parameters and constituents sufficient to evaluate compliance with applicable effluent limits and to perform reasonable potential analysis. Equivalent methods must be more sensitive than those specified in 40 CFR 136, must be specified in the permit, and must be approved for use by the Executive Officer following consultation with the State Water Quality Control Board (State Water Board) Quality Assurance Program.
- C. Sampling and analysis of additional constituents is required pursuant to the Regional Standard Provisions (Attachment G).
- D. Laboratories analyzing monitoring samples shall be certified by the Department of Public Health, in accordance with CWC Section 13176, and shall include quality assurance/quality control data with their reports.

II. MONITORING LOCATIONS

The Discharger shall establish and maintain the following monitoring 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
Effluent	E-001	At a point after full treatment and prior to the junction with the C&H outfall, where a representative sample of treated wastewater can be obtained.
Effluent	E-002	At a point prior to contact with Carquinez Strait, where a representative sample of storm water can be obtained.
Receiving Water	RSW-001	At a point in Carquinez Strait approximately 200 feet from the shoreline, above the deep water diffuser. Formerly C-10.

Receiving Water	RSW-002	At a point in Carquinez Strait, located at the easterly edge of the C&H wharf. Formerly C-RE.
Receiving Water	RSW-003	At a point in Carquinez Strait located at the westerly edge of the C&H wharf. Formerly C-RW.

III. INFLUENT MONITORING REQUIREMENTS

Not Applicable.

IV. EFFLUENT MONITORING REQUIREMENTS

A. The Discharger shall monitor treated effluent from the Plant at E-001 as follows.

Table E-2. Effluent Monitoring – Monitoring Location E-001

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow Rate ⁽²⁾	gpd	Cont	Cont/D
pH ⁽²³⁾	s.u.	Cont/D	1/Day
TSS	mg/L	Grab	1/Month
	lbs/day	Calculate	1/Month
BOD ⁽⁴⁾	mg/L	Grab	Each Occurrence ⁽¹⁾
Oil and Grease ⁽⁵⁾	mg/L	Grab	2/Year
	lbs/day	Calculate	2/Year
Total Dissolved Solids	mg/L	Grab	1/Month
Temperature ⁽⁶⁾	°F	Cont/D	1/Day
Acute Toxicity ⁽⁷⁾	% survival	Grab	1/Year
Copper	µg/L	Grab	1/2 Months
Lead	µg/L	Grab	1/2 Months
Selenium	µg/L	Grab	1/2 Months
Zinc	µg/L	Grab	1/2 Months
Cyanide	µg/L	Grab	1/2 Months
Priority Pollutant Metals ⁽⁸⁾	µg/L	Grab	1/Year
Remaining Priority Pollutants ⁽⁹⁾	µg/L	Grab	1/Permit Term

Footnotes to Table E-2:

Units:

- gpd = gallons per day
- s.u. = standard units
- mg/L = milligrams per liter
- lbs/day = pounds per day
- °F = degrees Fahrenheit
- µg/L = micrograms per liter
- Cont = measured continuously
- Cont/D = measured continuously, and recorded and reported daily
- C-24 = 24-hour composite

- (1) “Each occurrence” shall refer to each significant wash down water discharge, defined as a continuous discharge of wash down water for a minimum of one hour, or an intermittent discharge of wash down water for a minimum of three hours in a 12-hour period. For BOD, the Discharger may request a decrease in the minimum sampling frequency to Quarterly, if monitoring data show compliance with this requirement for two years after the effective date of this Order on July 1, 2010.
- (2) Flow shall be monitored continuously and the following shall be reported in Self Monitoring Reports (SMRs):
 - a. Daily average flow rate (MGD)

- b. Daily total flow volume (MG)
 - c. Monthly average flow rate (MGD)
 - d. Monthly total flow volume (MG), and
 - e. Average daily maximum and average daily minimum flow rates (MGD) for the month.
- (3) If pH is monitored continuously, the minimum and maximum pH values for each day shall be reported in SMRs.
 - (4) The Discharger may request a waiver of the BOD monitoring requirements at E-001 by providing written notice that C&H wash down water no longer enters the Discharger’s water treatment sump.
 - (5) Each oil and grease sampling event shall consist of a composite sample composed of three grab samples taken at equal intervals during the sampling day, with each grab sample being collected in a glass container. The grab samples shall be mixed in proportion to the instantaneous flow rates occurring at the time of each grab sample, within an accuracy of plus or minus 5%. Each glass container used for sample collection or mixing shall be thoroughly rinsed with solvent rinsings as soon as possible after use, and the solvent rinsings shall be added to the composite sample for extraction and analysis.
 - (6) Temperature readings shall be taken simultaneously with receiving water temperature readings at Monitoring Locations RSW-002 and RSW-003. If simultaneous readings are impossible, the time between effluent and receiving water readings shall be kept to a minimum. The difference in temperature at E-001 and RSW-002 and the difference in temperature at E-001 and RSW-003 shall both be reported to determine compliance with the effluent limitation for temperature found in this Order.
 - (7) Acute bioassay tests shall be performed in accordance with MRP Section V.A.
 - (8) Those thirteen metals identified in the California Toxics Rule at 40 CFR 131.38 as pollutant numbers 1-13. Metal monitoring results may be used to satisfy, in part, bi-monthly monitoring requirements for copper, lead, selenium, and zinc required by Table E-3.
 - (9) Monitoring for the priority pollutants identified (40 CFR 131.38) is addressed in the Regional Standard Provisions (Attachment G).

b. The Discharger shall monitor storm water effluent from the Plant at E-002 as follows.

Table E-3. Effluent Monitoring – Monitoring Location E-002

Parameter	Units	Sample Type	Minimum Sampling Frequency
pH	s.u	Grab	Each Occurrence ⁽¹⁾
BOD ⁽²⁾	mg/L	Grab	Each Occurrence ⁽¹⁾
Oil and Grease ⁽³⁾	mg/L	Grab	Each Occurrence ⁽¹⁾
Priority Pollutants	µg/L	Grab	1/5 Years
Standard Observations	---	Observation	Each Occurrence ⁽¹⁾

Footnotes to Table E-3:

Units:

- µg/L = micrograms per liter
- mg/L = milligrams per liter
- s.u. = standard units

- (1) “Each occurrence” shall refer to each significant storm water discharge or wash down water discharge, defined as a continuous discharge of storm water or wash down water for a minimum of one hour, or an intermittent discharge of storm water or wash down water for a minimum of three hours in a 12-hour period. For BOD, the Discharger may request a decrease in the minimum sampling frequency to Quarterly, if monitoring data show compliance with this requirement for two years after the effective date of this Order on July 1, 2010.
- (2) The Discharger may request a waiver of the BOD monitoring requirements at E-002 by providing written notice that C&H wash down water no longer enters the Discharger’s storm water catch basins.
- (3) Each oil and grease sample event shall consist of grab sample being collected in a glass container. The grab samples shall be mixed in proportion to the instantaneous flow rates occurring at the time of each grab sample, within the accuracy of plus or minus 5%. Each glass container used for sample collection or mixing shall be thoroughly rinsed with solvent rinsings as soon as possible after use, and the solvent rinsings shall be added to the composite sample for extraction or analysis.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

The Discharger shall monitor acute toxicity at the compliance location and frequency specified in Table E-3 as follows:

1. Compliance with the acute toxicity effluent limitations of this Order shall be evaluated by measuring survival of test organisms exposed to 96-hour static renewal bioassays.
2. Test organisms shall be fathead minnow and rainbow trout in parallel unless specified otherwise in writing by the Executive Officer.
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 can demonstrate 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 the test samples are adjusted to remove the influence of those substances. The Discharger must obtain written approval from the Executive Officer to authorize such an adjustment.
5. Effluent used for fish bioassays shall 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 recorded and maintained with all other analytical documents.

If final or intermediate results of an acute bioassay test indicate a violation or threatened violation (i.e., the percentage of surviving test organisms of any single acute bioassay test is less than 70 percent), or if the control fish survival rate is less than 90 percent, a new test shall be initiated and the Discharger shall investigate the cause of the mortalities and report its findings in the next self-monitoring report (SMR). Bioassay tests shall continue back-to-back until a bioassay test indicates no violation or threatened violation.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

Not Applicable.

VII. RECLAMATION MONITORING REQUIREMENTS

Not Applicable.

VIII. RECEIVING WATER MONITORING REQUIREMENTS

- A. The Discharger shall continue to participate in the Regional Monitoring Program for Trace Substances (RMP), which involves collection of data on pollutants and toxicity in water, sediment, and biota of the Estuary. The Discharger’s participation and support of the RMP is used in consideration of the level of receiving water monitoring this Order requires.
- B. The Discharger shall conduct receiving water monitoring at Monitoring Locations RSW-001, RSW-002, and RSW-003 as described in Table E-4, below.

Table E-4. Receiving Water Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
pH ⁽¹⁾	s.u.	Grab ⁽²⁾	1/Quarter

Parameter	Units	Sample Type	Minimum Sampling Frequency
Temperature ⁽³⁾	°F	Cont/D ⁽²⁾	1/Day ⁽³⁾
Standard Observations ⁽⁴⁾	--	--	1/Quarter

Footnotes to Table E-4:

Units:

s.u. = standard units

°F = degrees Fahrenheit

(1) Applicable only to RSW-002 and RSW-003.

(2) Samples shall be collected within 1 foot below the surface of the receiving waterbody. Daily continuous samples shall occur only at RSW-002. Quarterly grab samples shall occur at RSW-003.

(3) Monitoring shall occur once per day (1/Day) only at RSW-002. Monitoring shall occur once per quarter (1/Quarter) at RSW-003. Temperature readings at both RSW-002 and RSW-003 shall occur simultaneously with temperature readings at E-001, if not possible, the time between readings shall be kept to a minimum. The difference in temperature at E-001 and RSW-002 and the difference in temperature at E-001 and RSW-003 shall both be reported to determine compliance with the effluent limitation for temperature found in this Order.

(4) Standard observations are described in Attachment G.

IX. OTHER MONITORING REQUIREMENTS

The Discharger shall record daily the occurrence and extent of precipitation in inches, according to the nearest official recording National Weather Service rainfall station, or other station acceptable to the Executive Officer.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

B. Self Monitoring Reports (SMRs)

- 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 hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.
- The Discharger shall submit quarterly and annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR. SMRs shall be due on the 30th day following the end of each calendar quarter, covering samples collected during that calendar quarter; Annual Reports shall be due on February 1 following each calendar year.
- Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-5. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
Continuous	Day after permit effective date	All
Hourly	Day after permit effective date	Hourly
Daily	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.
Weekly	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday
Monthly	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
Quarterly	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
Semiannually	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31
Annually	January 1 following (or on) permit effective date	January 1 through December 31
Per 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
Per Permit Term	From the Effective date of the permit term	From the effective date of the permit to 180 days before permit expiration

4. The Discharger shall submit SMRs in accordance with the following requirements:
 - a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.
 - b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and propose a time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.
 - c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Federal Standard Provisions (Attachment D), to the address listed below:

Executive Officer
 California Regional Water Quality Control Board
 San Francisco Bay Region

1515 Clay Street, Suite 1400
Oakland, CA 94612
ATTN: NPDES Wastewater Division

C. Discharge Monitoring Reports (DMRs)

1. As described in Section XI.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 must be signed and certified as required by the Federal Standard Provisions (Attachment D). The Discharge 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, 15 th Floor Sacramento, CA 95814

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

D. Other Reports

The Discharger shall report the results of any special studies, monitoring, and reporting required by Section VI.C.2 (Special Studies, Technical Reports, and Additional Monitoring Requirements) of this Order with the first monthly SMR following the respective due date.

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. Sections or subsections of this Order not specifically identified as “not applicable” fully apply to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Crockett Cogeneration Plant.

Table F-1. Facility Information

WDID	2 071201001
Discharger	Crockett Cogeneration LLP
Name of Facility	Crockett Cogeneration Plant
Facility Address	550 Loring Avenue
	Crockett CA 94525
	Contra Costa County
Facility Contact, Title, Phone	Christopher Sargent, Environmental Coordinator, 510-787-4101
Authorized Person to Sign and Submit Reports	Patrick Morris, Plant Manager, 510-787-4105
Mailing Address	Same as Facility Address
Billing Address	Same as Facility Address
Type of Facility	Steam Electric Power Generation Plant
Major or Minor Facility	Minor
Threat to Water Quality	2
Complexity	B
Pretreatment Program	No
Reclamation Requirements	No
Facility Permitted Flow	500,400 gallons per day (gpd) (monthly average design flow capacity at Discharge Point 001)
Facility Design Flow	178,000 gpd (actual long-term average flow at Discharge Point 001)
	791,000 gpd (actual maximum daily flow at Discharge Point 001)
Watershed	Suisun Basin
Receiving Water	Carquinez Strait
Receiving Water Type	Estuarine

- A. Crockett Cogeneration LLP owns and operates the Crockett Cogeneration Plant (Plant). The Plant is a natural gas-fired steam electric cogeneration plant that discharges treated process wastewater and storm water runoff to Carquinez Strait. Section II, Facility Description, details the Plant’s operations.

- B. The discharge of treated wastewater and storm water from the Plant to Carquinez Strait, a water of the United States, is currently regulated by Order No. R2-2004-0026 (NPDES Permit No. CA0029904), which was adopted on May 19, 2004, became effective on August 1, 2004, and expired on June 30, 2009.
- C. The Discharger filed a Report of Waste Discharge and submitted an application for reissuance of its WDRs and NPDES permit on December 29, 2008. The application was deemed complete and the previous Order was administratively extended.

II. FACILITY DESCRIPTION

A. Description of Wastewater Treatment

The Discharger owns and operates the Crockett Cogeneration Plant (Plant), which is a natural gas-fired steam electric power cogeneration plant. The Discharger generates electricity for Pacific Gas and Electric Company, with a design net electrical output of 240 Megawatts (MW). Heat is recovered from the gas turbines to produce 425 pound-force per square inch gauge (psig) of steam at a maximum rate of 400,000 pounds per hour (lbs/hr) for the neighboring sugar refinery, C&H Sugar Company.

Process wastewater generated includes three low-volume waste streams: approximately 24,500 gallons per day (gpd) of evaporative cooler blowdown, 153,000 gpd of demineralizer regenerant waste, and 28,800 gpd of boiler blowdown, which has a temperature of approximately 150°F. The Discharger installed two air-cooled heat exchangers to lower the temperature of the boiler blowdown, and municipal water from East Bay Municipal Utility District is added to the boiler blowdown sump to control the discharge temperature. The wastestreams are mixed in a 150,000 gallon neutralization tank and, if necessary, sulfuric acid and caustic soda are added to control pH prior to discharge at Discharge Point 001. Intermittently, C&H Sugar conducts conveyor belt system wash downs and some of this wash down, which contains sugar, drains to the Plant's water treatment sump. Final effluent is discharged at Discharge Point 001 to Carquinez Strait via C&H Sugar's deep water outfall, which is located at 200 feet offshore and 47 feet below mean low water. Peak Plant flows occur occasionally when more than one demineralizer regeneration occurs in one day, which depends on the water supply quality.

The Discharger also collects storm water runoff from a total of 2 acres; an annual volume of 90,000 gallons of air-cooled condenser wash down water from the exterior of the air-cooled condenser system; an annual volume of 360,000 gallons of wash down water from walkways and stairways; and a limited quantity of condensation from the exterior surface of three roof-mounted air conditioners in catch basins throughout the site. This wastewater is not expected to contain any toxic pollutants or oil and grease, and is discharged at Discharge Point 002 to Carquinez Strait. A manually operated valve at manhole number 3 is used to prevent the discharge of accidental spills or contaminated storm water.

Attachment B provides a Plant area map. Attachment C provides a Plant flow schematic.

B. Discharge Points and Receiving Waters

Table F-2 shows the Plant discharge point locations and the receiving water.

Table F-2. Outfall Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Treated Process Wastewater	38° 03' 22" N	122° 13' 05" W	Carquinez Strait
002	Storm Water; Wash Down Water; Air Conditioner Condensation	38° 03' 22" N	122° 13' 50" W	Carquinez Strait

Carquinez Strait is located in the Suisun Bay hydrologic area within the Suisun Watershed.

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

Effluent limitations contained in the previous permit (Order No. R2-2004-0026) and representative monitoring data from the term of the previous permit are as follows:

Table F-3. Previous Effluent Limitations (Order No. R2-2004-0026) and Monitoring Data for Conventional and Non-Conventional Pollutants at Discharge Point 001

Parameter	Units	Effluent Limitations		Monitoring Data (From 01/05 to 12/08)	
		Monthly Average	Daily Maximum	Highest Monthly Average	Highest Daily Discharge
Total Suspended Solids (TSS)	mg/L	30	45	31	186
Oil and Grease	mg/L	10	20	<1.0	<1.0
pH	s.u.	Within 6.0 – 9.0		Minimum- 6.4 Maximum- 8.5	
Temperature	°F	Shall not exceed receiving water temperature by more than 20°F		Maximum Temperature Difference - 19.7	
Acute Toxicity	% Survival	3-Sample Median – 90% minimum Single Sample – 70% minimum		3-Sample Median – minimum: 100% Single Sample – minimum: 100%	

Footnotes to Table F-3:

Units:

mg/L = milligrams per liter

s.u. = standard units

°F = degrees Fahrenheit

< = Analyte not detected in effluent. Value provided is the method detection limit (MDL).

Table F-4. Previous Effluent Limitations (Order No. R2-2004-0026) and Monitoring Data for Toxic Pollutants at Discharge Point 001

Parameter	Units ⁽¹⁾	Final Limits		Interim Limits	Monitoring Data (From 02/05 to 12/08)
		Daily Maximum	Monthly Average	Daily Maximum	Highest Daily Concentration
Copper	µg/L	---	---	252	51
Lead	µg/L	40	80	---	6.0
Nickel	µg/L	---	---	376	8.7
Selenium	µg/L	---	---	51	9
Zinc	µg/L	840	330	---	150
Cyanide	µg/L	---	---	265	22
4,4-DDE	µg/L	---	---	0.05	<0.003
Dieldrin	µg/L	---	---	0.01	<0.003

Footnotes to Table F-4:

Units:

µg/L = micrograms per liter

< = Analyte not detected in effluent. Value provided is the method detection limit (MDL).

Table F-5. Monitoring Data at Discharge Point 002

Parameter	Units	Monitoring Data (from 09/04 – 12/08)	
		Minimum	Maximum
Oil and Grease	mg/L	< 1.0	8.9
pH	s.u.	6.01	7.96

Footnotes to Table F-5:

Units:

mg/L = milligrams per liter

s.u.= standard units

< = Analyte not detected in effluent. Value provided is the method detection limit (MDL).

D. Compliance Summary

- 1. Compliance with Numeric Effluent Limits.** There were five exceedances of numeric effluent limitations from 2004 through 2008. Mandatory Minimum Penalty Complaint No. SWB-2008-2-0006 covered one total suspended solid violation that occurred on August 16, 2006.

Table F-6. Compliance with Previous Permit Provisions

Parameter	Units	Effluent Limitation	Reported Value	Violation
Total Suspended Solids	mg/L	Daily Maximum = 45 mg/L	48	Exceedance of daily maximum limitation on April 12, 2006
Total Suspended Solids	mg/L	Daily Maximum = 45 mg/L	92	Exceedance of daily maximum limitation on August 16, 2006
Total Suspended Solids	mg/L	Daily Maximum = 45 mg/L	64	Exceedance of daily maximum limitation on August 22, 2006
Total Suspended Solids	mg/L	Daily Maximum = 45 mg/L	186	Exceedance of daily maximum limitation on August 27, 2006
Total Suspended Solids	mg/L	Monthly Average = 30 mg/L	31	Exceedance of monthly average limitation on August 30, 2006

- 2. Compliance with Previous Permit Provisions.** A list of special activities required by the previous Order and the status of those requirements are shown in Table F-6, below.

Table F-7. Compliance with Previous Permit Provisions

Provision Number	Requirement	Status of Completion
D.4	Whole Effluent Acute Toxicity – 96 hour flow through or static renewal bioassays using fathead minnows and rainbow trout	The Discharger’s acute toxicity monitoring data show that four bioassay tests run in parallel on fathead minnow and rainbow trout from January 2005 – December 2008 resulted in 100% survival, except for the fathead minnow result on August 12, 2008, which showed 60% survival. The test was repeated on August 25, 2008, and showed 100% survival. There have been no violations of acute toxicity effluent limitations therefore during the previous permit term.
D.7	Optional Copper and Nickel Translator Study	Not Completed (Optional)
D.10	Storm Water Pollution Prevention Plan and Annual Report	Reviewed annually and updated plan submitted May 2005, June 2007, and June 2008

E. Planned Changes

The Discharger is not planning any major changes at the Plant.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

This Order is issued pursuant to Clean Water Act (CWA) Section 402 and implementing regulations adopted by USEPA, and California Water Code (CWC), Chapter 5.5, Division 7 (commencing with Section 13370). It serves as an NPDES permit for point source discharges from this Plant 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 (WQOs) for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve WQOs. The Basin Plan was adopted by the Regional Water Board and approved by the State Water Resources Control Board, the Office of Administrative Law, and USEPA. Requirements of this Order implement the Basin Plan.

The Basin Plan specifically identifies beneficial uses for Carquinez Strait. The Basin Plan implements State Water Board Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply (MUN). Because of the tidal and marine influence on these receiving waters, total dissolved solids levels are expected to exceed 3,000 milligrams per liter (mg/L) and thereby qualify for an exception to State Water Board Resolution No. 88-63. The MUN designation therefore does not apply to the receiving water for discharges from this Plant. Table F-7 summarizes the beneficial uses of Carquinez Strait.

Table F-8. Basin Plan Beneficial Uses of Carquinez Strait

Discharge Point	Receiving Water Name	Beneficial Uses
001 002	Carquinez Strait	Industrial Service Supply (IND) Ocean, Commercial, and Sport Fishing (COMM) Estuarine Habitat (EST) Fish Migration (MIGR) Preservation of Rare and Endangered Species (RARE) Fish Spawning (SPWN) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2) Navigation (NAV)

- 2. Thermal Plan.** The State Water Board adopted its *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. The Thermal Plan contains temperature objectives for surface waters. This Order contains temperature limitations for discharge at Discharge Point 001 and the receiving water in accordance with the Thermal Plan requirements for a new discharger that discharges an elevated temperature waste to an estuary. Since the Plant was constructed after the Thermal Plan was adopted, it is classified as a new discharge. Per the Thermal Plan’s definition of estuaries and coastal lagoons, “Carquinez Strait downstream to Carquinez Bridge” is defined as estuarine waters. Therefore, Discharge Point 001 discharges to an estuary. Since none of the three waste streams discharged at Discharge Point 001 are discharged for the purpose of transporting waste heat, this effluent is classified as elevated temperature waste, rather than thermal waste.

Therefore, the specific Thermal Plan water quality objectives at Section 5.B.(1) for this type of discharge apply to the discharge at Discharge Point 001, which include: (1) The maximum temperature of the discharge shall not exceed the natural receiving water temperature by more than 20 degrees Fahrenheit; (2) Elevated temperature waste discharges either individually or combined with other discharges shall not create a zone, defined by water temperatures of more than 1 degree Fahrenheit above natural receiving water temperature, which exceeds 25 percent of the cross-sectional area of Carquinez Strait at any point; (3) No discharge shall cause a surface water temperature rise greater than 4 degrees Fahrenheit above the natural temperature of Carquinez Strait at any time or place, and (4) Additional limitations shall be imposed when necessary to assure protection of beneficial uses.

- 3. National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and amended it on May 4, 1995, and November 9, 1999. About 40 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 (WQC) for priority toxic pollutants, which applied to the receiving waters for this Discharger.
- 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 with respect 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. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria, and 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), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.
- 6. Antidegradation Policy.** 40 CFR 131.12 requires that state WQS include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy through State Water Board Resolution 68-16, which incorporates the federal antidegradation policy where it applies. Resolution 68-16 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 provision of 40 CFR 131.12 and State Water Board Resolution No. 68-16.
- 7. Anti-Backsliding Requirements.** CWA Sections 402(o)(2) and 303(d)(4) and federal regulations at 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 permit, with some exceptions in which limitations may be relaxed.

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

In November 2006, USEPA approved a revised list of impaired water bodies prepared by the State [the 303(d) list] pursuant to CWA Section 303(d). It identifies specific water bodies where it is expected that WQS will not be met after implementation of technology-based effluent limitations on point sources. Carquinez Strait is listed as impaired water by chlordane, DDT, dieldrin, dioxin

compounds, furan compounds, exotic species, mercury, PCBs, dioxin-like PCBs, and selenium. The SIP requires final effluent limitations for all 303(d)-listed pollutants to be consistent with total maximum daily loads and associated waste load allocations.

A TMDL for mercury for San Francisco Bay was adopted on February 12, 2008. The Plant's discharge of mercury is regulated by Regional Water Board Order No. R2-2007-0077, which implements the adopted mercury TMDL and contains monitoring and reporting requirements.

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 40 CFR: Section 122.44(a) requires that permits include applicable technology-based limitations and standards; and Section 122.44(d) requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative WQOs to protect the beneficial uses of the receiving water.

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

A. Discharge Prohibitions

- 1. Discharge Prohibition III.A (No discharge other than as described in this Order):** This prohibition is the same as in the previous permit and is based on CWC Section 13260, which requires filing a Report of Waste Discharge before discharges can occur. Discharges not described in the Report of Waste Discharge, and subsequently in this Order, are prohibited.
- 2. Discharge Prohibition III.B (No discharge at Discharge Point 001 that does not receive at least 10:1 dilution):** This prohibition is retained from the previous permit and is based on Discharge Prohibition 1 from Basin Plan Table 4-1, which prohibits discharges that do not receive a minimum 10:1 initial dilution. Further, this Order allows a 10:1 dilution credit in the calculation of some WQBELs, and these limits would not be protective of water quality without a 10:1 minimum initial dilution.
- 3. Discharge Prohibition III.C (No bypass or overflow of untreated or partially treated wastewaters):** This prohibition is newly established by the Order and is based on 40 CFR 122.41(m) (see federal Standard Provisions, Attachment D, Section G).
- 4. Discharge Prohibition III. D (Discharge of polychlorinated biphenyl compounds is prohibited).** This prohibition is retained from the previous permit and is based on the requirements of the *Effluent Limitations and Guidelines for the Steam Electric Power Generating Point Source Category* at 40 CFR Part 423.15(b).
- 5. Discharge Prohibition III. E (Discharge of oxidizing or non-oxidizing biocides is prohibited).** The effluent limitations prohibiting the discharge of total residual chlorine and non-oxidizing biocides, used for microbiological control in cooling or process water systems. Although such materials are commonly used in industrial water systems, the Discharger has

stated that such materials are not used at the Plant. The limitations reflect the Regional Water Board's concern that this Order can address only effluent quality and conditions that were contemplated during permit development. Since these substances were not contemplated by the Order, discharge of these substances would constitute an unauthorized discharge, and is therefore prohibited.

5. Discharge Prohibition III. E (Discharge of metal cleaning wastewaters is prohibited).

The effluent limitations prohibit the discharge of metal cleaning wastewaters, such as boiler and heat exchanger cleaning wastes. Although such materials are commonly used in industrial water systems, the Discharger has stated that such materials are not used at the Plant. The limitations reflect the Regional Water Board's concern that this Order can address only effluent quality and conditions that were contemplated during permit development. Since these substances were not contemplated by the Order, discharge of these substances would constitute an unauthorized discharge, and is therefore prohibited.

The previous permit contained a prohibition against monthly average flows greater than 500,400 gpd. This Order establishes mass-based effluent limitations based on the Plant's long-term average flow of approximately 178,000 gpd. In accordance with Standard Provisions V.F.2, the Discharger must report increased flow rates that can significantly increase the quantity of pollutants discharged. Such increased flow rates will trigger the need for an antidegradation review pursuant to the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

B. Technology-Based Effluent Limitations

1. Scope and Authority

CWA Section 301(b) and 40 CFR 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order at Discharge Point 001 must meet federal technology-based requirements based on *Effluent Limitations and Guidelines (ELGs) for the Steam Electric Power Generating Point Source Category* at 40 CFR Part 423.

The CWA requires that technology-based effluent limitations are established based on several levels of control:

- 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 pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants, including BOD, 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. The intent of NSPS guidelines is to set limitations that represent state of the art treatment technology for new sources (those beginning operations after ELGs are adopted).

The CWA requires USEPA to develop ELGs representing application of BPT, BAT, BCT, and NSPS. CWA Section 402(a)(1) and 40 CFR 125.3 authorize the use of Best Professional Judgment (BPJ) to derive technology-based effluent limitations on a case by case basis where ELGs are not available for certain industrial categories and pollutants of concern. Where BPJ is used, the specific factors outlined at 40 CFR 125.3 must be considered.

The Crockett Cogeneration Plant is considered a new source with respect to the ELGs that were originally promulgated in 1982. Table F-8 summarizes the applicable requirements of these ELGs found at 40 CFR 423.15. The remaining provisions of 40 CFR Section 423.15 do not apply because the Discharger only discharges “low volume wastes,” as that term is defined by the ELGs. The ELGs require a mass-based limitation for TSS and oil and grease, determined by multiplying the flow of all low volume waste sources by the concentration-based limitation provided in the table below.

Table F-9. Effluent Limit Guidelines at 40 CFR Part 423.15 (a) to (c)

	30-Day Average	Daily Maximum
TSS	30.0 mg/L	100.0 mg/L
Oil and Grease	15.0 mg/L	20.0 mg/L
pH	Within the range of 6.0 – 9.0	
Polychlorinated Biphenyl Compounds	No discharge	

The previous permit limitations for TSS and oil and grease were more stringent than the ELGs required. The Regional Water Board concluded that the Discharger could technologically and economically comply with the more stringent limitations based on compliance monitoring since 1995. This Order therefore retains the more stringent limitations for TSS and oil and grease.

This Order also establishes mass-based limitations for TSS and oil and grease consistent with the ELGs, based on the Plant’s long-term average flow approximately 178,000 gpd. For example, for a TSS average monthly concentration-based limit of 30 mg/L, the average monthly mass-based limit is 44 lbs/day (178,000 gpd * 30 mg/L * 1 kg/10⁶ mg * 2.2 lbs/1kg * 3.8L/1gal). The Order also retains a discharge prohibition for polychlorinated biphenyl compounds (Discharge Prohibition III.D).

The pH limitation is retained from the previous permit and is based on the ELGs at 40 CFR 423.15(a).

C. Thermal Effluent Limits

Thermal effluent limitations for discharge at Discharge Point 001 and the receiving water are retained from the previous permit and are based on specific Thermal Plan WQOs at Section 5.B.(1) for new discharges of elevated temperature waste to estuaries. Since the Plant was constructed after the Thermal Plan was adopted, it is classified as a new discharge. Per the Thermal Plan's definition of estuaries and coastal lagoons, "Carquinez Strait downstream to Carquinez Bridge" is defined as estuarine waters. Therefore, Discharge Point 001 discharges to an estuary. Since none of the three waste streams discharged at Discharge Point 001 are discharged for the purpose of transporting waste heat, this effluent is classified as elevated temperature waste, rather than a thermal waste.

D. Water Quality-Based Effluent Limits (WQBELs)

WQBELs have been derived to implement WQOs that protect beneficial uses. Both the beneficial uses and the WQOs have been approved pursuant to federal law. USEPA approved SIP procedures for calculating individual WQBELs prior to May 1, 2001. USEPA also approved Basin Plan provisions for calculating individual WQBELs on May 29, 2000. Most beneficial uses and Basin Plan WQOs were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any WQOs and beneficial uses submitted to the USEPA prior to May 30, 2000, but not approved by USEPA before that date are nonetheless "applicable water quality standards for purposes of the [Clean Water] Act" pursuant to 40 CFR 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than the applicable WQS for CWA purposes.

1. Scope and Authority

- a.** NPDES regulations at 40 CFR 122.44(d)(1)(i) mandate that permits include WQBELs for all pollutants, including toxicity, that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an excursion of a WQS, including numeric and narrative objectives within a standard (Reasonable Potential). As specified in 40 CFR 122.44(d)(1)(i), permits are required to include WQBELs for all pollutants "which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard." Where Reasonable Potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, 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 WQC, such as a proposed State criterion or policy interpreting the State's narrative criterion, supplemented with other relevant information, as provided in Section 122.44(d)(1)(vi).

The process for determining Reasonable Potential and calculating WQBELs when necessary is intended to (1) protect the designated beneficial uses of the receiving water as specified in the Basin Plan, and (2) achieve applicable WQOs contained in the CTR, NTR, and Basin Plan.

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

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

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

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

2. Applicable Beneficial Uses and WQOs

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 salt and freshwater, lead, mercury, nickel, silver, zinc, and cyanide. The narrative toxicity objective 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 this 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, although Basin Plan Tables 3-3 and 3-4 include numeric objectives for certain of these priority toxic pollutants that supersede CTR criteria (except in the South Bay south of the Dumbarton Bridge).

Human health criteria are further identified as “water and organisms” and “organisms only.” Because the receiving water is not designated for the MUN beneficial use, the CTR criteria applicable to “organisms only” apply.

c. **NTR.** The NTR establishes numeric aquatic life criteria for selenium and numeric human health criteria for 33 toxic organic pollutants for waters of San Francisco Bay upstream to and including Suisun Bay and the Sacramento River-San Joaquin River Delta. These NTR criteria apply to Carquinez Strait.

- d. Basin Plan Receiving Water Salinity Policy.** The Basin Plan and CTR state that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water shall be considered in determining the applicable WQOs. Freshwater criteria shall apply to discharges to waters with salinities equal to or less than one part per thousand (ppt) at least 95 percent of the time. Saltwater criteria shall apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to water with salinities in between these two categories, or tidally influenced freshwaters that support estuarine beneficial uses, the criteria shall be the lower of the salt or freshwater criteria (the latter calculated based on ambient hardness) for each substance.

Carquinez Strait is the receiving water for the discharge at Discharge Point 001. It is tidally influenced. Salinity data are measured at Station BD40 at Davis Point, the nearest Regional Monitoring Program (RMP) station to the discharge point. Salinity data from March 1993 to August 2001 show that 43 percent of the data fall between 1 and 10 ppt, indicating an estuarine environment. The more stringent of the freshwater and salt water criteria therefore apply to the discharge.

- e. Receiving Water Hardness.** Ambient hardness values are used to calculate freshwater WQOs that are hardness dependent. In determining the WQOs for this Order, a hardness of 48 mg/L as CaCO₃ was used. This is the minimum hardness value collected at the Davis Point RMP station from April 1995 to August 2001. After the data were censored for hardness values greater than 400 mg/L and for corresponding salinity values greater than 1 ppt, only two data points were available. The minimum hardness value was used to be most protective of the receiving water.
- f. Site-Specific Metals Translators.** NPDES Regulations at 40 CFR 122.45(c) require that effluent limitations for metals be expressed as total recoverable metal. Since applicable WQOs for metals are typically expressed as dissolved metal, translators must be used to convert metals concentrations from dissolved to total recoverable and vice versa. In the CTR, USEPA establishes default translators to be used in NPDES permits; however, site-specific conditions, such as water temperature, pH, suspended solids, and organic carbon, greatly affect the form of metal (dissolved, non-filterable, or otherwise) that is present in the water and therefore available to cause toxicity. In general, the dissolved (filterable) form of a metal is more available and more toxic to aquatic life than non-filterable forms. Site-specific translators can be developed to account for site-specific conditions, thereby preventing exceedingly stringent or under-protective WQBELs.

For deep water discharges to North San Francisco Bay, Regional Water Board staff applied the following translators for nickel based on recommendations in the Clean Estuary Partnership's *North of Dumbarton Bridge Copper and Nickel Development and Selection of Final Translators* (2005). The Regional Water Board adopted Resolution No. R2-2007-0042 and USEPA approved it on January 6, 2009. The Resolution lists the following copper site-specific translators for San Francisco Bay deep water discharges. Regional Water Board staff applied these translators to the copper and nickel WQOs. In determining the need for and calculating WQBELs for all other metals, Regional Board staff used default translators USEPA established in the CTR at 40 CFR 131.38(b)(2), Table 2.

Table F-10. Cu and Ni Translators for Deepwater Dischargers to North San Francisco Bay

Pollutant	Site-Specific Translators	
	MDEL	AMEL
Copper	0.66	0.38
Nickel	0.57	0.27

3. Determining the Need for WQBELs

Assessing whether a pollutant has Reasonable Potential is the fundamental step in determining whether or not a WQBEL is required. Using the methods described in SIP Section 1.3, the effluent data at Discharge Point 001 were analyzed to determine if the discharge demonstrates Reasonable Potential. The Reasonable Potential Analysis compares the effluent data with numeric and narrative WQOs in the Basin Plan, the NTR, and the CTR.

- a. Reasonable Potential Analysis (RPA).** The RPA identifies the observed maximum effluent concentration (MEC) in the effluent for each pollutant based on effluent concentration data. There are three triggers in determining Reasonable Potential according to SIP Section 1.3.
 - (1) The first trigger (Trigger 1) is activated if the MEC is greater than or equal to the lowest applicable WQO ($MEC \geq WQO$), which has been adjusted, if appropriate, for pH, hardness, and translator data. If the MEC is greater than or equal to the adjusted WQO, then that pollutant has Reasonable Potential, and a WQBEL is required.
 - (2) The second trigger (Trigger 2) is activated if the observed maximum ambient background concentration (B) is greater than the adjusted WQO ($B > WQO$) and the pollutant is detected in any of the effluent samples ($MEC > ND$).
 - (3) The third trigger (Trigger 3) 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.
- b. Effluent Data.** The Discharger monitors for priority pollutants using analytical methods that provide the best detection limits reasonably feasible. The effluent data and the nature of the discharge were analyzed to determine if the discharge has Reasonable Potential. The RPA is based on the effluent monitoring data collected in May 2008 for most pollutants, and from February 2005 through December 2008 for copper, nickel, lead, selenium, zinc, and cyanide.
- c. Ambient Background Data.** Ambient background values are used to determine Reasonable Potential and to calculate effluent limitations, when necessary. For the RPA, ambient background concentrations are the observed maximum detected water column concentrations. The SIP states that for calculating WQBELs, ambient background concentrations are either the observed maximum ambient water column concentrations or, for WQOs intended to protect human health from carcinogenic effects, the arithmetic mean of observed ambient water concentrations.

The background data used in the RPA were generated at the Yerba Buena RMP station, a far-field background station that has been monitored for most of the inorganic (CTR constituent numbers 1–15) and some of the organic (CTR constituent numbers 16–126) toxic pollutants.

The RMP does not monitor all constituents listed in the CTR. On May 15, 2003, a group of San Francisco Bay Region dischargers known as the Bay Area Clean Water Agencies (BACWA) submitted a collaborative receiving water study entitled, *San Francisco Bay Ambient Water Monitoring Interim Report* (2003). This study includes monitoring results from sampling events in 2002 and 2003 for the remaining priority pollutants not monitored by the RMP, and includes the Yerba Buena monitoring station. The BACWA report, *Ambient Water Monitoring: Final CTR Sampling Update Report*, dated June 15, 2004, provides additional data.

The RPA and WQBELs are based on RMP data from 1993 through 2006 for inorganics and organics at the Yerba Buena RMP station, and additional data from the BACWA receiving water study.

- e. **Reasonable Potential Determination.** The MECs, most stringent applicable WQOs, and background concentrations used in the RPA are presented in the following table, along with the RPA results (Yes or No) for each pollutant analyzed. Reasonable Potential was not determined for all pollutants because WQOs are not available for all pollutants, and monitoring data are not available for others. The RPA determined that the pollutants that exhibit Reasonable Potential are copper, lead, selenium, zinc, and cyanide by Trigger 1.

Table F-11. Reasonable Potential Analysis Summary

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	0.1	4300	1.8	No
2	Arsenic	0.4	36	2.46	No
3	Beryllium	< 0.01	No Criteria	0.215	Ud
4	Cadmium	< 0.06	0.95	0.13	No
5a	Chromium (III)	Not Available	172	Not Available	Ud
5b	Chromium (VI)	< 0.8	11	4.4	No
6	Copper	51	5.9	2.55	Yes
7	Lead	6	2.4	0.804	Yes
8	Mercury (303d listed) ⁽⁵⁾	---	---	---	---
9	Nickel	8.7	30	3.73	No
10	Selenium (303d listed)	9.0	5	0.39	Yes
11	Silver	0.01	2.2	0.052	No
12	Thallium	Not Available	6.3	0.21	No
13	Zinc	150	86	5.09	Yes
14	Cyanide	22	2.9	< 0.4	Yes
15	Asbestos	Not Available	No Criteria	Not Available	Ud
16	2,3,7,8-TCDD (303d listed)	< 5.6E-07	1.4E-08	8.2E-09	No
	Dioxin TEQ (303d listed)	(6)	1.4E-08	5.3E-08	No
17	Acrolein	< 1.3	780	< 0.5	No
18	Acrylonitrile	< 0.66	0.66	0.03	No
19	Benzene	< 0.25	71	< 0.05	No
20	Bromoform	< 0.32	360	< 0.5	No
21	Carbon Tetrachloride	< 0.22	4.4	0.06	No
22	Chlorobenzene	< 0.29	21,000	< 0.5	No
23	Chlorodibromomethane	0.5	34	< 0.05	No
24	Chloroethane	< 0.37	No Criteria	< 0.5	Ud
25	2-Chloroethylvinyl ether	< 0.56	No Criteria	< 0.5	Ud
26	Chloroform	4.1	No Criteria	< 0.5	Ud
27	Dichlorobromomethane	1.4	46	< 0.05	No
28	1,1-Dichloroethane	< 0.26	No Criteria	< 0.05	Ud
29	1,2-Dichloroethane	< 0.27	99	0.04	No
30	1,1-Dichloroethylene	< 0.23	3.2	< 0.5	No
31	1,2-Dichloropropane	< 0.28	39	< 0.5	No
32	1,3-Dichloropropylene	< 0.29	1700	< 0.5	No
33	Ethylbenzene	< 0.26	29,000	< 0.5	No
34	Methyl Bromide	< 0.27	4000	< 0.5	No
35	Methyl Chloride	< 0.27	No Criteria	< 0.5	Ud
36	Methylene Chloride	< 0.18	1600	22	No
37	1,1,2,2-Tetrachloroethane	< 0.3	11	< 0.05	No
38	Tetrachloroethylene	< 0.21	8.85	< 0.05	No
39	Toluene	< 0.24	200,000	< 0.3	No
40	1,2-Trans-Dichloroethylene	< 0.23	140,000	< 0.5	No
41	1,1,1-Trichloroethane	< 0.23	No Criteria	< 0.5	Ud
42	1,1,2-Trichloroethane	< 0.3	42	< 0.05	No
43	Trichloroethylene	< 0.26	81	< 0.5	No
44	Vinyl Chloride	< 0.36	525	< 0.5	No
45	2-Chlorophenol	< 0.8	400	< 1.2	No
46	2,4-Dichlorophenol	< 0.7	790	< 1.3	No
47	2,4-Dimethylphenol	< 0.8	2300	< 1.3	No
48	2-Methyl- 4,6-Dinitrophenol	< 0.6	765	< 1.2	No
49	2,4-Dinitrophenol	< 0.6	14000	< 0.7	No
50	2-Nitrophenol	< 0.6	No Criteria	< 1.3	Ud

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⁾
51	4-Nitrophenol	< 0.7	No Criteria	< 1.6	Ud
52	3-Methyl 4-Chlorophenol	< 0.6	No Criteria	< 1.1	Ud
53	Pentachlorophenol	< 0.6	7.9	< 1	No
54	Phenol	< 0.6	4,600,000	< 1.3	No
55	2,4,6-Trichlorophenol	< 0.6	6.5	< 1.3	No
56	Acenaphthene	< 0.03	2700	0.0019	No
57	Acenaphthylene	< 0.02	No Criteria	0.0013	Ud
58	Anthracene	< 0.02	110,000	5.9E-04	No
59	Benzidine	< 5	0.00054	< 0.00015	No
60	Benzo(a)Anthracene	< 0.02	0.049	5.3E-03	No
61	Benzo(a)Pyrene	< 0.02	0.049	3.3E-03	No
62	Benzo(b)Fluoranthene	< 0.02	0.049	4.6E-03	No
63	Benzo(ghi)Perylene	< 0.02	No Criteria	4.5E-03	Ud
64	Benzo(k)Fluoranthene	< 0.03	0.049	1.8E-03	No
65	Bis(2-Chloroethoxy)Methane	< 0.7	No Criteria	< 0.3	Ud
66	Bis(2-Chloroethyl)Ether	< 0.9	1.4	< 0.3	No
67	Bis(2-Chloroisopropyl)Ether	< 0.6	170,000	Not Available	No
68	Bis(2-Ethylhexyl)Phthalate	< 0.6	5.9	< 0.7 ⁽⁴⁾	No
69	4-Bromophenyl Phenyl Ether	< 1	No Criteria	< 0.23	Ud
70	Butylbenzyl Phthalate	< 0.7	5200	0.0056	No
71	2-Chloronaphthalene	< 1	4300	< 0.3	No
72	4-Chlorophenyl Phenyl Ether	< 1	No Criteria	< 0.3	Ud
73	Chrysene	< 0.02	0.049	2.8E-03	No
74	Dibenzo(a,h)Anthracene	< 0.02	0.049	6.4E-04	No
75	1,2-Dichlorobenzene	< 0.9	17,000	< 0.3	No
76	1,3-Dichlorobenzene	< 0.8	2600	< 0.3	No
77	1,4-Dichlorobenzene	< 0.9	2600	< 0.3	No
78	3,3 Dichlorobenzidine	< 1	0.077	< 0.0001	No
79	Diethyl Phthalate	< 0.6	120,000	< 0.21	No
80	Dimethyl Phthalate	< 0.7	2,900,000	< 0.21	No
81	Di-n-Butyl Phthalate	< 0.6	12,000	0.016	No
82	2,4-Dinitrotoluene	< 0.6	9.1	< 0.27	No
83	2,6-Dinitrotoluene	< 0.6	No Criteria	< 0.29	Ud
84	Di-n-Octyl Phthalate	< 0.7	No Criteria	< 0.38	Ud
85	1,2-Diphenylhydrazine	< 0.6	0.54	0.0037	No
86	Fluoranthene	< 0.02	370	0.0109	No
87	Fluorene	< 0.02	14,000	2.1E-03	No
88	Hexachlorobenzene	< 1	0.00077	2.2E-05	No
89	Hexachlorobutadiene	< 1	50	< 0.3	No
90	Hexachlorocyclopentadiene	< 0.8	17,000	< 0.3	No
91	Hexachloroethane	< 1	8.9	< 0.2	No
92	Indeno(1,2,3-cd)Pyrene	< 0.02	0.049	3.98E-03	No
93	Isophorone	< 0.8	600	< 0.3	No
94	Naphthalene	< 0.02	No Criteria	0.013	Ud
95	Nitrobenzene	< 0.7	1900	< 0.25	No
96	N-Nitrosodimethylamine	< 0.8	8.1	< 0.3	No
97	N-Nitrosodi-n-Propylamine	< 0.6	1.4	< 0.001	No
98	N-Nitrosodiphenylamine	< 0.6	16	9.51E-03	No
99	Phenanthrene	< 0.02	No Criteria	3.44E-03	Ud
100	Pyrene	< 0.02	11,000	0.0194	No
101	1,2,4-Trichlorobenzene	< 2	No Criteria	< 0.3	Ud
102	Aldrin	< 0.003	0.00014	2.8E-06	No
103	Alpha-BHC	< 0.002	0.013	4.96E-04	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⁾
104	Beta-BHC	< 0.002	0.046	4.13E-04	No
105	Gamma-BHC	< 0.002	0.063	7.03E-04	No
106	Delta-BHC	< 0.002	No Criteria	5.3E-05	Ud
107	Chlordane (303d listed)	< 0.04	0.00059	1.8E-04	No
108	4,4'-DDT (303d listed)	< 0.003	0.00059	1.7E-04	No
109	4,4'-DDE (linked to DDT)	< 0.003	0.00059	6.9E-04	No
110	4,4'-DDD	< 0.003	0.00084	3.1E-04	No
111	Dieldrin (303d listed)	< 0.003	0.00014	2.6E-04	No
112	Alpha-Endosulfan	< 0.003	0.0087	3.1E-05	No
113	beta-Endosulfan	< 0.003	0.0087	6.9E-05	No
114	Endosulfan Sulfate	< 0.003	240	8.2E-05	No
115	Endrin	< 0.003	0.0023	4.0E-05	No
116	Endrin Aldehyde	< 0.002	0.81	Not Available	No
117	Heptachlor	< 0.003	0.00021	1.9E-05	No
118	Heptachlor Epoxide	< 0.003	0.00011	9.4E-05	No
119-125	PCBs sum (303d listed)	< 0.04	0.00017	1.5E-03	No
126	Toxaphene	< 0.5	0.0002	Not Available	No
	Tributyltin	Not Available	0.0074	0.0022	Ud
	Total PAHs	< 0.02	15	0.084	No
	Total Ammonia (mg/L N)	0.54	1.24	0.20	No

Footnotes for Table F-11:

- (1) The Maximum Effluent Concentration (MEC) and maximum background concentration are the actual detected concentrations unless preceded by a “<” sign, in which case the value shown is the minimum detection level (DL).
- (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/WQC, B > WQO/WQC and MEC is detected, or Trigger 3;
= No, if MEC and B are < WQO/WQC or all effluent data are undetected;
= Undetermined (Ud), if no criteria have been promulgated or there are insufficient data.
- (4) Background data for bis(2-ethylhexyl)phthalate at the Yerba Buena RMP station included two detected values; however, these values are questionable because a second laboratory analysis did not confirm detectable values. Therefore, these two values were not considered in conducting the RPA. The remaining background values for bis(2-ethylhexyl)phthalate were non-detect values.
- (5) Regional Water Board Order No. R2-2007-0077 became effective March 1, 2008, and regulates discharges of mercury. Order No. R2-2007-0077 is a Watershed Permit that implements the San Francisco Bay Mercury TMDL. The discharge of mercury from the Plant is therefore regulated by means other than this Order.
- (6) All values for the individual congeners were non-detects.

(1) Constituents with limited data. In some cases, Reasonable Potential cannot be determined because effluent data are limited, or ambient background concentrations are not available. Provision VI.C.2.a. of the Order requires the Discharger to continue to monitor for these constituents in the effluent using analytical methods that provide the best feasible detection limits. When additional data become available, further RPA will be conducted to determine whether to add numeric effluent limitations to this Order or to continue monitoring.

(2) Pollutants with no Reasonable Potential. WQBELs are not included in this Order for constituents that do not demonstrate Reasonable Potential; however, monitoring for those pollutants is still required. If concentrations of these constituents are found to have increased significantly, this permit requires the Discharger to investigate the sources of the increases (see Provision VI.C.2.a. and Provision VI.C.3.b.(3) of this Order). This permit also requires the Discharger to implement remedial measures if the increases pose a threat to water quality in the receiving water (see Provision VI.C.3.b.(4) of this Order).

4. WQBEL Calculations

- a. **Pollutants with Reasonable Potential.** WQBELs were developed for the toxic and priority pollutants that were determined to have Reasonable Potential to cause or contribute to exceedances of the WQOs. The WQBELs were calculated based on WQOs and the procedures specified in SIP Section 1.4. The WQOs used for each pollutant with Reasonable Potential are discussed below.
- b. **Deep Water Discharge.** The discharge from the Plant to Carquinez Strait is classified as a deep water discharge, which the Basin Plan defines as a discharge through a diffuser that receives a minimum initial dilution of 10 to 1.
- c. **Dilution Credit.** The SIP provides the basis for a dilution credit. The diffuser at Discharge Point 001 is designed to achieve a minimum initial dilution of at least 10:1. Based on a review of RMP data from local and Central Bay monitoring stations, there is variability in receiving water quality and the hydrology of the receiving water is complex. There is uncertainty, therefore, regarding the representative nature of ambient background data for effluent limitation calculations.

Pursuant to SIP Section 1.4.2.1, “dilution credit may be limited or denied on a pollutant-by-pollutant basis....” The Regional Water Board finds that a conservative 10:1 (D=9) dilution credit is appropriate for most toxic priority pollutants to protect beneficial uses. No dilution credit is granted, however, for bioaccumulative pollutants that impair Carquinez Strait pursuant to CWA 303(d). The basis for the Regional Water Board’s determination regarding dilution is further explained below.

- (1) Bioaccumulative Pollutants: For certain bioaccumulative pollutants, dilution credit is significantly restricted or denied. This determination is based on available data on concentrations of these pollutants in aquatic organisms, sediment, and the water column. Specifically, these pollutants include chlordane, dieldrin, dioxins, furans DDT, PCBs, and selenium, which all appear on the CWA section 303(d) list because they impair the Carquinez Strait’s beneficial uses. The following factors suggest insufficient assimilative capacity in Carquinez Strait for these pollutants.

- (a) Bioaccumulative Pollutants Excluding Selenium

Tissue samples taken from fish in San Francisco Bay show the presence of these pollutants at concentrations greater than screening levels (*Contaminant Concentrations in Fish from San Francisco Bay*, May 1997). The results of a 1994 San Francisco Bay pilot study, presented in *Contaminated Levels in Fish Tissue from San Francisco Bay* (Regional Water Board, 1994) also showed elevated levels of chemical contaminants in fish tissues.

The Office of Environmental Health and Hazard Assessment completed a preliminary review of the data in the 1994 report and in December 1994 issued an interim consumption advisory covering certain fish species in San Francisco Bay due to the levels of some of these pollutants including dioxins and some pesticides. This advisory is still in effect. Therefore, dilution credits are denied for bioaccumulative pollutants on the 303(d) for which there is lack of data on

sources and significant uncertainty about how different sources of these pollutants contribute to bioaccumulation.

(b) Selenium

For selenium, San Francisco Bay waterfowl tissue data presented in the California Department of Fish and Game's Selenium Verification Study (1986-1990) showed elevated selenium levels in the livers of waterfowl that feed on bottom dwelling organisms, such as clams. In addition, the Office of Environmental Health and Hazard Assessment issued an advisory in 1987 for consumption of two species of diving ducks in the North Bay found to have high tissue levels of selenium. This advisory is still in effect. Elevated selenium levels have also been found in the tissue of white sturgeon, which also feed on clams.

This information, together with high uncertainty regarding how different sources of selenium contribute to bioaccumulation, have previously led the Regional Water Board to deny dilution credit for selenium. However, since the last permit reissuance, substantially more information has been generated to advance development of a TMDL for selenium in north San Francisco Bay segments. Based on this preliminary information, limited dilution credit for selenium is granted but only to a level where existing treatment performance is maintained until completion of the selenium TMDL, after which time the Regional Water Board will amend the limits to be consistent with the TMDL wasteload allocations. Granting a dilution credit for selenium is appropriate only because of the substantial amount of new information that has been generated and which does not apply to any other pollutant. Therefore, this Order uses a dilution credit of $D = 9$ (10:1 dilution) to calculate the selenium WQBELs.

- (2) Non-bioaccumulative Pollutants: For non-bioaccumulative constituents, a conservative dilution allowance of 10:1 ($D = 9$) has been assigned. The 10:1 dilution allowance is consistent with the previous permit and is also based on Basin Plan Prohibition 1 (Table 4-1), which prohibits discharges with less than 10:1 dilution. SIP section 1.4.2 allows for limiting the dilution credit:

- (a) A far-field background station is appropriate because the receiving water body (Carquinez Strait) is a very complex estuarine system with highly variable seasonal upstream freshwater inflows and diurnal tidal saltwater inputs. SIP section 1.4.3 allows background conditions to be determined on a discharge-by-discharge or water body-by-water body basis. Regional Water Board staff has chosen to use a water body-by-water body basis due to inherent uncertainties in characterizing ambient background conditions in a complex estuarine system on a discharge-by-discharge basis.

The Yerba Buena Island RMP monitoring station, relative to other RMP stations, fits SIP guidance criteria for establishing background conditions. The SIP requires that background water quality data be representative of the ambient receiving water that will mix with the discharge. Water quality data from the Yerba Buena Island monitoring station is representative of the water that will mix with discharges from Discharge Point 001.

- (b) Because of the complex hydrology of Carquinez Strait, a mixing zone has not been established. There are uncertainties in accurately determining the mixing zones for each discharge. The models that have been used to predict dilution have not considered the three dimensional nature of Carquinez Strait currents resulting from the interaction of tidal flushes and seasonal fresh water outflows. Being heavier and colder than fresh water, ocean salt water enters San Francisco Bay on twice-daily tidal cycles, generally beneath the warmer fresh water that flows seaward. When these waters mix and interact, complex circulation patterns occur due to the varying densities of the fresh and ocean waters.

The complex patterns occur throughout San Francisco Bay, but are most prevalent in the San Pablo, Carquinez Straight, and Suisun Bay areas. The locations of this mixing and interaction change, depending on the strength of each tide. Additionally, sediment loads from the Central Valley change on a long-term basis, affecting the depth of different parts of Carquinez Strait, resulting in alteration of flow patterns, mixing, and dilution at the outfall.

d. Calculation of Pollutant-Specific WQBELS

(1) Copper

- (a) **Copper WQOs.** The most stringent WQO for copper are the Basin Plan's chronic and acute site-specific objectives for non-ocean, marine waters of the Region: 2.5 and 3.9 micrograms per liter ($\mu\text{g/L}$), respectively, expressed as dissolved metal. These dissolved objectives were converted to total recoverable copper using the site-specific translators of 0.38 (chronic) and 0.66 (acute), as described in Section IV.D.2.f, above. The resulting chronic water quality criterion of $6.6 \mu\text{g/L}$ and acute water quality criterion of $5.9 \mu\text{g/L}$ were used to perform the RPA. These criteria incorporate a water effects ratio of 2.4.
- (b) **RPA Results.** This Order establishes effluent limitations for copper because the MEC of $51 \mu\text{g/L}$ exceeds the applicable WQO for this pollutant, demonstrating Reasonable Potential by Trigger 1.
- (c) **Copper WQBELS.** Effluent limitations for copper, calculated according to SIP procedures (with a CV of 1.2 and a dilution credit (D) of 9), are an AMEL of $72 \mu\text{g/L}$ and an MDEL of $190 \mu\text{g/L}$.
- (d) **Immediate Compliance Feasible.** Statistical analysis of effluent data for copper, collected from February 2005 through December 2008, shows that the 95th percentile ($23 \mu\text{g/L}$) is less than the AMEL ($72 \mu\text{g/L}$); the 99th percentile ($40 \mu\text{g/L}$) is less than the MDEL ($190 \mu\text{g/L}$); and the mean ($8.8 \mu\text{g/L}$) is less than the long term average of the lognormal distribution of the effluent data set after accounting for effluent variability ($34 \mu\text{g/L}$). The Regional Water Board therefore concludes that immediate compliance with final WQBELS for copper is feasible.

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

(2) Lead

- (a) **Lead WQOs.** The most stringent applicable WQO for lead are established by the Basin Plan for protection of freshwater aquatic life: 32 µg/L and 1.2 µg/L, acute and chronic, respectively. The WQO is based on a hardness of 48 mg/L as CaCO₃.
- (b) **RPA Results.** This Order establishes effluent limitations for lead because the MEC of 6.0 µg/L exceeds the applicable WQO for this pollutant, demonstrating Reasonable Potential by Trigger 1.
- (c) **Lead WQBELs.** WQBELs for lead, calculated according to SIP procedures (with a CV of 1.8 and a dilution credit (D) of 9), are an AMEL of 3.1 µg/L and an MDEL of 9.3 µg/L.
- (d) **Immediate Compliance Feasible.** Statistical analysis of effluent data for lead, collected from February 2005 through December 2008, shows that the 95th percentile (1.7 µg/L) is less than the AMEL (3.1 µg/L); the 99th percentile (3.4 µg/L) is less than the MDEL (9.3 µg/L); and the mean (0.6 µg/L) is less than the long term average of the lognormal distribution of the effluent data set after accounting for effluent variability (1.2 µg/L). The Regional Water Board therefore concludes that immediate compliance with these WQBELs for lead is feasible.
- (e) **Antibacksliding.** Antibacksliding requirements are satisfied because the newly calculated limitations for lead are more stringent than those contained in the previous permit.

(3) Selenium

- (a) **Selenium WQOs.** The most stringent applicable WQOs for selenium are established by the NTR for protection of marine aquatic life: 20 µg/L and 5.0 µg/L, acute and chronic, respectively.
- (b) **RPA Results.** This Order establishes effluent limitations for selenium because the MEC of 9.0 µg/L exceeds the applicable WQO for this pollutant, demonstrating Reasonable Potential by Trigger 1.
- (c) **Selenium WQBELs.** WQBELs for selenium, calculated according to SIP procedures (with a CV of 1.4 and a dilution credit (D) of 9), are an AMEL of 30 µg/L and an MDEL of 86 µg/L. The previous permit contained no AMEL, but did require an interim MDEL of 51 µg/L. Therefore, consistent with maintaining current performance, the WQBELs in this Order are an AMEL of 30 µg/L and an MDEL of 51 µg/L.

(d) Immediate Compliance Feasible. Statistical analysis of effluent data for selenium, collected from February 2005 through December 2008, shows that the 95th percentile (5.8 µg/L) is less than the AMEL (30 µg/L); the 99th percentile (14 µg/L) is less than the MDEL (51 µg/L); and the mean (1.6 µg/L) is less than the long term average of the lognormal distribution of the effluent data set after accounting for effluent variability (13 µg/L). Based on this analysis, the Regional Water Board therefore concludes that immediate compliance with the final effluent limitations for selenium is feasible.

(e) Antibacksliding. Antibacksliding requirements are satisfied because the limits in this Order are not less stringent than previous permit limitations for selenium.

(4) Zinc

(a) Zinc WQO. The most stringent applicable WQO for zinc established by the Basin Plan for protection of freshwater aquatic life is 64 µg/L, both the acute and chronic criteria. The WQO is based on a hardness of 48 mg/L as CaCO₃.

(b) RPA Results. This Order establishes effluent limitations for zinc because the MEC of 150 µg/L exceeds the applicable WQO for this pollutant, demonstrating Reasonable Potential by Trigger 1.

(c) Zinc WQBELs. WQBELs for zinc, calculated according to SIP procedures (with a CV of 1.1 and a dilution credit (D) of 9), are an AMEL of 230 µg/L and an MDEL of 600 µg/L.

(d) Immediate Compliance Feasible. Statistical analysis of effluent data for zinc, collected from February 2005 through December 2008, shows that the 95th percentile (90 µg/L) is less than the AMEL (230 µg/L); the 99th percentile (158 µg/L) is less than the MDEL (600 µg/L); and the mean (34 µg/L) is less than the long term average of the lognormal distribution of the effluent data set after accounting for effluent variability (113 µg/L). The Regional Water Board therefore concludes that immediate compliance with these WQBELs for zinc is feasible.

(e) Antibacksliding. Antibacksliding requirements are satisfied because the currently calculated limitations for zinc are more stringent than those contained in the previous permit.

(5) Cyanide

(a) Cyanide WQO. The most stringent applicable WQO for cyanide are an acute criterion of 9.4 µg/L and a chronic criterion of 2.9 µg/L, established for the protection of marine aquatic life in San Francisco Bay in Basin Plan Table 3-3. The Regional Water Board adopted these site-specific objectives through Regional Water Board Order No. R2-2006-0086 and USEPA approved the objectives on July 22, 2008.

- (b) **RPA Results.** This Order establishes effluent limitations for cyanide because the MEC of 22 $\mu\text{g/L}$ exceeds the applicable WQO for this pollutant, demonstrating Reasonable Potential by Trigger 1.
- (c) **Cyanide WQBELs.** WQBELs for cyanide, calculated according to SIP procedures (with a CV of 1.7 and a dilution credit (D) of 9), are an AMEL of 15 $\mu\text{g/L}$ and an MDEL of 46 $\mu\text{g/L}$.
- (d) **Immediate Compliance Feasible.** Statistical analysis of effluent data for cyanide, collected from February 2005 through December 2008, shows that the 95th percentile (11 $\mu\text{g/L}$) is less than the AMEL (15 $\mu\text{g/L}$); the 99th percentile (32 $\mu\text{g/L}$) is less than the MDEL (46 $\mu\text{g/L}$); and the mean (2.7 $\mu\text{g/L}$) is less than the long term average of the lognormal distribution of the effluent data set after accounting for effluent variability (5.9 $\mu\text{g/L}$). The Regional Water Board therefore concludes that immediate compliance with these effluent limitations for cyanide is feasible.
- (e) **Antibacksliding.** Antibacksliding requirements are satisfied because the newly calculated limitations for cyanide are more stringent than those contained in the previous permit.

e. Effluent Limit Calculations

The following table shows the WQBEL calculations for copper, lead, selenium, zinc, and cyanide.

Table F-12. Effluent Limit Calculations

PRIORITY POLLUTANTS	Copper	Lead	Selenium	Zinc	Cyanide
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Basis and Criteria type	BP SSO	BP & CTR FW Aquatic Life	NTR SW Aquatic Life	BP & CTR FW Aquatic Life	BP SSO
Criteria -Acute		32	20	64	----
Criteria -Chronic		1.2	5	64	----
SSO Criteria -Acute	5.9	----	----	----	9.4
SSO Criteria -Chronic	6.6	----	----	----	2.9
Water Effects ratio (WER)	2.4	1	1	1	1
Lowest WQO	5.9	1.2	5.0	64	2.9
Site Specific Translator - MDEL	0.66	----	----	----	----
Site Specific Translator - AMEL	0.38	----	----	----	----
Dilution Factor (D) (if applicable)	9	9	9	9	9
No. of samples per month	4	4	4	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y	Y	Y	Y
HH criteria analysis required? (Y/N)	N	N	N	N	N
Applicable Acute WQO	21	32	20	64	9.4
Applicable Chronic WQO	42	1.2	5	64	2.9
HH criteria					
Background (Maximum Conc for Aquatic Life calc)	2.5	0.80	0.39	5.1	0.40
Background (Average Conc for Human Health calc)	----	----	----	----	----
Is the pollutant on the 303d list and/or bioaccumulative (Y/N)?	N	N	n	N	N
ECA acute	192	314	196	597	90
ECA chronic	393	5.3	46	597	25
ECA HH					
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	N	N	N	N
Avg of effluent data points	8.80	0.6	1.6	34.1	2.7
Std Dev of effluent data points	10.3	1.2	2.2	37.1	4.7
CV calculated	1.17	1.8	1.4	1.1	1.7
CV (Selected) - Final	1.17	1.8	1.4	1.1	1.7
ECA acute mult99	0.18	0.12	0.15	0.19	0.13
ECA chronic mult99	0.33	0.22	0.28	0.35	0.23
LTA acute	34	38.7	29.8	113	11.7
LTA chronic	129	1.2	13.0	208	5.9
minimum of LTAs	34	1.2	13.0	113	5.9
AMEL mult95	2.1	2.7	2.3	2.0	2.6
MDEL mult99	5.6	8.1	6.6	5.3	7.7
AMEL (aq life)	72	3.1	30.2	229	15.3
MDEL(aq life)	192	9.3	85.6	597	45.6
MDEL/AMEL Multiplier	2.7	3.03	2.84	2.6	2.99
AMEL (human hlth)					
MDEL (human hlth)	----	----	----	----	----
minimum of AMEL for Aq. life vs HH	72	3.1	30	229	15.3
minimum of MDEL for Aq. Life vs HH	192	9.3	86	597	45.6
Current limit in permit (30-day average)	----	80	----	330	----
Current limit in permit (daily)	252 (Interim)	40	51 (Interim)	840	265 (Interim)
Final limit - AMEL	72	3.1	30	229	15
Final limit - MDEL	192	9.3	86	597	46
Max Effl Conc (MEC)	51	6.0	9.0	150	22

5. Whole Effluent Toxicity

- a. **Permit Requirements.** This Order includes effluent limitations for whole effluent acute toxicity that are based on Basin Plan Table 4-3 and are unchanged from the previous permit. Compliance evaluation is based on 96-hour static-renewal bioassays. All bioassays are to be performed according to the USEPA-approved method in 40 CFR Part 136, currently *Methods for Measuring the Acute Toxicity of Effluents and Receiving Water*, 5th Edition.
- b. **Ammonia Toxicity.** If the Discharger can demonstrate to the satisfaction of the Executive Officer that toxicity exceeding limitations in this Order is caused by ammonia, and that the ammonia in the discharge is not adversely affecting receiving water quality or beneficial uses, then such toxicity does not constitute a violation of the effluent limitations for whole effluent toxicity. If ammonia toxicity is verified by a Toxicity Identification Evaluation (TIE), the Discharger may use an adjusted protocol approved by the Executive Officer for routine bioassay testing.

D. Anti-backsliding and Antidegradation

1. **New Final Effluent Limitations.** This Order established the following new effluent limits for Discharge Point 001.
 - Copper
 - Cyanide
 - Selenium

The establishment of new final effluent limitations for these pollutants effectively creates limitations that are more stringent than in the previous permit. Therefore they comply with antidegradation requirements of State Water Board Order WQ 2001-16 and anti-backsliding requirements.

2. **More Stringent Effluent Limitations.** This Order established effluent limitations for lead and zinc at Discharge Point 001 that are more stringent than the effluent limitations for these pollutants contained in the previous permit. Therefore they comply with antidegradation requirements of State Water Board Order WQ 2001-16 and anti-backsliding requirements.
3. **Effluent Limitations Not Retained.** The previous permit contained interim effluent limitations for the following parameters at Discharge Point 001, which are not retained by this Order.
 - Nickel
 - 4,4-DDE
 - Dieldrin
 - Copper
 - Cyanide
 - Selenium

Because the RPA showed that discharges from the Plant no longer demonstrate Reasonable Potential to cause or contribute to exceedances of water quality criteria for nickel, 4,4-DDE, and dieldrin, this Order does not retain these interim limitations from the previous permit. This is consistent with the anti-backsliding provisions of State Water Board Order WQ 2001-16.

The RPA showed that discharges from the Plant demonstrate Reasonable Potential to cause or contribute to exceedances of water quality criteria for copper, cyanide, and selenium. This Order does not retain the interim limitations for these constituents from the previous permit because it replaces them with final effluent limits. Therefore they comply with anti-backsliding requirements. They also comply with antidegradation requirements because these new final limits are more stringent, or as stringent, as the previous interim limits.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

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

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

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 (MRP) (Attachment E) establishes monitoring and reporting requirements to implement State and federal requirements.

The principal purposes of a monitoring program are to:

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

The MRP is a standard requirement in almost all NPDES permits. It contains definitions of terms, specifies general sampling and analytical protocols, and sets out requirements for reporting of spills, violations, and routine monitoring data in accordance with NPDES regulations, the CWC, and State and Regional Water Board policies. The MRP also defines the sampling stations and frequency, the pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all parameters for which effluent limitations are specified. Monitoring for additional constituents, for which no effluent limitations are established, is also required to provide data for future completion of RPAs. The following provides the rationale for the monitoring and reporting requirements contained in the MRP (Attachment E).

A. Influent Monitoring

Not Applicable.

B. Effluent Monitoring

The MRP retains most effluent monitoring requirements from the previous permit. Changes in effluent monitoring at E-001 are summarized as follows.

- Routine monitoring once every two months for nickel, 4,4-DDE, and dieldrin is no longer required because these pollutants no longer demonstrate reasonable potential.
- Monitoring for all other priority toxic pollutants must be conducted in accordance with the frequency and methods described in the Regional Standard Provisions (Attachment G).
- Monitoring for oil and grease is reduced from monthly to twice per year because monitoring data from the term of the previous permit were all non-detect.
- The MRP establishes routine monthly monitoring for TDS and yearly monitoring for the priority pollutants metals. Because the Plant discharges demineralizer regenerant waste, which may be source of these pollutants, monitoring is required to better characterize the discharge.

Most effluent monitoring requirements at E-002 are retained from the previous permit. The MRP establishes monitoring requirements for the full suite of CTR pollutants to better characterize of the storm water discharge.

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** Annual 96-hour bioassay testing is required at E-001 to demonstrate compliance with the effluent limitation for acute toxicity.
2. **Chronic Toxicity.** The Order does not include chronic toxicity monitoring requirements, which is consistent with Basin Plan Section 4.5.5.3.2, because the Discharger is a minor discharger that has not participated in the Effluent Toxicity Characterization Program.

D. Land Discharge Monitoring Requirements

Not Applicable.

E. Reclamation Monitoring Requirements

Not Applicable.

F. Receiving Water Monitoring

Receiving water monitoring requirements at RSW-001, RSW-002, and RSW-003 are retained from the previous permit.

On April 15, 1992, the Regional Water Board adopted Resolution No. 92-043 directing the Executive Officer to implement the Regional Monitoring Program (RMP) for San Francisco Bay.

Subsequent to a public hearing and various meetings, under the authority of CWC Section 13267, the Executive Officer required major permit holders in this Region to report on estuary water quality. These permit holders responded to this request by participating in a collaborative effort through the San Francisco Estuary Institute. This effort has come to be known as the San Francisco Bay RMP for Trace Substances, which involves data collection on pollutants and toxicity in water, sediment, and estuary biota. The MRP specifies that the Discharger shall continue to participate in the RMP. The Discharger's participation and support of the RMP is used in consideration of the level of specific receiving water monitoring that this Order requires.

G. Other Monitoring Requirements

The MRP requires the Discharger to record rainfall from the nearest official recording National Weather Service Station. The rationale for this requirement is that the storm water discharge also includes some wash down water. The measurement of precipitation will allow better characterization of the volume of discharge that results from storm water runoff.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions (Provision VI.A)

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 Attachments D of this Order. The Discharger must comply with these standard provisions and with those additional conditions that apply under 40 CFR 122.42.

40 CFR 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. The Regional Standard Provisions in Attachment G modify and expand on the Federal Standard Provisions in this way. In accordance with Section 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) and Regional Standard Provisions (Attachment G). This provision requires compliance with these documents and is based on 40 CFR 122.63 and CWC Sections 13267 and 13383.

C. Special Provisions (Provision VI.C)

1. Reopener Provisions

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

2. Special Studies and Additional Monitoring Requirements

- a. Effluent Characterization Study: This Order does not include effluent limitations for the constituents addressed in the Regional Standard Provisions 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. If concentrations of these constituents increase significantly, the Discharger is required to investigate the source of the increases and establish remedial measures if the increases result in reasonable potential to cause or contribute to an excursion above the applicable WQO. This provision is based on the Basin Plan and the SIP, and is retained from the previous Order.
- b. Ambient Background Receiving Water Study: This provision is based on the Basin Plan and the SIP. The provision is necessary to provide data for future Reasonable Potential Analysis. As indicated in this Order, this requirement may be met by participating in a collaborative BACWA study.

3. Best Management Practices and Pollution Minimization Program

This provision for a Pollutant Minimization Program is based on Basin Plan Chapter 4, Section 4.13.2, and SIP Chapter 2, Section 2.4.5.

4. Other Special Provisions

The requirement to annually update and submit a Storm Water Pollution Prevention Plan (SWPPP) and a storm water report is retained from the previous permit. It applies to storm water discharges at Discharge Point 002 and is generally consistent with the SWPPP requirements of the State Water Board's state-wide NPDES permit for storm water discharges associated with industrial activities (NPDES General Permit CAS000001).

5. Copper Action Plan

The Basin Plan requires a Copper Action Plan for source control as part of implementation of the copper site-specific objectives. The Regional Water Board adopted these copper site-specific objectives through Regional Water Board Resolution No. R2-2007-0042, which and USEPA approved the objectives on January 6, 2009. This Order requires the Discharger, through the Copper Action Plan, to implement monitoring and surveillance, pretreatment, source control, and pollution prevention to ensure attainment of the copper site-specific objectives and the protection of water quality and beneficial uses.

6. Cyanide Action Plan

The Basin Plan requires a Cyanide Action Plan for source control as part of implementation of the cyanide site-specific objectives. The Regional Water Board adopted these site-specific objectives through Regional Water Board Order No. R2-2006-0086 and USEPA approved the objectives on July 22, 2008. This Order requires the Discharger, through the Cyanide Action Plan, to implement monitoring and surveillance, pretreatment, source control, and pollution prevention to ensure the attainment of the cyanide site-specific objectives and the protection of water quality and beneficial uses.

VIII. PUBLIC PARTICIPATION

The Regional Water Board is considering the issuance of WDRs that will serve as an NPDES permit for the Crockett Cogeneration Plant. As a step in the WDR adoption process, the Regional Water Board 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 through the Contra Costa Times.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address on the cover page of this Order, Attention: Adrienne Miller. To be fully responded to by staff and considered by the Regional Water Board, written comments must be received at the Regional Water Board offices by 5:00 p.m. on **April 5, 2010**.

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: **May 12, 2010**
Time: 9:00 am
Location: Elihu Harris State Office Building
1515 Clay Street, 1st Floor Auditorium
Oakland, CA 94612

Contact: Adrienne Miller, (510) 622-2415, email admiller@waterboards.ca.gov

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

Please be aware that dates and venues may change. Our Web address is www.waterboards.ca.gov/sanfranciscobay, where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

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

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

E. Information and Copying

The 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 8:30 a.m. and 4:45 p.m., except from noon to 1:00 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling 510-622-2300.

F. Register of Interested Persons

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

G. Additional Information

Requests for additional information or questions regarding this Order should be directed to Adrienne Miller at 510-622-2415 (e-mail at ADMiller@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. Expeditious action to repair failures of, or damage to, equipment and sewer lines.
 - f. Report of spills and discharges of untreated or inadequately treated wastes, including measures taken to clean up the effects of such discharges.
 - g. Programs for maintenance, replacement, and surveillance of physical condition of equipment, facilities, and sewer lines.
- 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:

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

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 ¹	Minimum Levels ² (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
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) ³												
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) ⁴	0100.2 ⁵												
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										

¹ 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.

² 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.

³ 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).

⁴ MUN = Municipal and Domestic Supply. This designation, if applicable, is in the Findings of the permit.

⁵ *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 ¹	Minimum Levels ² (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
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										
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 Dichlorormethane	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									

CTR No.	Pollutant/Parameter	Analytical Method ¹	Minimum Levels ² (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
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										
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) ⁶	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											

⁶ 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.

CTR No.	Pollutant/Parameter	Analytical Method ¹	Minimum Levels ² (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
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											

APPENDIX B

Written Comments

March 31, 2010

Ms. Adrienne Miller
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay St., Suite 1400
Oakland, CA 94612



Subject: Tentative Order R2-2010-XXXX for reissuing NPDES Permit CA0029904

Dear Ms. Miller,

We have reviewed the Tentative Order No. R2-2010-XXXX for NPDES Permit CA0029904 and have the following comments and requests:

Page 4, II. B. Facility and Discharge Description

The second sentence of the second paragraph says, "The discharger installed a fan to lower the temperature of boiler blowdown,..." We believe that it should say, "The discharger installed two air cooled heat exchangers to lower the temperature of boiler blowdown,..." as this better describes the equipment than fan.

Page 15, IV. Provisions

Provision C.2.b. discusses Ambient Background Receiving Water Study requirements. It states "This provision may be met, in part, through a Collaborative Bay Area Clean Water Agencies (BACWA) Study or similar ambient monitoring program for San Francisco Bay." Crockett Cogeneration is not a member of BACWA and requests the reference be deleted. Crockett Cogeneration participates in support of receiving water monitoring by contributing to the Regional Monitoring Program for Trace Substances (RMP) administered by San Francisco Estuary Institute.

Page 19, Action Plan for Copper

Provision C.5. of the T.O. contains an action plan for Copper (Table 8). One of the requirements of the Action Plan (Task 4) is to conduct "Studies to Reduce Copper Pollutant Impact Uncertainties". The task indicates the "Discharger may collaborate and conduct these studies within a group". Crockett Cogeneration currently contributes to the Regional Monitoring Program for Trace Substances administered by San Francisco Estuary Institute (RMP) for the purpose of conducting receiving water effects monitoring. In the RMP's 2010 Pilot and Special Study Plan approved at the October 26th 2009 Steering Committee, Study 4: Impact of Copper on the Olfactory System of Juvenile Salmon was approved. In addition, the RMP is supporting development of Sediment Quality Objectives (Study 7: Development of Sediment Quality Objectives) which should address concerns with copper sediment toxicity. As Crockett Cogeneration is already supporting these studies we request this Task be eliminated from the Permit or clarified to state the requirement is met through ongoing support for the RMP.

Attachment E, Page E-3

Table E-2 Effluent Monitoring - Monitoring Location E-001

The Minimum Sampling Frequency for pH and for Temperature should be – Cont/D as they are continuously monitored.

We request to have the Quarterly requirement for BOD removed.

Table E-2 and E-3 contain requirements for conducting BOD monitoring at E-001 (quarterly grab) and E-002 (grab stormwater runoff). As described in previous communications, Crockett Cogeneration does not generate BOD as a part of its operations. The major suspected source of BOD is washdown of C&H Sugar's bulk conveyer system which subsequently runs-on to Crockett's property and is captured in the water treatment sump. As discussed with your staff, C&H is planning on physically isolating the washdown facilities so they are separated from Crockett's system. Crockett requests that C&H conduct any required verification monitoring to ensure such modifications occur rather than imposing requirements in Crockett Cogen's NPDES Permit.

We request that the C-24 composite sample requirements for metals and Priority Pollutants be changed to grab type. Our discharge is essentially a batch process and we believe that through the accumulation and blending of the streams in the neutralizing tank any samples collected during a discharge represent composite samples of the waste stream. Please see the attached letter dated May 31, 1996 from the Executive Officer, which authorized us to make such a change to our SMP.


Page E-5, VIII. Receiving Water Monitoring Requirements

Table E-4. Receiving Water Monitoring

We request that the Sample Type and Minimum Sampling Frequency for temperature at RSW-002 be changed to CONT/D as it is already continuously monitored. Also, we request that the quarterly grab sample requirement for temperature be left as it was in the previous Self-Monitoring Program, Part B, which was 1/Quarter at RSW-003. (Please see the attached Schedule of Sampling, Analysis and Observations from the previous permit) This is also the sampling frequency that was authorized in the letter from the Executive Officer mentioned in the paragraph above.

Thank you for the opportunity to comment on the Tentative Order. We look forward to the successful adoption of this permit. Please do not hesitate to call Chris Sargent at 510-787-4101 if you have any questions or need additional information.

Sincerely,



Patrick Morris
Plant Manager
Crockett Cogeneration L.P.

Enclosures

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN FRANCISCO BAY REGION

2101 WEBSTER STREET, SUITE 500

OAKLAND, CA 94612

(510) 286-1255



Date: MAY 31 1996
File: 2119.1201(JCH)

Mr. Michael C. McMillan, PE
EH&S Manager
Crockett Cogeneration, LP
P.O. Box 111
Crockett, CA 94525

RE: Modification of Self Monitoring Program

Dear Mr. McMillan:

On May 13, 1996, we received a letter from you requesting modification of your Self-Monitoring Program as specified in Board Order 93-067. You stated that Crockett Cogeneration uses a waste neutralization tank to accumulate and mix various effluent waste streams prior to discharge and that the discharge would be performed as a batch process. You further stated that, Crockett Cogeneration's discharges would be intermittent events lasting approximately 1.5 hours. Base on the above conditions, you are hereby authorized to make the following changes to your Self-Monitoring Program:

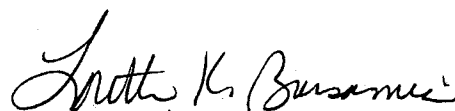
The Self-Monitoring Requirements, Part B, Table I, Schedule of Sampling, Measurements, and Analysis, is to be modified as follows:

STATION	CONSTITUENT	UNIT	TYPE OF SAMPLE	FREQUENCY OF ANALYSIS
E-001	FLOW	gpd	CONTINUOUS	CONTINUOUS
	OIL & GREASE	mg/l	GRAB(1)	MONTHLY
	TSS	mg/l	GRAB	MONTHLY
	pH	pH UNITS	GRAB	CONTINUOUS
	TEMPERATURE	deg F	CONTINUOUS	CONTINUOUS
	ARSENIC	ug/l	GRAB	YEARLY
	CADMIUM	ug/l	GRAB	YEARLY
	CHROMIUM(VI)	ug/l	GRAB	MONTHLY
	COPPER	ug/l	GRAB	MONTHLY
	CYANIDE	ug/l	GRAB	YEARLY
	MERCURY	ug/l	GRAB	YEARLY

STATION	CONSTITUENT	UNIT	TYPE OF SAMPLE	FREQUENCY OF ANALYSIS
E-001	FLOW	gpd	CONTINUOUS	CONTINUOUS
	OIL & GREASE	mg/l	GRAB(1)	MONTHLY
	NICKEL	ug/l	GRAB	YEARLY
	SILVER	ug/l	GRAB	YEARLY
	ZINC	ug/l	GRAB	MONTHLY
	TOXICITY	% SURVIVAL	GRAB	QUARTERLY
	ALL APPLICABLE STANDARD OBSERVATIONS			MONTHLY
C-10	ALL APPLICABLE STANDARD OBSERVATIONS			QUARTERLY
C-RE	PH	pH UNITS	GRAB	QUARTERLY
	TEMPERATURE	deg F	GRAB	QUARTERLY
	ALL APPLICABLE STANDARD OBSERVATIONS			QUARTERLY
C-RW	ALL APPLICABLE STANDARD OBSERVATIONS			QUARTERLY

If you have any questions or comments, please call Judy C. Huang at (510)286-0447.

Sincerely,



Loretta K. Barsamian
Executive Officer

II. Schedule Of Sampling, Analyses And Observations

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

Table 1. Schedule Of Sampling, Analyses And Observations

SAMPLING STATION	Notes	E-001		E-002	C-10	C-RE	C-RW
		G [1]	C-24 [1] [2]	G [1]	G [1]	G [1]	G [1]
Flow Rate (gpd)	[3]		Cont/D				
Oil and Grease (mg/L & kg/d)	[4] [5]	M		E			
Total Suspended Solids (mg/L)		M					
Acute Toxicity (% survival)	[6]	Y					
pH (s.u.)	[10]	D		E		Q	Q
Temperature (°F)	[7] [11]	D				D	Q
Copper (µg/L)		1/2M					
Lead (µg/L)		1/2M					
Nickel (µg/L)		1/2M					
Selenium (µg/L)		1/2M					
Zinc (µg/L)		1/2M					
Cyanide (µg/L)	[8]	1/2M					
4,4'-DDE (µg/L)		1/5Y					
Dieldrin (µg/L)		1/5Y					
2,3,7,8-TCDD and congeners (µg/L)	[9]	1/5Y					
Standard Observations				E	Q	Q	Q

LEGEND FOR TABLE 1

<p><u>Types of Samples:</u> C-24 = composite sample, 24 hours (includes continuous sampling, such as for flows) Cont.= continuous sampling G= grab sample</p> <p><u>Parameter and Unit Abbreviations:</u> TSS = Total Suspended Solids gpd = gallons per day mg/L = milligrams per liter µg/L = micrograms per liter pg/L = picograms per liter</p>	<p><u>Frequency of Sampling:</u> E = Each occurrence D = Once each day Cont. = continuous monitoring Cont/D = continuous monitoring & daily reporting M = once each month W = once each week Q = once each calendar quarter (with at least two-month intervals) Y = once each calendar year 1/2M = once every two month (with at least one-month intervals) 1/5Y = once every five years within 6 months before the due date for the application for permit reissuance 2/Y = Two times a year; one in wet season, one in dry season</p>
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FOOTNOTES FOR TABLE 1

- [1] Indicates sampling is required during the entire year. The Discharger shall use approved USEPA Methods with the lowest Minimum Levels specified in the SIP and described in footnote 1 of effluent limitations B.7, and in the August 6, 2001, letter.
- [2] Composite sampling: 24-hour composites may be made up of discrete grabs collected over the course of a day and volumetrically or mathematically flow-weighted. Samples for cyanide, and organic toxic pollutants, must be made up of discrete grabs, and analyzed separately. Samples for inorganic pollutants may be combined prior to analysis. If only one grab sample will be collected, it should be collected during periods of maximum peak flows. Samples shall be taken on random days.
- [3] Flow Monitoring: Effluent shall be measured continuously at Outfall E-001, and recorded and reported daily
- [4] Oil & Grease Monitoring: Because of the batch discharge characteristic, the Discharger should collect a grab sample in a glass container during the sampling day. Each glass container used for sample collection or mixing shall be thoroughly cleaned with solvent rinsing as soon as possible after use, and the solvent rinsing shall be added to the composite waste water sample for extraction and analysis.
- [5] Grab Samples shall be collected coincident with composite samples collected for the analysis of regulated parameters.
- [6] Acute Toxicity: If specific identifiable substances in the discharge can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the receiving water, compliance with the acute toxicity limit may be determined after the test samples are adjusted to remove the influence of those substances. Written approval from the Executive Officer must be obtained to authorize such an adjustment. An example is pH adjustment to control the formation of unionized ammonia. In this example, the Discharger must first demonstrate that ammonia is the cause of the observed toxicity using phase 3 (confirmation) toxicity identification evaluations. The Discharge must then show that based on the conditions in the receiving water, the ammonia that is in the discharge does not cause any violation of the un-ionized ammonia receiving water limits outside the zone of initial dilution.
- Bioassays: 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 nitrogen, and temperature. These results shall be reported. If a violation of acute toxicity requirements occurs, a new bioassay test shall be started as soon as practicable and testing should continue back to back until compliance is demonstrated.
- [7] Simultaneous temperature readings shall be measured at at one foot below the receiving water surface from locations C-RE and C-RW. If simultaneous temperature measurements are not feasible, the time duration between the two temperature measurements should be kept to a minimum.
- [8] The Discharger may, at their option, analyze for cyanide as Weak Acid Dissociable Cyanide using protocols specified in Standard Method Part 4500-CN-I, USEPA Method OI 1677, or equivalent alternatives in latest edition. Alternative methods of analysis must be approved by the Executive Officer.
- [9] Chlorinated Dibenzodioxins and Chlorinated Dibenzofurans shall be analyzed using the latest version of USEPA Method 1613. Alternative methods of analysis must be approved by the Executive Officer. The analysis shall be capable of achieving one half the EPA method 1613 MLs.
- [10] Daily minimum and maximum for pH shall be reported.
- [11] The difference between the temperature measurement at E-001 and C-RE shall also be reported, for assessing compliance with the temperature limitation, specified in effluent limitation 3.

APPENDIX C

Response to Comments

RESPONSE TO WRITTEN COMMENTS

On the Reissuance of Waste Discharge Requirements for Crockett Cogeneration LLP – Crockett Cogeneration Plant

We received one comment letter regarding the tentative order from Crockett Cogeneration LLP (Crockett Cogen), dated March 31, 2010. The format of this response begins with a brief introduction of each comment in *italics*, followed by our response. Interested persons should refer to the original letter to ascertain the full substance and context of each comment.

Tentative Order Discharge Limit Concerns

Crockett Cogen Comment 1

Crockett Cogen requests that language on Page 4, Section II.B., Facility and Discharge Description, be changed to more accurately describe newly installed equipment.

Response 1

We modified the tentative order on Page 4, Section II.B, and Fact Sheet, Page F-4, Section II.A, as requested.

Crockett Cogen Comment 2

Crockett Cogen requests that a reference to the Bay Area Clean Water Agency (BACWA) be removed on Page 15, Section IV., Provision C.2.b. The Discharge meets its ambient background receiving water study requirements through participation in the Regional Monitoring Program for Trace Substances (RMP) administered by the San Francisco Estuary Institute.

Response 2

We modified the tentative order on Page 15, Section IV, as requested and replaced the reference to BACWA with participation in the RMP.

Crockett Cogen Comment 3

Crockett Cogen requests that Task 4 in Provision C.5, Table 8, Copper Action Plan, on Page 19 be modified to note that satisfaction of this requirement can be accomplished via participation in the RMP.

Response 3

We modified the tentative order on Page 19, Provision C.5, as requested.

Crockett Cogen Comment 4

Crockett Cogen requests that the minimum sampling frequency for pH and temperature be changed from “Cont” to “Cont/D” in Attachment E on Page E-3, Table E-2, Effluent Monitoring – Monitoring Location E-001.

Response 4

We modified Attachment E of the tentative order on Page E-3, in Table E-2., as requested.

Crockett Cogen Comment 5

Crockett Cogen requests that the sampling for biological oxygen demand (BOD) be removed, in Attachment E on Pages E-3 and E-4, Tables E-2 and E-3. Crockett Cogen states that it does not generate BOD as part of its operations. The major suspected source of BOD is washdown of C&H Sugar's bulk conveyor system, which runs onto Crockett Cogen's property and is captured in Crockett Cogen's water treatment sump. C&H is planning on physically isolating the wash down facilities, so they are separated from Crockett Cogen's system. Crockett Cogen requests that C&H conduct any verification monitoring to ensure such modifications occur rather than imposing requirements in Crockett Cogen's NPDES permit.

Response 5

We agree that Crockett Cogen operations do not generate BOD, but Crockett Cogen is potentially discharging BOD from both its E-001 discharge point that drains to the joint outfall and from its storm water outfall at E-002. On a site visit of both facilities on February 16, 2010, Regional Water Board staff noted that C&H appears to be contributing BOD with its wash down operations and concurs that C&H can physically isolate its operations. However, that is an arrangement best made between Crockett Cogen and C&H, since that operation does not directly affect State waters until Crockett Cogen discharges the wash down water. To date, the Regional Water Board has not received any written agreement between C&H and Crockett Cogen.

Therefore, we retained the requirement to ensure that BOD is monitored. However, under Table E-2. Effluent Monitoring – Monitoring Location E-001, we modified Footnote (1) and added Footnote (4), which states,

- (1) "Each occurrence" shall refer to each significant wash down water discharge, defined as a continuous discharge of wash down water for a minimum of one hour, or an intermittent discharge of wash down water for a minimum of three hours in a 12-hour period. For BOD, the Discharger may request a decrease in the minimum sampling frequency to Quarterly, if monitoring data show compliance with this requirement for two years after the effective date of this Order on July 1, 2010.
- (4) The Discharger may request a waiver of the BOD monitoring requirements at E-001 by providing written notice that C&H wash down water no longer enters the Discharger's water treatment sump.

Under Table E-3. Effluent Monitoring – Monitoring Location E-002, we also modified Footnote (1) and added Footnote (2), which states,

- (1) "Each occurrence" shall refer to each significant storm water discharge or wash down water discharge, defined as a continuous discharge of storm water or wash down water for a minimum of one hour, or an intermittent discharge of storm water or wash down water for a minimum of three hours in a 12-hour period. For BOD, the Discharger may request a decrease in the minimum sampling frequency to Quarterly, if monitoring data show compliance with this requirement for two years after the effective date of this Order on July 1, 2010.

- (2) The Discharger may request a waiver of the BOD monitoring requirements at E-002 by providing written notice that C&H wash down water no longer enters the Discharger's storm water catch basins.

Crockett Cogen Comment 6

Crockett Cogen requests that sample requirements for metals and priority pollutants be changed from "C-24" to "Grab" in Attachment E on Page E-3, Table E-2, Effluent Monitoring – Monitoring Location E-001. Crockett Cogen believes that its discharge is a batch process and that, through the accumulation and blending of the streams in the neutralization tank, any samples collected during a discharge represent composite samples of the waste stream.

Response 6

We modified Attachment E on Page E-3, Table E-2, as requested.

Crockett Cogen Comment 7

Crockett Cogen requests that the sampling type and minimum sampling frequency for temperature at RSW-002 be changed from "Grab" to "Cont/D," in Attachment E on Page E-5, Table E-4, Receiving Water Monitoring. Crockett Cogen also requests that the quarterly grab sample requirement for temperature be "1/Quarter" at RSW-003.

Response 7

We modified Attachment E on Page E-5, Table E-4, as requested.