

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

STAFF SUMMARY REPORT (Marcia Liao)
MEETING DATE: May 11, 2016

ITEM: **5A**

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

CHRONOLOGY: May 2010 – Permit reissued

DISCUSSION: This Tentative Order (Appendix A) would reissue the NPDES permit for the discharge of treated wastewater from Crockett Cogeneration’s natural gas-fired steam electric power plant with updated limits and provisions. The plant generates up to 240 megawatts of electricity for PG&E. At the same time, the plant recovers heat from its gas turbines to produce steam for the neighboring C&H sugar refinery. Crockett Cogeneration treats up to 500,400 gallons of process wastewater per day. Process wastes consist of cooler and boiler blowdown and demineralizer wastewater. The treated wastewater and associated industrial storm runoff is discharged to Carquinez Strait.

The Tentative Order’s updated provisions include new requirements that aim to improve the quality of the storm runoff discharge. These include requiring measures to prevent pollution from sugar-containing wash waters and corrosion of galvanized steel structures and establishing action levels based on Basin Plan objectives. Pollutants at or above the action levels would trigger implementation of enhanced stormwater best management practices.

We received no comments on this Tentative Order when circulated for public review and expect this item to remain uncontested.

RECOMMEN-
DATION: Adoption of the Tentative Order

FILE: CW-216164

APPENDIX A: Tentative Order

Appendix A
Tentative Order

San Francisco Bay Regional Water Quality Control Board

**TENTATIVE ORDER No. R2-2016-00XX
NPDES No. CA0029904**

The following discharger is subject to waste discharge requirements (WDRs) set forth in this Order:

Table 1. Discharger Information

Discharger	Crockett Cogeneration LLP
Facility Name	Crockett Cogeneration Plant
Facility Address	550 Loring Avenue Crockett, CA 94525 Contra Costa County
CIWQS Place ID	216164

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Treated Process Wastewater	38.0575°	-122.2183°	Carquinez Strait
002	Stormwater, Air Conditioner Condensate	38.0561°	-122.2306°	Carquinez Strait

Table 3. Administrative Information

This Order was adopted on:	<DATE>
This Order shall become effective on:	July 1, 2016
This Order shall expire on:	June 30, 2021
CIWQS Regulatory Measure Number	403196
The Discharger shall file a Report of Waste Discharge as an application for reissuance of WDRs in accordance with California Code of Regulations, title 23, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	October 5, 2020
The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, San Francisco Bay Region, have classified this discharge as follows:	Minor

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

Bruce H. Wolfe, Executive Officer

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I. FACILITY INFORMATION

Information describing Crockett Cogeneration LLP's (Discharger's) Crockett Cogeneration Plant (Facility) is summarized in Table 1 and Fact Sheet (Attachment F) sections I and II.

II. FINDINGS

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

- A. Legal Authorities.** This Order serves as WDRs pursuant to California Water Code article 4, chapter 4, division 7 (commencing with § 13260). This Order is also issued pursuant to federal Clean Water Act (CWA) section 402 and implementing regulations adopted by U.S. EPA and Water Code chapter 5.5, division 7 (commencing with § 13370). It shall serve as an NPDES permit for point source discharges from the Facility to surface waters.
- B. Background and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information the Discharger submitted as part of its application, information obtained through monitoring and reporting programs, and other available information. The Fact Sheet contains background information and rationale for the requirements in this Order and is hereby incorporated into and constitutes findings for this Order. Attachments A through E and G are also incorporated into this Order.
- C. Provisions and Requirements Implementing State Law.** No provisions and requirements in this Order are included to implement State law only.
- D. Notification of Interested Parties.** The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe these WDRs and provided an opportunity to submit written comments and recommendations. The Fact Sheet provides details regarding the notification.
- E. 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 details regarding the public hearing.

THEREFORE, IT IS HEREBY ORDERED that Order No. R2-2010-0073 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions of Water Code division 7 (commencing with § 13000) and regulations adopted thereunder and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Regional Water Board from taking enforcement action for past violations of the previous order.

III. DISCHARGE PROHIBITIONS

- A.** Discharge of treated or untreated wastewater at a location or in a manner different from that described in this Order is prohibited.
- B.** Discharge at Discharge Point No. 001 such that treated wastewater does not receive a minimum initial dilution of at least 10:1 is prohibited. Compliance shall be achieved by discharge only

through the deepwater outfall at the C&H Sugar Company (C&H) and only when it is in working order.

- C. Bypass of untreated or partially-treated wastewater to waters of the United States is prohibited, except as provided for in Attachment D section I.G.
- D. Discharge of polychlorinated biphenyl compounds, such as those commonly used for transformer fluid, is prohibited.
- E. Discharge of metal-cleaning wastewaters, such as boiler and heat exchanger cleaning wastes, and wastewaters containing oxidizing or non-oxidizing biocides, such as any used for microbiological control in cooling or process water systems, is prohibited.
- F. Discharge exceeding a monthly average of 500,400 gallons per day (gpd) from Discharge Point No. 001 is prohibited.
- G. Discharge of wash down water from the exterior of the air-cooled condenser system, parking areas, paved grounds, decks, walkways, stairways, bridges, pipe racks, and other structures potentially exposed to sugar fallout or made of galvanized steel is prohibited (atmospheric condensate from the exterior surfaces of air conditioners may be discharged).

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Discharge Point No. 001

The Discharger shall comply with the following effluent limitations at Discharge Point No. 001, with compliance measured at Monitoring Location EFF-001 as described in the Monitoring and Reporting Program (MRP):

Table 4. Effluent Limitations

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Total Suspended Solids (TSS)	mg/L	30	45	---	---
	lbs/day ^[2]	44	67	---	---
Oil and Grease	mg/L	10	20	---	---
	lbs/day ^[2]	15	30	---	---
pH ^[1]	standard units	---	---	6.0	9.0
Copper	µg/L	56	120	---	---
Zinc	µg/L	230	600	---	---
Cyanide	µg/L	15	46	---	---
Acute Toxicity ^[3]	% Survival	Three-sample median not less than 90, and single-sample maximum not less than 70.			

Unit Abbreviations:

mg/L = milligrams per liter
 lbs/day = pounds per day
 µg/L = micrograms per liter

Footnotes:

^[1] If the Discharger monitors pH continuously, pursuant to 40 C.F.R. section 401.17, the Discharger shall be in compliance with this pH limitation provided that both of the following conditions are satisfied: (i) the total time during which the pH is outside the

required range shall not exceed 7 hours and 26 minutes in any calendar month; and (ii) no individual excursion from the required pH range shall exceed 60 minutes.

^[2] The average monthly pollutant mass shall be the product of the average pollutant concentration for the month multiplied by the average flow for the month. The maximum daily pollutant mass shall be the highest daily product of the average pollutant concentration for each day multiplied by the total flow for the corresponding day.

^[3] These acute limitations are defined as follows:

- **Three-sample median.** A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit if one or more of the past two bioassay tests also show less than 90 percent survival.
- **Single-sample maximum.** Any bioassay test showing survival of less than 70 percent represents a violation of this effluent limit.

Bioassays shall be performed using the most up-to-date U.S. EPA protocols and species as specified in the MRP.

B. Discharge Point No. 002

Provision VI.C.4 of this Order shall serve as narrative stormwater effluent limitations.

V. RECEIVING WATER LIMITATIONS

A. The discharge, either individually or combined with other discharges, shall not do the following:

1. Create a zone, defined by water temperature of more than 1°F above natural receiving water temperature, that exceeds 25 percent of the cross-sectional area of Carquinez Strait at any point.
2. Cause a surface temperature rise greater than 4°F above the natural temperature of the receiving water at any time or place.

B. The discharge shall not cause the following conditions to exist in receiving waters at any place:

1. Floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses;
2. Alteration of suspended sediment in such a manner as to cause nuisance or adversely affect beneficial uses, or detrimental increase in the concentrations of toxic pollutants in sediments or aquatic life;
3. Suspended material in concentrations that cause nuisance or adversely affect beneficial uses;
4. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;
5. Changes in turbidity that cause nuisance or adversely affect beneficial uses or increases from normal background light penetration or turbidity greater than 10 percent in areas where natural turbidity is greater than 50 nephelometric turbidity units;
6. Coloration that causes nuisance or adversely affects beneficial uses;
7. Visible, floating, suspended, or deposited oil or other products of petroleum origin; or
8. Toxic or other deleterious substances in concentrations or quantities that cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.

- C. The discharge shall not cause the following limits to be exceeded in receiving waters at any place within one foot of the water surface:
1. Dissolved Oxygen 7.0 mg/L, minimum

The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.
 2. Dissolved Sulfide Natural background levels
 3. pH The pH shall not be depressed below 6.5 or raised above 8.5. The discharge shall not cause changes greater than 0.5 pH units in normal ambient pH levels.
 4. Nutrients Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.
- D. The discharge shall not cause a violation of any water quality standard for receiving waters adopted by the Regional Water Board or the State Water Resources Control Board (State Water Board) as required by the CWA and regulations adopted thereunder. If more stringent water quality standards are promulgated or approved pursuant to CWA section 303, or amendments thereto, the Regional Water Board may revise or modify this Order in accordance with the more stringent standards.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all “Standard Provisions” in Attachment D.
2. The Discharger shall comply with all applicable provisions of the “Regional Standard Provisions, and Monitoring and Reporting Requirements for NPDES Wastewater Discharge Permits” (Attachment G).

B. Monitoring and Reporting

The Discharger shall comply with the MRP (Attachment E) and future revisions thereto and applicable sampling and reporting requirements in Attachments D and G.

C. Special Provisions

1. Reopener Provisions

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

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

The Discharger may request a permit modification based on any of the circumstances above. With any such request, the Discharger shall include antidegradation and anti-backsliding analyses.

2. Effluent Characterization Study and Report

- a. **Study Elements.** The Discharger shall continue to characterize and evaluate the discharge from the following discharge points to verify that the “no” or “unknown” reasonable potential analysis conclusions of this Order remain valid and to inform the next permit reissuance. The Discharger shall collect representative samples at the monitoring locations set forth below, as defined in the MRP, at no less than the frequency specified below:

<u>Discharge Point</u>	<u>Monitoring Location</u>	<u>Minimum Frequency</u>
001	EFF-001	Once
002	EFF-002	Once

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

The Discharger shall evaluate on an annual basis if concentrations of any of these pollutants significantly 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 monitoring frequency, monitoring of internal process streams, and

monitoring of influent sources. The Discharger shall establish remedial measures addressing any increase resulting in reasonable potential to cause or contribute to an exceedance of applicable water quality objectives. This requirement may be satisfied through identification of the constituent as a “pollutant of concern” in the Discharger’s Pollutant Minimization Program, described in Provision VI.C.3.

b. Reporting Requirements

- i. Routine Reporting.** The Discharger shall, within 45 days of receipt of analytical results, report the following in the transmittal letter for the appropriate self-monitoring report:
 - (a)** Indication that a sample for this characterization study was collected; and
 - (b)** Identity of pollutants detected at or above applicable water quality criteria (see Fact Sheet Table F-8 for the criteria) and the detected concentrations of those pollutants.
- ii. Annual Reporting.** The Discharger shall summarize the annual data evaluation and source investigation in the annual self-monitoring report.
- iii. Final Report.** The Discharger shall submit a final report that presents all these data with the application for permit reissuance.

3. Pollutant Minimization Program

- a.** The Discharger shall develop and conduct a Pollutant Minimization Program for discharges from Discharge Point No. 001 as further described below when there is evidence that a priority pollutant is present in the effluent above an effluent limitation (e.g., sample results reported as detected but not quantified [DNQ] when the effluent limitation is less than the method detection limit [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, or results of benthic or aquatic organism tissue sampling) and either:
 - i.** A sample result is reported as DNQ and the effluent limitation is less than the Reporting Level (RL); or
 - ii.** A sample result is reported as not detected (ND) and the effluent limitation is less than the MDL using definitions in Attachment A and reporting protocols described in the MRP.
- b.** If triggered by the reasons set forth in Provision VI.C.3.a, above, the Discharger’s Pollutant Minimization Program shall include, but not be limited to, the following actions and submittals:
 - i.** Annual review and semi-annual monitoring of potential sources of the reportable priority pollutants, which may include fish tissue monitoring and other bio-uptake sampling or alternative measures when source monitoring is unlikely to produce useful analytical data;

- ii. Quarterly monitoring for the reportable priority pollutants in the influent to the Facility. The Executive Officer may approve alternative measures when influent monitoring is unlikely to produce useful analytical data;
- iii. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutants in the effluent at or below the effluent limitation;
- iv. Implementation of appropriate cost-effective control measures for the reportable priority pollutants, consistent with the control strategy; and
- v. Inclusion of the following specific items within the annual report required by Provision VI.C.2.b.ii above:
 - (a) All Pollutant Minimization Program monitoring results for the previous year;
 - (b) List of potential sources of the reportable priority pollutants;
 - (c) Summary of all actions undertaken pursuant to the control strategy; and
 - (d) Description of actions to be taken in the following year.

4. Stormwater Management

The Discharger shall manage stormwater discharges from Discharge Point No. 002 as follows (these requirements supersede those of Attachment G, sections I.J.1 through I.J.4):

a. Stormwater Pollution Prevention Plan

- i. The Discharger shall continue to implement its Stormwater Pollution Prevention Plan (SWPPP) for the Facility until it submits an updated SWPPP as required by Provision VI.C.4.a.ii, below.
- ii. The Discharger shall submit and implement an updated SWPPP by October 1, 2016, and annually thereafter with the annual self-monitoring report due February 1 each year. After October 1, 2016, if the Discharger determines that an update is not needed, it shall submit a letter to such effect with the annual self-monitoring report. The Discharger shall implement any changes to the SWPPP the Executive Officer deems necessary to ensure protection of water quality.
- iii. The updated SWPPP shall contain information and describe measures consistent with the requirements in *General Permit for Stormwater Discharges Associated with Industrial Activities*, NPDES General Permit No. CAS000001 (State Water Board Order No. 2014-0057-DWQ), sections X, XI, and XV. It shall contain best management practices (BMPs) including, but not limited to, the following:
 - (a) Measures to prevent conveyor belt wash down from C&H Sugar Company (C&H) from entering the Facility, or measures to prevent pollution of runoff from the conveyor belt wash down;
 - (b) Measures to prevent fugitive sugar emissions from C&H from entering the Facility, or measures to prevent pollution of runoff from those fugitive sugar emissions;

(c) Measures to prevent corrosion, or pollution of runoff from corrosion, of onsite galvanized steel structures; and

(d) Measures to manage wash down water in compliance with Prohibition III.G and prevent the comingling of wash down water with stormwater (e.g., contain any wash down water and transport it offsite for proper disposal).

All BMPs must comply with the Best Available Technology Economically Available and the Best Conventional Pollutant Control Technology and reflect the best industry practice considering technological availability and economic practicability and achievability.

iv. The SWPPP shall be retained onsite and made available upon request.

b. Annual Stormwater Report. The Discharger shall submit an Annual Stormwater Report by July 1 each year providing data for the previous wet weather season. The Annual Stormwater Report shall, at a minimum, include the following:

- i. Tabulated summary of all monitoring results (see Provision VI.C.2 and MRP section III.B) and visual observations taken during inspections;
- ii. Comprehensive discussion of source identification and control programs for pH, BOD, oil and grease, and any other chemical constituents that should not be present in stormwater (e.g., cadmium, copper, lead, and zinc); and
- iii. Comprehensive discussion of corrective actions taken or planned, including but not limited to a summary of BMP changes implemented during the previous year and changes planned for the following year.

c. Additional Stormwater Provisions

- i. Upon detection of a pollutant at Discharge Point No. 002 in excess of the action levels in Table 5, the Discharger shall review its SWPPP to identify modifications to its existing BMPs or additional BMPs as necessary to reduce pollutant discharge concentrations to levels below these action levels. The Discharger shall revise the SWPPP accordingly before the next storm, if possible, or as soon as practical, and in no event later than three months following the exceedance.

Table 5. Stormwater Action Levels

Parameter	Unit	Action Level
pH	standard units	6.5 — 8.5 ^[1]
BOD	mg/L	45
Oil and Grease	mg/L	20
Cadmium	µg/L	3
Copper	µg/L	14
Lead	µg/L	69
Zinc	µg/L	95

Unit Abbreviation:

mg/L= milligrams per liter

µg/L= micrograms per liter

Footnote:

^[1] Values below or above this range require further action.

- ii. Within 105 days of receiving any results that exceed the action levels above, the Discharger shall report the results in a self-monitoring report, along with a detailed report regarding its compliance with Provision VI.C.4.c.i, above, and Provision VI.C.4.c.iii, below.
- iii. If the Discharger continues to detect a pollutant in excess of the action levels above, the Discharger shall continue to review the selection, design, installation, and implementation of its BMPs to identify modifications necessary to reduce pollutant discharge concentrations to levels below these action levels.
- iv. The Discharger may determine that no further pollutant reduction measures are technologically available and economically practicable in light of best industry practices. In this case, the Discharger shall document its rationale for this conclusion in a technical report that contains the following:
 - (a) Evaluation of any additional BMPs that would reduce or prevent exceedances of the action levels;
 - (b) Estimated costs of the additional BMPs;
 - (c) Basis for choosing the implemented BMPs and not the additional BMPs identified;
 - (d) Demonstration that additional BMPs are not technologically available or economically practicable; or
 - (e) Documentation that action level exceedances are caused solely by uncontrollable or natural background sources.

The Discharger may cease efforts to enhance its BMPs after submitting this technical report and obtaining the written concurrence of the Executive Officer that no further pollutant reduction measures are technologically available and economically practicable in light of best industry practices.

5. Copper Action Plan

The Discharger shall continue to implement source control and pollution prevention for copper from Discharge Point No. 001 in accordance with the following tasks and time schedule:

Table 6. Copper Action Plan

Task	Compliance Date
1. Implement Copper Control Program Continue implementing existing program described in the Discharger’s 2010 Annual Pollution Prevention Report, dated February 24, 2011, to reduce identified copper sources.	Implementation shall be ongoing.
2. Implement Additional Actions If the Regional Water Board notifies the Discharger that the three-year rolling mean copper concentration in Central or Lower San Francisco Bay exceeds 2.8 µg/L, then within 90 days of the notification, evaluate the effluent copper concentration trend and, if it is increasing, develop and begin implementation of additional measures to control copper discharges. Report the conclusion of the trend analysis and provide a schedule for any new actions to be taken within the next 12 months.	With next annual pollution prevention report due February 28 (at least 90 days following notification)
3. Report Status Submit an annual report documenting copper control program implementation that evaluates the effectiveness of the actions taken, including any additional actions required by Task 2 above, and provides a schedule for actions to be taken within the next 12 months.	With annual pollution prevention report due February 28 each year

6. Cyanide Action Plan

The Discharger shall continue to implement monitoring and surveillance, source control, and pollution prevention for cyanide from Discharge Point No. 001 in accordance with the following tasks and time schedule:

Table 7. Cyanide Action Plan

Task	Compliance Date
1. Review Potential Cyanide Sources Submit an up-to-date inventory of potential cyanide sources. If no cyanide sources are identified, tasks 2 and 3 are not required.	With annual pollution prevention report due February 28, 2017
2. Implement Cyanide Control Program Implement a control program to minimize cyanide discharges consisting, at a minimum, of the following elements: <ol style="list-style-type: none"> a. Inspect each potential source to assess the need to include that source in the control program. b. Prepare an emergency monitoring and response plan to be implemented if a significant cyanide discharge occurs. For purposes of this Order, a “significant cyanide discharge” is occurring if the effluent cyanide concentration exceeds 25 µg/L.	Implementation shall be ongoing.
3. Implement Additional Measures If the Regional Water Board notifies the Discharger that ambient monitoring shows cyanide concentrations are 1.0 µg/L or higher in the main body of San Francisco Bay, then within 90 days of the notification, commence actions to identify and abate cyanide sources responsible for the elevated ambient concentrations, report on the progress and effectiveness of actions taken, and provide a schedule for actions to be taken in the next 12 months.	With next annual pollution prevention report due February 28 (at least 90 days following notification)
4. Report Status of Cyanide Control Program Submit an annual report documenting cyanide control program implementation and addressing the effectiveness of actions taken, including any additional cyanide controls required by Task 3 above and provide a schedule for actions to be taken in the next 12 months.	With annual pollution prevention report due February 28 each year

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ)

Also called the average, the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

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

Average Monthly Effluent Limitation (AMEL)

The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL)

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

Bioaccumulative

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

Known to cause cancer in living organisms.

Coefficient of Variation

Measure of data variability calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge

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

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

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

Detected, but Not Quantified (DNQ)

Sample result less than the RL, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

Dilution Credit

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 by conducting a mixing zone study or modeling the discharge and receiving water.

Effluent Concentration Allowance (ECA)

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

Enclosed Bay

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

Estimated Chemical Concentration

Concentration that results from the confirmed detection of the substance below the ML value by the analytical method.

Estuaries

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 are considered estuaries. Estuarine waters are 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 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

All surface waters of the state that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation

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

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)

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

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 $n/2$ and $n/2+1$).

Method Detection Limit (MDL)

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 40 C.F.R. part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML)

Concentration at which the entire analytical system gives 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

Limited volume of receiving water 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)

Sample results less than the laboratory's MDL.

Persistent Pollutants

Substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program

Program of 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 Pollutant Minimization Program is to reduce all potential sources of a priority pollutant 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. Cost effectiveness may be considered when establishing the requirements of a Pollutant Minimization Program. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), is considered to fulfill Pollutant Minimization Program requirements.

Pollution Prevention

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

Reporting Level (RL)

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, including an additional factor if applicable as discussed herein. 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

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

Any water designated as having a municipal or domestic supply (MUN) beneficial use.

Standard Deviation (σ)

Measure of variability 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

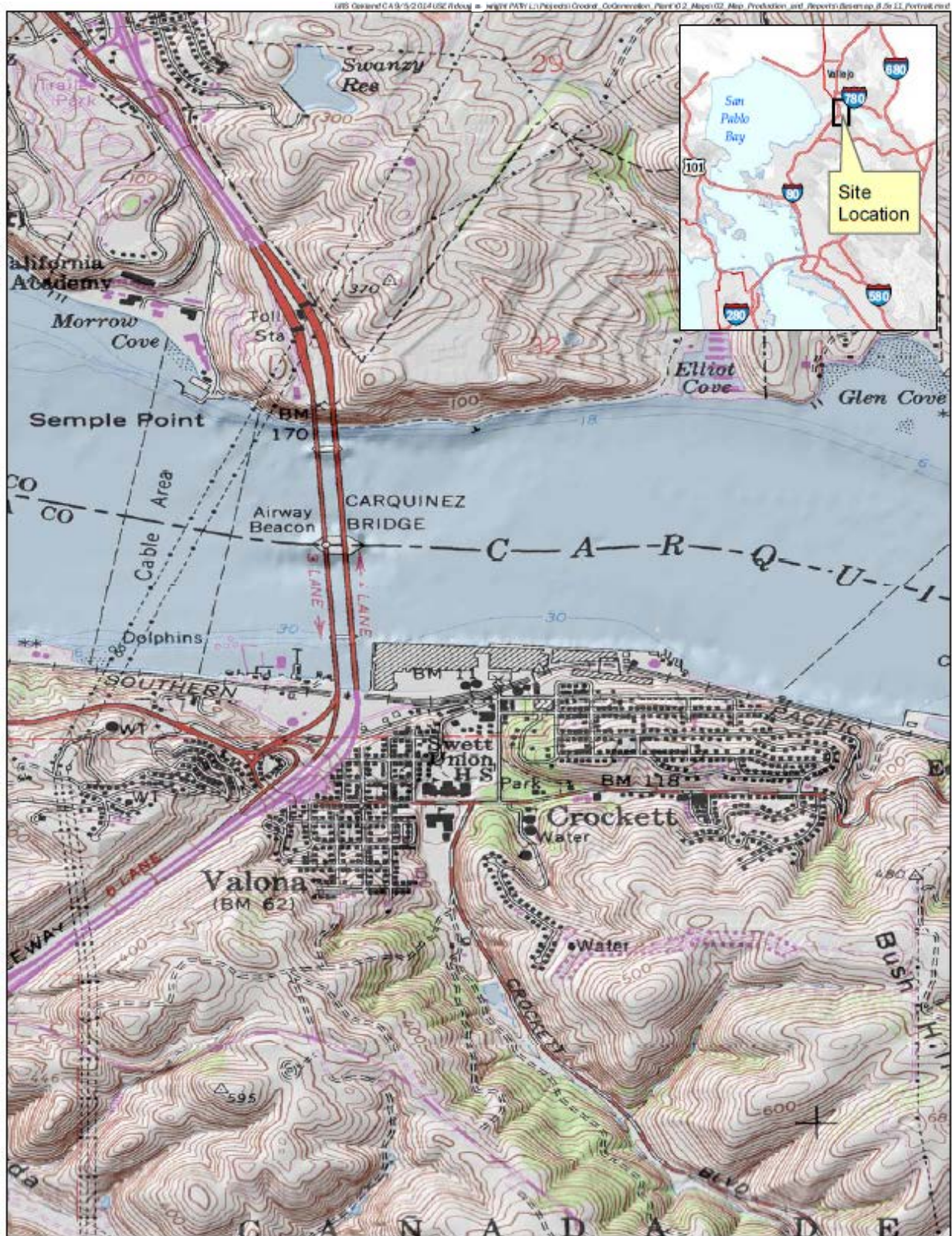
n is the number of samples.

Toxicity Reduction Evaluation (TRE)

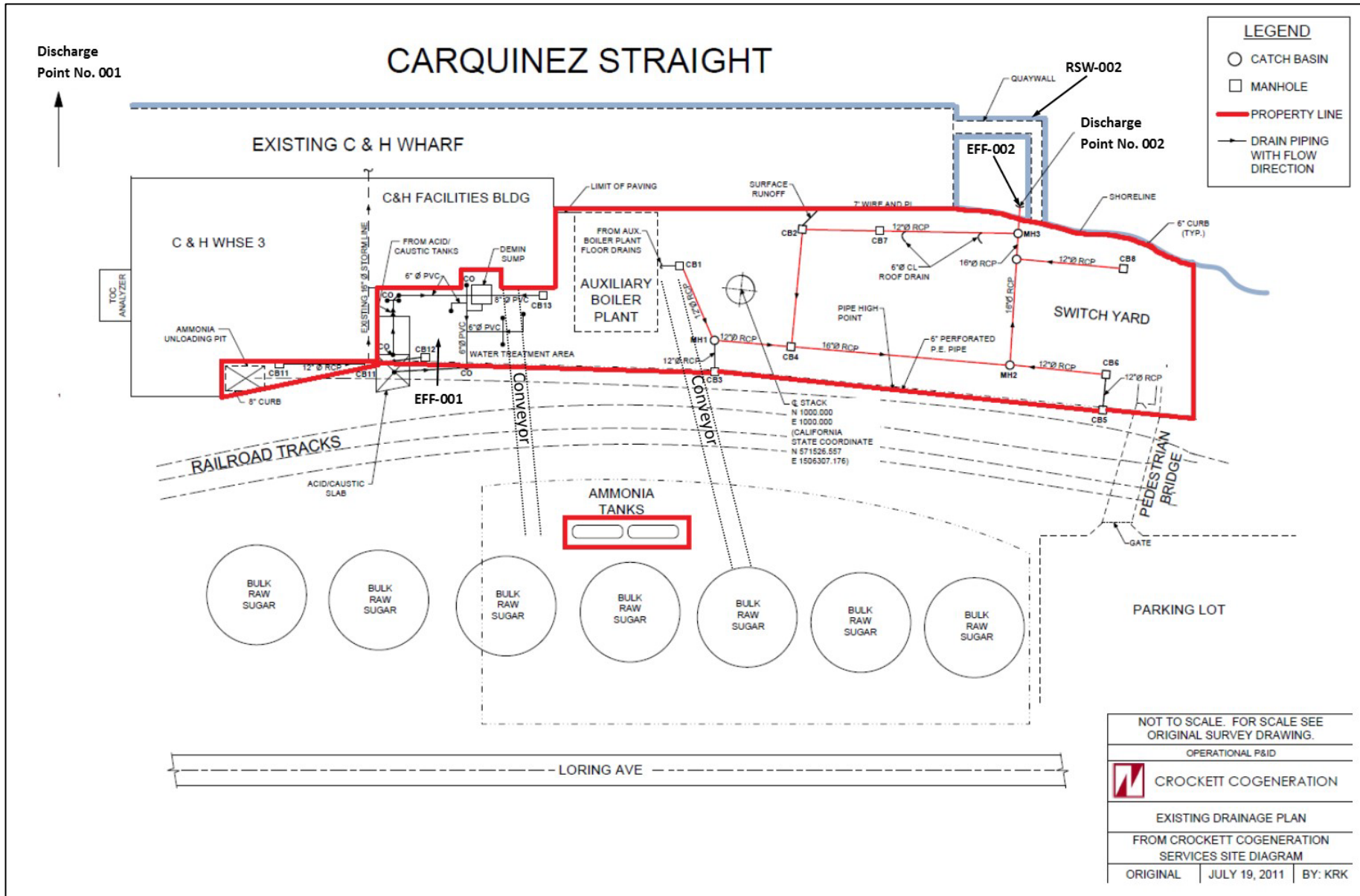
Study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of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

ATTACHMENT B – FACILITY MAPS

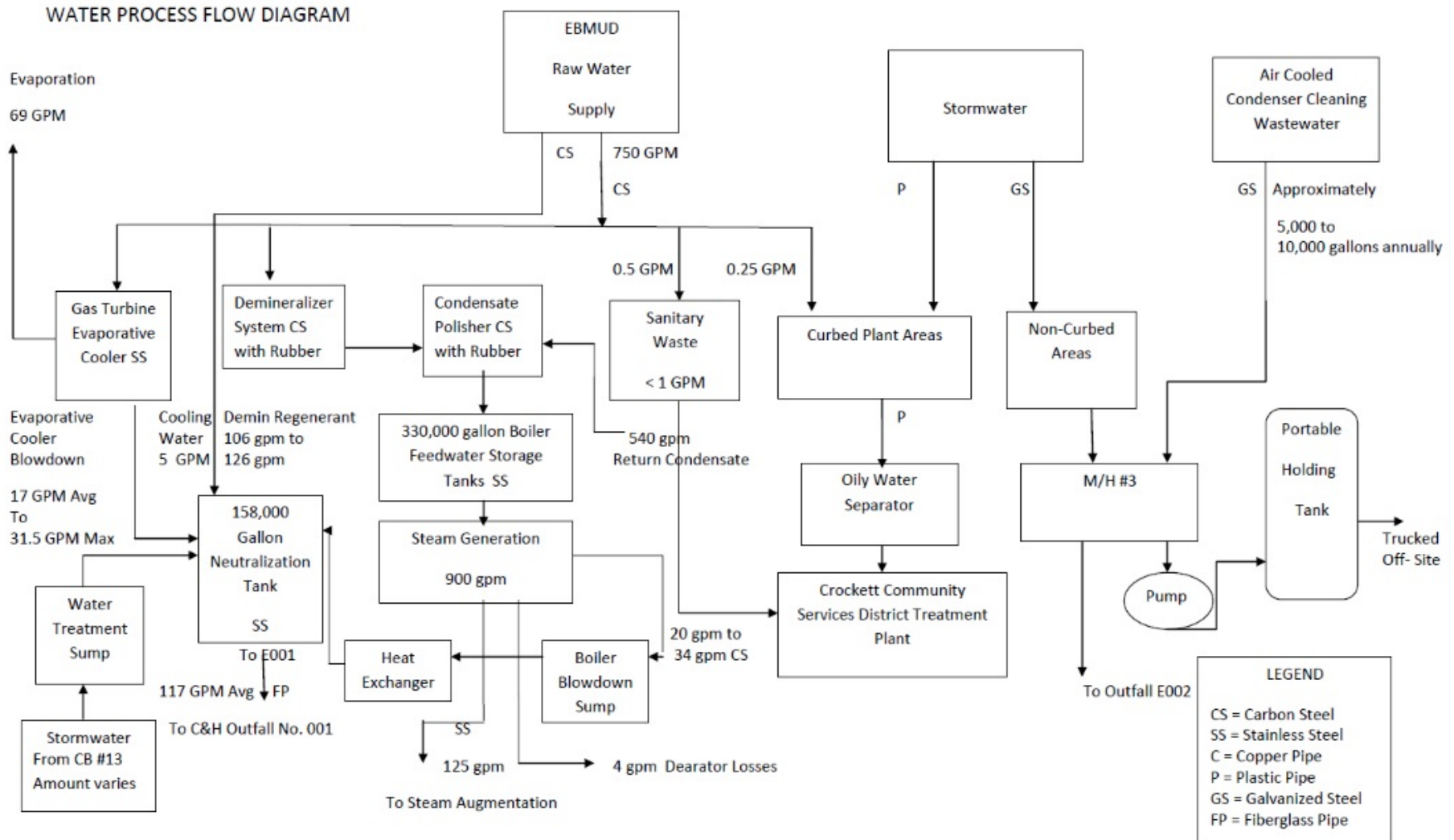
Site Location



Site Layout



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 terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 C.F.R. § 122.41(a); Wat. Code §§ 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)
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, U.S. EPA, 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 (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i); Wat. Code, §§ 13267, 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 (33 U.S.C. § 1318(a)(4)(B)(i); 40 C.F.R. § 122.41(i)(1); Wat. Code, §§ 13267, 13383);
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(2)); Wat. Code, §§ 13267, 13383);
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(3); Wat. Code, §§ 13267, 13383); and
4. Sample or monitor, at reasonable times, for the purposes of ensuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i)(4); Wat. Code, §§ 13267, 13383.)

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

5. Notice

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

b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

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

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).)

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

a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));

b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));

c. The Discharger submitted notice of the upset as required in Standard Provisions—Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and

d. The Discharger complied with any remedial measures required under Standard Provisions—Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)

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

II. STANDARD PROVISIONS—PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the 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 approved under 40 C.F.R. part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. subchapters N or O. In the case of pollutants for which there are no approved methods under 40 C.F.R. part 136 or otherwise required under 40 C.F.R. subchapters N or O, monitoring must be conducted according to a test procedure specified in this Order for such pollutants. (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 40 C.F.R. 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 the following:

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) the 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 U.S. EPA within a reasonable time, any information which the Regional Water Board, State Water Board, or U.S. EPA 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 U.S. EPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, §§ 13267, 13383.)

B. Signatory and Certification Requirements

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

For a partnership or sole proprietorship, all permit applications shall be signed by a general partner or the proprietor, respectively. (40 C.F.R. § 122.22(a)(2).)

For a municipality, state, federal, or other public agency, all permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA). (40 C.F.R. § 122.22(a)(3).)

- 3.** All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or U.S. EPA 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 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 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. subchapters N or O, the results of such 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 40 C.F.R. section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (Alternatively, for an existing manufacturing, commercial, mining, or silvicultural discharge as referenced in 40 C.F.R. section 122.42(a), this notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under 40 C.F.R. section 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1).) (40 C.F.R. § 122.41(l)(1)(ii).)
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R. § 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order's 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 U.S. EPA, 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 permit under several provisions of the Water Code, including, but not limited to, sections 13268, 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS—NOTIFICATION LEVELS

A. Non-Municipal Facilities

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

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following “notification levels” (40 C.F.R. § 122.42(a)(1)):
 - a. 100 micrograms per liter ($\mu\text{g/L}$) (40 C.F.R. § 122.42(a)(1)(i));
 - b. 200 $\mu\text{g/L}$ for acrolein and acrylonitrile; 500 $\mu\text{g/L}$ for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(1)(ii));
 - c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(1)(iii)); or
 - d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(1)(iv).)
2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following “notification levels” (40 C.F.R. § 122.42(a)(2)):
 - a. 500 micrograms per liter ($\mu\text{g/L}$) (40 C.F.R. § 122.42(a)(2)(i));
 - b. 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(2)(ii));
 - c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(2)(iii)); or
 - d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(2)(iv).)

B. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following (40 C.F.R. § 122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to CWA sections 301 or 306 if it were directly discharging those pollutants (40 C.F.R. § 122.42(b)(1)); and
2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of this Order. (40 C.F.R. § 122.42(b)(2).)
3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 C.F.R. § 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

Clean Water Act section 308 and 40 C.F.R. sections 122.41(h), 122.41(j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. This MRP establishes monitoring, reporting, and recordkeeping requirements that implement federal and State laws and regulations.

I. GENERAL MONITORING PROVISIONS

- A. The Discharger shall comply with this MRP. The Executive Officer may amend this MRP pursuant to 40 C.F.R. sections 122.62, 122.63, and 124.5. If any discrepancies exist between this MRP and the “Regional Standard Provisions, and Monitoring and Reporting Requirements (Supplement to Attachment D) for NPDES Wastewater Discharge Permits” (Attachment G), this MRP shall prevail.
- B. The Discharger shall conduct all monitoring in accordance with Attachment D, section III, as supplemented by Attachment G. Equivalent test methods must be more sensitive than those specified in 40 C.F.R. section 136 and must be specified in this permit.

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Locations

Monitoring Location Type	Monitoring Location Name	Monitoring Location Description ^[1]
Effluent	EFF-001 (formerly E-001)	A point after full treatment and prior to the junction with the C&H outfall, where a representative treated wastewater sample can be obtained.
Effluent	EFF-002 (formerly E-002)	A point prior to contact with Carquinez Strait, where a representative stormwater sample can be obtained.
Receiving Water	RSW-002	A point in Carquinez Strait, located at the easterly edge of the C&H wharf (upgradient from Discharge Point No. 001).

III. EFFLUENT MONITORING REQUIREMENTS

- A. The Discharger shall monitor plant effluent at Monitoring Location EFF-001 as follows:

Table E-2. Effluent Monitoring—Monitoring Location EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow ^[1]	gpd	Continuous/D	Continuous/D
Biochemical Oxygen Demand (5-day @ 20°C)(BOD ₅) ^[2]	mg/L	Grab	1/Month
Total Suspended Solids (TSS)	mg/L	Grab	1/Month
Oil and Grease ^[3]	mg/L	Grab	1/Year
pH ^[4]	standard units	Grab or Continuous/D	1/Day
Temperature	°F	Grab or Continuous/D	1/Day
Copper, Total	µg/L	Grab	1/Month

Parameter	Units	Sample Type	Minimum Sampling Frequency
Zinc	µg/L	Grab	1/Month
Cyanide, Total	µg/L	Grab	1/Month
Acute Toxicity ^[5]	% survival	Grab	1/Year

Unit Abbreviations:

gpd = gallons per day
 mg/L = milligrams per liter
 µg/L = micrograms per liter
 °F = degrees Fahrenheit
 % survival = percent survival

Sampling Types and Frequencies:

Grab = grab sample
 Continuous/D = measured continuously, and recorded and reported daily
 1/Day = once per day
 1/Month = once per month
 1/Year = once per year

Footnotes:

- ^[1] Flow shall be monitored continuously and the following information shall be reported in monthly self-monitoring reports:
- Daily average flow (gpd)
 - Monthly average flow (gpd)
 - Total monthly flow volume (gallons)
 - Maximum and minimum daily average flow rates (gpd)
- ^[2] The Discharger may request a waiver of the BOD monitoring requirement at Monitoring Location EFF-001 by (1) providing written notice that C&H wash down water and fugitive sugar emissions no longer enter the water treatment sump, and (2) obtaining the written concurrence of the Executive Officer.
- ^[3] Each oil and grease sampling and analysis event shall be conducted in accordance with U.S. EPA Method 1664A.
- ^[4] If pH is monitored continuously, the minimum and maximum pH values for each day shall be reported in self-monitoring reports.
- ^[5] Acute bioassay tests shall be performed in accordance with MRP section IV.

B. The Discharger shall monitor at Monitoring Location EFF-002 as follows:

Table E-3. Effluent Monitoring—Monitoring Location EFF-002

Parameter	Units	Sample Type	Minimum Sampling Frequency
pH	standard units	Grab	Each Occurrence and at least 1/Year ^[3]
BOD ₅ ^[1]	mg/L	Grab	Each Occurrence and at least 1/Year ^[3]
Oil and Grease ^[2]	mg/L	Grab	Each Occurrence and at least 1/Year ^[3]
Cadmium	µg/L	Grab	Each Occurrence and at least 1/Year ^[3]
Copper	µg/L	Grab	Each Occurrence and at least 1/Year ^[3]
Lead	µg/L	Grab	Each Occurrence and at least 1/Year ^[3]
Zinc	µg/L	Grab	Each Occurrence and at least 1/Year ^[3]
Standard Observations ^[4]	---	Observation	Each Occurrence and at least 1/Year ^[3]

Unit Abbreviations:

mg/L = milligrams per liter
 µg/L = micrograms per liter

Sampling Type and Frequency:

Grab = grab sample
 1/Year = once per year

Footnotes:

- ^[1] The Discharger may request a waiver of the BOD monitoring requirement at Monitoring Location EFF-002 by (1) providing written notice that C&H wash down water and fugitive sugar emissions no longer enter the stormwater catch basins, and (2) obtaining the written concurrence of the Executive Officer.
- ^[2] Each oil and grease sampling and analysis event shall be conducted in accordance with U.S. EPA Method 1664A.

[3] “Each occurrence” means each time the Discharger manually opens the valve at Manhole #3 to discharge stormwater after using Manhole #3 to capture non-stormwater flows.

[4] Standard observations are described in Attachment G section III.C.2.

IV. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

The Discharger shall monitor whole effluent acute toxicity at Monitoring Location EFF-001 as follows:

- A.** Compliance with the acute toxicity effluent limitations shall be evaluated by measuring survival of test organisms exposed to 96-hour static renewal bioassays.
- B.** Test organisms shall be fathead minnow (*Pimephales promelas*) and rainbow trout (*Onchorhynchus mykiss*). If one species is consistently less sensitive to the discharge than the other, or if acute toxicity is not observed with one species, the Executive Officer may allow monitoring using only the more sensitive species.
- C.** Bioassays shall be performed according to the most up-to-date protocols in 40 C.F.R. part 136, currently *Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms*, 5th Edition (EPA-821-R-02-012).
- D.** If the Discharger demonstrates that specific identifiable substances in the discharge are rapidly rendered harmless upon discharge to the receiving water, compliance with the acute toxicity limit may be determined after test samples are adjusted to remove the influence of those substances. Written acknowledgement that the Executive Officer concurs with the Discharger’s demonstration and that the adjustment will not remove the influence of other substances must be obtained prior to any such adjustment. The Discharger may manually adjust the pH of whole effluent acute toxicity samples prior to performing bioassays to minimize ammonia toxicity interference.
- E.** Bioassay water monitoring shall include, on a daily basis, residual chlorine, pH, dissolved oxygen, ammonia (if toxicity is observed), temperature, hardness, and alkalinity. These results shall be reported. If final or intermediate results of an acute bioassay test indicate a violation or threatened violation (e.g., the percentage of surviving test organisms is less than 70 percent), the Discharger shall initiate a new test as soon as practical and shall investigate the cause of the mortalities and report its findings in the next self-monitoring report. The Discharger shall repeat the test until a test fish survival rate of 90 percent or greater is observed. If the control fish survival rate is less than 90 percent, the bioassay test shall be restarted with new fish and shall continue as soon as practical until an acceptable test is completed (i.e., control fish survival rate is 90 percent or greater).

V. RECEIVING WATER MONITORING REQUIREMENTS

- A.** The Discharger shall continue to participate in the Regional Monitoring Program, which collects data on pollutants and toxicity in water, sediment, and biota of San Francisco Bay.
- B.** The Discharger shall conduct receiving water monitoring at Monitoring Location RSW-002 as described below:

Table E-4. Receiving Water Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Temperature ^[1]	°F	Continuous/D	1/Day
Standard Observations ^[2]	---	---	1/Month

Unit Abbreviation:

°F = degrees Fahrenheit

Sampling Types and Frequencies:

Continuous/D = measured continuously, and recorded and reported daily

1/Day = once per day

1/Month = once per month

Footnotes:

^[1] Samples shall be collected within one foot below the surface of the receiving waterbody.

^[2] Standard observations are described in Attachment G section III.C.1.

VI. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

The Discharger shall comply with all Standard Provisions (Attachments D and G) related to monitoring, reporting, and recordkeeping, with modifications shown in section VIII, below.

B. Self-Monitoring Reports (SMRs)

1. SMR Format. The Discharger shall electronically submit SMRs using the State Water Board’s California Integrated Water Quality System (CIWQS) Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). The CIWQS website will provide additional information for SMR submittal in the event of a planned service interruption for electronic submittal.

2. SMR Due Dates and Contents. The Discharger shall submit SMRs by the due dates, and with the contents, specified below:

a. Quarterly SMRs — Quarterly SMRs shall be due 30 days after the end of each calendar quarter. Each quarterly SMR shall contain the applicable items described in sections V.B and V.C of both Attachments D and G of this Order. See Provision VI.C.2 (Effluent Characterization Study and Report) of this Order for information that must also be reported with quarterly SMRs.

Quarterly SMRs shall include all new monitoring results obtained since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this Order, the Discharger shall include the results of such monitoring in the calculations and reporting for the SMR.

b. Annual SMR — Annual SMRs shall be due February 1 each year, covering the previous calendar year. The annual SMR shall contain the items described in sections V.C.1.f of Attachment G. See also Provisions VI.C.2 (Effluent Characterization Study and Report) and VI.C.3 (Pollutant Minimization Program) of the Order for requirements to submit reports with the annual SMR.

3. Specifications for Submitting SMRs to CIWQS. The Discharger shall submit analytical results and other information using one of the following methods:

Table E-5. CIWQS Reporting

Parameter	Method of Reporting	
	EDF/CDF data upload or manual entry	Attached File
All parameters identified in influent, effluent, and receiving water monitoring tables (except Dissolved Oxygen and Temperature)	Required for all results	
Dissolved Oxygen Temperature	Required for monthly maximum and minimum results only ^[1]	Discharger may use this method for all results or keep records
Antimony Arsenic Beryllium Cadmium Chromium Copper Cyanide Lead Mercury Nickel Selenium	Silver Thallium Zinc Dioxins and Furans (by U.S. EPA Method 1613) Other Pollutants (by U.S. EPA methods 601, 602, 608, 610, 614, 624, and 625)	Required for all results ^[2]
Analytical Method	Not required (Discharger may select "data unavailable") ^[1]	
Collection Time Analysis Time	Not required (Discharger may select "0:00") ^[1]	

Footnotes:

- ^[1] The Discharger shall continue to monitor at the minimum frequency specified in this MRP, keep records of the measurements, and make the records available upon request.
- ^[2] These parameters require EDF/CDF data upload or manual entry regardless of whether monitoring is required by this MRP or other provisions of this Order (except for biosolids, sludge, or ash provisions).

The Discharger shall arrange all reported data in a tabular format and summarize data to clearly illustrate whether the Facility is operating in compliance with effluent limitations. The Discharger is not required to duplicate the submittal of data 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, the Discharger shall electronically submit the data in a tabular format as an attachment.

4. Monitoring Periods. Monitoring periods for all required monitoring shall be as set forth below unless otherwise specified:

Table E-6. Monitoring Periods

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
Continuous	Order effective date	All times
1/Day	Order effective date	Daily, 12:00 AM through 11:59 PM
1/Month	Order effective date	First day of calendar month through last day of calendar month

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
1/Year	Closest January 1 before or after Order effective date ^[1]	January 1 through December 31
1/Occurrence	Order effective date	Each time the Discharger manually opens the valve at Manhole #3 to discharge stormwater after using Manhole #3 to capture non-stormwater flows
Once	Order effective date	Anytime such that monitoring results may be submitted with the application for permit reissuance

Footnote:

^[1] Monitoring performed during the previous order term may be used to satisfy monitoring required by this Order.

5. RL and MDL Reporting. The Discharger shall report with each sample result the Reporting Level (RL) and Method Detection Limit (MDL) as determined by the procedure in 40 C.F.R. part 136. The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

- a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the RL, but greater than or equal to the laboratory’s MDL, shall be reported as “Detected, but Not Quantified,” or DNQ. The estimated chemical concentration of the sample shall also be reported.

For purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ. The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+/- a percentage of the reported value), numerical ranges (low to high), or any other means the laboratory considers appropriate.

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

6. Compliance Determination. Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined above and in the Fact Sheet and Attachments A, D, and G. For purposes of reporting and administrative enforcement by the Regional Water Board and State Water Board, 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 RL.

C. Discharge Monitoring Reports (DMRs)

DMRs are U.S. EPA reporting requirements. If required, the Discharger shall electronically certify and submit DMRs together with SMRs using the Electronic Self-Monitoring Reports module eSMR 2.5 or the latest upgraded version. As of the effective date of this Order, electronic DMR submittal is not required. However, by December 2016, the State Water Board or Regional Water Board will notify and require the Discharger to electronically submit DMRs. Electronic DMR submittal shall be in addition to electronic SMR submittal. Information about electronic DMR submittal is available at the DMR website at http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring.

VII. MODIFICATIONS TO ATTACHMENT G

This MRP modifies Attachment G as indicated below:

A. Attachment G section V.C.1.c.2 is revised as follows:

- 2) When determining compliance with an average monthly or maximum daily effluent limitation, 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 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.

B. Attachment G sections V.C.1.f and V.C.1.g are revised as follows, and section V.C.1.h (Reporting data in electronic format) is deleted:

- 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 (this summary table is not required if the

Discharger has submitted the year's monitoring results to CIWQS in electronic reporting format by EDF/CDF upload or manual entry);

- 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 (this item is not required if the Discharger has submitted the year's monitoring results to CIWQS in electronic reporting format by EDF/CDF upload or manual entry);
 - 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 stormwater 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 addressed as follows, unless the Discharger submits SMRs electronically to CIWQS:

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 – *Deleted*

C. Attachment G sections V.E.2, V.E.2.a, and V.E.2.c are revised as follows, and sections V.E.2.b (24-hour Certification) and V.E.2.d (Communication Protocol) are deleted:

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 supersede requirements imposed on the Discharger by the Executive Officer by letter of May 1, 2008.

a. Two (2)-Hour Notification

For any unauthorized discharges that enter 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 California Office of Emergency Services (CalOES, currently 800-852-7550), the local health officers or directors of environmental health with jurisdiction over the affected water bodies, and the Regional Water Board. Timely notification by the Discharger to CalOES also satisfies notification to the Regional Water Board. Notification 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;
- 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 – *Deleted*

c. 5-day Written Report

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.

Within five business days, the Discharger shall submit a written report 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 – *Deleted*

ATTACHMENT F - FACT SHEET

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ATTACHMENT F – FACT SHEET

This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order. As described in section II.B of the Order, the Regional Water Board incorporates this Fact Sheet as findings supporting the issuance of the Order.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility:

Table F-1. Facility Information

WDID	2 071201001
CIWQS Place ID	216164
Discharger	Crockett Cogeneration LLP
Facility Name	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 chrissargent@crockettcogen.com
Authorized Person to Sign and Submit Reports	Dan Consie Vice President, Asset Management, Western Region Consolidated Asset Management Services (CAMS) 661-387-7816 dconsie@camsops.com
Mailing Address	Same as Facility address
Billing Address	Same as Facility address
Facility Type	Industrial, SIC Code 4931 (Electric and Other Services Combined)
Major or Minor Facility	Minor
Threat to Water Quality	2
Complexity	B
Pretreatment Program	No
Reclamation Requirements	Not Applicable
Mercury and PCBs Requirements	NPDES Permit No. CA0038849
Nutrients Requirements	Not Applicable
Permitted Flow	500,400 gallons per day (gpd, monthly average) (Discharge Point No. 001)
Average Flow	184,500 gpd (Discharge Point No. 001)
Watershed	Suisun Basin
Receiving Water	Carquinez Strait
Receiving Water Type	Estuarine

- A. Crockett Cogeneration LLP (Discharger) owns and operates the Crockett Cogeneration Plant (Facility), a natural gas-fired steam electric cogeneration plant. The Discharger generates electricity for the Pacific Gas and Electric Company (PG&E). Heat is recovered from the gas turbines to produce steam for the neighboring C&H Sugar Company (C&H) sugar refinery. The Facility discharges wastewater and industrial stormwater runoff to Carquinez Strait, a water of the United States within the Suisun Basin watershed.

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

- B.** The discharge is regulated pursuant to National Pollutant Discharge Elimination System (NPDES) Permit No. CA0029904. It was previously subject to Order No. R2-2010-0073 (previous order). The Discharger filed a Report of Waste Discharge and submitted an application for reissuance of its Waste Discharge Requirements (WDRs) and NPDES permit on December 30, 2014.

The discharge is also regulated under NPDES Permit No. CA0038849, which establishes requirements on mercury and polychlorinated biphenyls (PCBs) from wastewater discharges to San Francisco Bay. This Order does not affect that permit.

The Discharger is authorized to discharge subject to WDRs in this Order at the discharge location described in Table 2 of this Order. Regulations at 40 C.F.R. section 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, Table 3 of this Order limits the effective period for the discharge authorization. Pursuant to California Code of Regulations, title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all federal NPDES regulation requirements for continuation of expired permits.

- C.** When applicable, State law requires dischargers to file a petition with the State Water Board’s Division of Water Rights and receive approval for any change in the point of discharge, place of use, or purpose of use of treated wastewater that decreases the flow in any portion of a watercourse. The State Water Board retains separate jurisdictional authority to enforce such requirements under Water Code 1211. This is not an NPDES permit requirement.

II. FACILITY DESCRIPTION

A. Wastewater Treatment and Controls

- 1. Facility.** The Discharger owns and operates the Crockett Cogeneration Plant, located on a 2.7-acre property at 550 Loring Avenue in Crockett. Attachment B shows the Facility and the surrounding area. The Discharger generates up to 240 megawatts (MW) of electricity for PG&E. Heat recovered from the gas turbines produces 425 pound-force per square inch gauge (psig) steam at a maximum rate of 450,000 pounds per hour (lbs/hr) for the neighboring C&H sugar refinery, which surrounds the Facility on three sides. Overhead C&H conveyor belts criss-cross the plant’s premises. Attachment C provides a plant flow schematic.
- 2. Wastewater.** Process wastewater consists of three low-volume waste streams as defined by 40 C.F.R. section 423.11(b): approximately 24,500 gallons per day (gpd) of evaporative cooler blowdown, 167,000 gpd of demineralizer regenerant waste, and 38,800 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 when necessary to the boiler blowdown sump to control the discharge temperature. The waste streams are mixed in a 150,000 gallon neutralization tank and sulfuric acid and/or caustic soda is added to control the pH prior to discharge to Carquinez Strait at Discharge Point No. 001. The neutralization tank is located below the C&H conveyor system in the water treatment area that is curbed and equipped with a sump. The average

effluent flow to Discharge Point No. 001 between January 1, 2012, and December 31, 2015, was 184,500 gpd.

- 3. Stormwater.** The Discharger collects stormwater runoff from approximately two acres of uncurbed areas within its premises through a network of drains that deliver all the stormwater to an approximately 1,200-gallon holding vault at Manhole #3 before discharge to Carquinez Strait at Discharge Point No. 002. The vault is equipped with a manually-operated valve that is normally kept closed to prevent accidental spills or non-stormwater (such as wash down water) from being discharged and to allow sampling as required by Monitoring Reporting Program (MRP) section III.B. During continuous wet weather, the valve is left open to allow stormwater to discharge; the vault is too small to contain all stormwater flows. The storm drain system also collects condensate from the exterior surfaces of three roof-mounted air conditioners. Such condensate originates from atmospheric moisture and does not contain pollutants that could affect water quality.

The Discharger collects stormwater runoff from approximately 0.6 acres of curbed and contained areas within its premises. If free of any visible oil sheen, this stormwater is pumped to the storm drain system that drains to Manhole #3 for discharge. If an oil sheen is visible, this stormwater is directed to an oil-water separator and then to the Crockett Sanitary District Treatment Plant for treatment. The Crockett Sanitary District Treatment Plant, co-owned by the Crockett Community Services District and C&H, is regulated under NPDES Permit No. CA0005240.

- 4. Solids Management.** Free petroleum product generated from the oil-water separator and residual solids and sediment from the neutralization tank and manholes are periodically removed and disposed of offsite by licensed contractors.

B. Discharge Points and Receiving Waters

Treated process wastewater is discharged at Discharge Point No. 001 to Carquinez Strait via a deepwater outfall owned by C&H under a contractual arrangement. C&H also discharges through the outfall, and NPDES Permit No. CA0005240 requires that C&H properly operate and maintain this outfall to assure at least the calculated combined dilution granted by NPDES Permit No. CA0005240 and this Order. The outfall is located approximately 200 feet offshore from the C&H refinery and 48 feet below mean lower low water. It is equipped with a diffuser 42-inches in diameter and 155-feet long that has 30 ports with diameters of approximately 6 inches each.

Stormwater is discharged through Discharge Point No. 002 to Carquinez Strait. Discharge Point No. 002 is a shallow water outfall with no diffuser.

C. Summary of Existing Requirements and Monitoring Data

Effluent limitations contained in the previous order and representative monitoring data from the previous order term are presented below:

Table F-2. Historic Effluent Limitations and Monitoring Data from Discharge Point No. 001

Parameter	Units	Effluent Limitations					Monitoring Data (01/10–9/14)
		Monthly Average	Weekly Average	Daily Maximum	Instantaneous Minimum	Instantaneous Maximum	Highest Daily Discharge
Total Suspended Solids (TSS)	mg/L	30	---	45	---	---	26
	lbs/day	44 ^[1]	---	67 ^[1]	---	---	39
Oil and Grease	mg/L	10	---	20	---	---	1.0 ^[2]
	lbs/day	15 ^[1]	---	30 ^[1]	---	---	1.5
pH	standard units	---	---	---	6.0	9.0	6.3 – 8.6 ^[3]
Temperature	°F	No more than 20°F above receiving water temperature					19°F above receiving water temperature
Copper	µg/L	72	---	190	---	---	17
Cyanide	µg/L	15	---	46	---	---	17 ^[4]
Lead	µg/L	3.1	---	9.3	---	---	1.5
Selenium	µg/L	30	---	51	---	---	1.4
Zinc	µg/L	230	---	600	---	---	1,200
Acute Toxicity	% survival	3-Sample Median: 90% minimum					35% ^[5]
		Single-Sample Maximum: 70% minimum					20% ^[5]

Unit Abbreviations:

mg/L = milligrams per liter
lbs/day= pounds per day
µg/L = micrograms per liter
% survival = percent survival

Footnotes:

- ^[1] The mass-based limitations were based on a long-term average flow of 178,000 gpd.
- ^[2] This is an estimated value.
- ^[3] These are the lowest and highest pH values observed.
- ^[4] The Discharger collected two samples for cyanide analysis in August 2014. The results were 17 µg/L and 3.4 µg/L, resulting in a monthly average of 10 µg/L, which complied with the effluent limit of 15 µg/L.
- ^[5] This is the lowest % survival observed.

Table F-3. Historic Stormwater Monitoring Data from Discharge Point No. 002

Parameter	Units	Monitoring Data (01/12 – 12/15) Lowest and Highest Daily Discharge
Biochemical Oxygen Demand, 5-day @ 20°C (BOD ₅)	mg/L	<4 – 8,400
Oil and Grease	mg/L	< 1.1 – 49
pH	standard units	4.0 – 8.0

Unit Abbreviations:

mg/L= milligrams per liter

D. Compliance Summary

- 1. Discharge Point No. 001.** During the term of the previous order, the Discharger reported five violations of numeric effluent limitations at Discharge Point No. 001, as listed below:

Table F-4. Numeric Effluent Limitation Violations

Date of Violation	Parameter	Limit	Reported Value	Units
8/15/2011	Acute Toxicity Daily Minimum	70	20	% survival
9/1/2011	Acute Toxicity 3-Sample Median	90	35	% survival
9/1/2011	Acute Toxicity Daily Minimum	70	35	% survival
2/6/2014	Zinc Monthly Average	230	720	µg/L
2/27/2014	Zinc Daily Maximum	600	1,200	µg/L

Unit Abbreviations:

% survival = percent survival
 µg/L = micrograms per liter

- a. **Acute Toxicity.** On August 15, 2011, the discharge failed acute toxicity tests with rainbow trout. Accelerated monitoring continued to show failure. On September 12, 2011, the discharge returned to compliance. The bioassay failure is believed to have been caused by higher-than-normal TSS in the neutralizing tank effluent resulting from problems with the demineralizer regeneration system. The Discharger repaired and replaced components of the regeneration system and conducted refresher trainings for all operators performing regenerations. No violation of acute toxicity limits has occurred since.

- b. **Zinc.** On February 6, 2014, the Discharger sampled the neutralizing tank effluent and found zinc at 240 µg/L, which exceeded the average monthly limit of 230 µg/L. A followup sample, taken on February 27, 2014, contained zinc at 1,200 µg/L, which exceeded the maximum daily limit of 600 µg/L and resulted in a monthly average of 720 µg/L for February, violating the average monthly limit. The Discharger conducted daily accelerated monitoring from March 13 through March 20, 2014. All results demonstrated compliance. An investigation revealed that, in February, stormwater in Manhole #3 had been pumped to the neutralization tank five times. The Facility pumped the stormwater in Manhole #3 to the neutralization tank to adjust the pH because the stormwater pH was less than 6. However, the storm drain water also contained zinc concentrations as high as 8,800 µg/L. The zinc came from the wash down of the air-cooled condensers, which are made of galvanized steel. In May 2014, the Discharger ceased the practice of pumping water from Manhole #3 to the neutralization tank. Air-cooled condenser wash water was retained onsite in portable storage tanks before taken offsite for disposal.

On January 23, 2015, Regional Water Board staff issued a notice of violation for the Discharger’s failure to develop a Stormwater Pollution Prevention Plan (SWPPP) that identifies the pollutant sources that may affect stormwater quality and identifies, assigns, and implements control measures and management practices to reduce such pollutants. On July 28, 2015, the Discharger updated its SWPPP. Among the changes, the Discharger indicated that it will hire a contractor to use a specialized cleaning device to wash the air-cooled condenser tubes. The wash water will be collected and disposed of offsite; it will not be comingled with stormwater.

The Regional Water Board staff collected mandatory minimum penalties for the zinc effluent limitation violations in October 2015.

- 2. Discharge Point No. 002.** The neighboring C&H sugar refinery receives raw sugar by cargo ship. C&H uses conveyor belts to transport the sugar across the Discharger's Facility to the C&H refinery. Fugitive emissions and conveyor belt wash down disperse sugar onto the Facility. The Discharger periodically washes down the Facility, which, to a large extent, is constructed with galvanized steel. Data the Discharger collected between January 2012 and December 2015 indicate that Discharge Point No. 002 discharges contain various pollutants at levels of concern. Of 84 samples, 78 contained detectable BOD concentrations, with the highest reported value being 8,400 mg/L. The BOD apparently resulted from C&H sugar drifting onsite. Discharge Point No. 002 discharges also exhibited low pH and contained cadmium, copper, lead, mercury, selenium, and zinc at concentrations above their respective water quality objectives.

Through the January 23, 2015, notice of violation (discussed above), Regional Water Board staff directed the Discharger to work with C&H to implement measures to eliminate C&H conveyor wash down into the storm drain system and to mitigate fugitive sugar particles from drifting onsite from ship unloading and conveyor belt operations. The notice of violation also required the Discharger to provide a galvanized steel care and maintenance plan to minimize corrosion and to update the protocol for managing wash down water from galvanized steel structures.

In June 2015, the Discharger devised a mitigation plan with C&H, which, among other things, would extend a wall structure to ground level (replacing a chain link fence) to reduce sugar particles from drifting into the water treatment area and repair leaks in the overhead conveyor system to eliminate wash down water from falling onsite. In July 2015, the Discharger submitted a revised SWPPP to address corrosion and runoff control and wash down water management for galvanized steel structures. Prohibition III.B of this Order prohibits discharge of wash down water to Discharge Point No. 002. Provision VI.C.4.a of this Order requires the Discharger to develop and implement best management practices (BMPs) that minimize stormwater pollutants and prevent non-stormwater discharges. MRP section III.B requires the Discharger to monitor stormwater discharges, and Provision VI.C.4.c of this Order requires the Discharger to evaluate the effectiveness of the measures it implements and improve them as necessary.

E. Planned Changes

The Discharger does not anticipate any changes during the term of this Order.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

A. Legal Authorities

This Order serves as WDRs pursuant to California Water Code article 4, chapter 4, division 7 (commencing with § 13260). This Order is also issued pursuant to Clean Water Act (CWA) section 402 and implementing regulations adopted by U.S. EPA and Water Code chapter 5.5, division 7 (commencing with § 13370). It shall serve as an NPDES permit for point source discharges from the Facility to surface waters.

B. California Environmental Quality Act

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act, Public Resources Code division 13, chapter 3 (commencing with § 21100).

C. State and Federal Regulations, Policies, and Plans

1. Water Quality Control Plan. The Regional Water Board adopted the *Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan), which designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan. Beneficial uses applicable to Carquinez Strait are as follows:

Table F-5. Beneficial Uses

Discharge Points	Receiving Water	Beneficial Uses
001 and 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 January 7, 1971, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. Under the Thermal Plan, the discharge is considered a new estuarine discharge of elevated temperature waste based on the following:

- The Facility was constructed between 1993 and 1995, after the Thermal Plan was adopted;
- The Thermal Plan defines “Carquinez Strait downstream to Carquinez Bridge” as estuarine waters; and
- The effluent is classified as elevated temperature waste, rather than thermal waste, because it is not discharged for the purpose of transporting waste heat.

Requirements of this Order implement the Thermal Plan.

3. Sediment Quality. The State Water Board adopted the *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1, Sediment Quality* on September 16, 2008, and it became effective on August 25, 2009. This plan supersedes other narrative sediment quality objectives, and establishes new sediment quality objectives and related implementation

provisions for specifically defined sediments in most bays and estuaries. This Order implements the sediment quality objectives of this plan.

4. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** U.S. EPA adopted the NTR on December 22, 1992, and amended it on May 4, 1995 and November 9, 1999. About 40 criteria in the NTR apply in California. On May 18, 2000, U.S. EPA adopted the CTR. The CTR promulgated new toxics criteria for California and incorporated the previously adopted NTR criteria that applied in the State. U.S. EPA amended the CTR on February 13, 2001. These rules contain water quality criteria for priority pollutants.
5. **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 U.S. EPA promulgated for California through the NTR and 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 U.S. EPA 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.
6. **Antidegradation Policy.** Federal regulations at 40 C.F.R. section 131.12 requires that state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy through State Water Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*, which is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. Permitted discharges must be consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16.
7. **Anti-Backsliding Requirements.** CWA sections 402(o) and 303(d)(4) and 40 C.F.R. section 122.44(l) restrict 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 Waters on CWA 303(d) List

In October 2011, U.S. EPA approved a revised list of impaired waters prepared pursuant to CWA section 303(d), which requires identification of specific water bodies where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. Where it has not done so already, the Regional Water Board plans to adopt total maximum daily loads (TMDLs) for pollutants on the 303(d) list. TMDLs establish wasteload allocations for point sources and load allocations for non-point sources and are established to achieve the water quality standards for the impaired waters.

Carquinez Strait is listed as impaired by chlordane, DDT, dieldrin, dioxin compounds, invasive species, furan compounds, mercury, PCBs, dioxin-like PCBs, and selenium. On February 12, 2008, U.S. EPA approved a TMDL for mercury in San Francisco Bay. On March 29, 2010, U.S. EPA approved a TMDL for PCBs in San Francisco Bay. The TMDLs for mercury and PCBs apply to this discharge and are regulated under NPDES Permit No. CA0038849. On November 18, 2015, the Regional Water Board adopted a selenium TMDL for North San Francisco Bay, including Carquinez Strait. This selenium TMDL will become effective pending approval from the State Water Board, Office of Administrative Law, and U.S. EPA. The selenium TMDL does not require effluent limits for non-petroleum refinery industrial wastewater dischargers because these discharges have an insignificant impact on North Bay water quality. TMDLs have not yet been completed for the other pollutants on the 303(d) list. With the exception of dioxin, available data do not indicate that the Facility discharges these pollutants in detectable quantities. The octa form of dioxin has been detected, but the maximum concentration was three orders of magnitude lower than the water quality objective.

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: 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. section 122.44(d) requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of receiving waters.

A. Discharge Prohibitions

1. Prohibitions in the Order

- a. **Discharge Prohibition III.A (Discharge in a manner different than as described in this Order):** This prohibition is based on 40 C.F.R. section 122.21(a), "Duty to Apply," and Water Code section 13260, which require filing an application and Report of Waste Discharge before a discharge can occur. Discharges not described in the application and Report of Waste Discharge, and subsequently in this Order, are prohibited.
- b. **Discharge Prohibition III.B (Discharge at Discharge Point No. 001 without minimum initial dilution of 10:1):** This prohibition is based on Basin Plan Table 4-1, Discharge Prohibition 1, which prohibits discharges that do not receive a minimum initial dilution of at least 10:1. Furthermore, 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. The Discharger uses a deepwater outfall owned by C&H under a contractual arrangement. C&H also discharges through the outfall, and NPDES Permit No. CA0005240 requires that C&H properly operate and maintain this outfall to assure at least the dilution granted by NPDES Permit No. CA0005240 and this Order.
- c. **Discharge Prohibition III.C (Bypass of untreated or partially-treated wastewater):** This prohibition is based on 40 C.F.R. section 122.41(m) (see Attachment D section I.G).

- d. Discharge Prohibition III.D (Discharge of polychlorinated biphenyl compounds):** This prohibition is based on the Effluent Limitations and Guidelines for the Steam Electric Power Generating Point Source Category at 40 C.F.R. section 423.15(b).
- e. Discharge Prohibition III.E (Discharge of metal cleaning wastewaters or biocides):** This prohibition is based on 40 C.F.R. section 122.21(a), “Duty to Apply,” and Water Code section 13260, which require filing an application and Report of Waste Discharge before a discharge can occur. Discharges not described in the application and Report of Waste Discharge, and subsequently in this Order, are prohibited. Although metal cleaning wastewater (defined in 40 C.F.R. § 423.11) and biocides are commonly discharged from steam electric power generating facilities, the Discharger has reported that it does not generate metal cleaning wastewaters and does not use any oxidizing or non-oxidizing biocides in its cooling or process water systems. This prohibition protects water quality by ensuring that the Discharger’s activities remain consistent with the assumptions underlying this Order and its requirements.
- f. Discharge Prohibition III.F (Discharge exceeding a monthly average of 500,400 gallons per day [gpd] at Discharge Point No. 001):** This prohibition is based on an assumption that the average monthly flow from Discharge Point No. 001 will not exceed 500,400 gpd. Exceedance of this average flow may lower the reliability of compliance with this Order’s water quality requirements. This flow is the same as that authorized by the previous order.
- g. Discharge Prohibition III.G (Discharge of wash down water):** This prohibition is based on 40 C.F.R. section 122.21(a), “Duty to Apply,” and Water Code section 13260, which require filing an application and Report of Waste Discharge before a discharge can occur. Discharges not described in the application and Report of Waste Discharge, and subsequently in this Order, are prohibited. This Order only authorizes discharge of treated process wastewater and stormwater. Its limits may not protect water quality if wash down water is mixed with process wastewater or stormwater.

2. Exception to Shallow Water and Dead-End Slough Discharge Prohibition

Basin Plan Table 4-1, Discharge Prohibition 1, prohibits discharge of “any wastewater which has particular characteristics of concern to beneficial uses at any point at which the wastewater does not receive a minimum initial dilution of at least 10:1...” This prohibition is primarily intended to buffer the effects of continuous discharges and temporary treatment plant upsets or malfunctions. Basin Plan section 4.2 allows exceptions to this prohibition when an inordinate burden would be placed on the discharger relative to the beneficial uses protected and an equivalent level of environmental protection can be achieved by alternate means.

This Order grants an exception to Discharge Prohibition 1 for stormwater discharges from Discharge Point No. 002 because stormwater flows are not continuous and not subject to plant upset or malfunction. Providing an initial dilution of at least 10:1 would be impractical for this type of discharge and thus would constitute an inordinate burden for the Discharger. In addition, Provision VI.C.4 of this Order requires the Discharger to develop and implement best management practices, reflecting the best industry practice considering technological

availability and economic practicability, to comply with action levels and minimize pollutants in stormwater, thus providing an equivalent level of water quality protection.

B. Technology-Based Effluent Limitations

1. Scope and Authority

CWA section 301(b) and 40 C.F.R. section 122.44 require that permits include conditions meeting technology-based requirements at a minimum and any more stringent effluent limitations necessary to meet water quality standards. The discharges this Order authorizes for Discharge Point No. 001 must meet minimum federal technology-based requirement based on U.S. EPA-promulgated Effluent Limitations Guidelines for the Steam Electric Power Generating Point Source Category in 40 C.F.R. section 423.15. The Effluent Limitations Guidelines contain concentration-based limits as listed in the table below. For TSS and oil and grease, the Effluent Limitations Guidelines also require mass-based limitations, determined by multiplying the actual flow of all low-volume waste sources by the concentration-based limits. Basin Plan section 4.5.5.1 contains additional requirements for certain pollutants.

Table F-6. Effluent Limitations Guidelines

Parameter ^[1]	Monthly Average ^[1]	Daily Maximum ^[1]
TSS	30 mg/L	100 mg/L
Oil and Grease	15 mg/L	20 mg/L
pH	6.0 – 9.0 standard units	
Polychlorinated Biphenyl Compounds	No discharge	

Footnote:

^[1] The Facility is considered a new source because it was constructed between 1993 and 1995, after the Effluent Limitations Guidelines were promulgated in 1982.

2. Effluent Limitations

This Order contains the following technology-based effluent limitations based on Basin Plan section 4.5.5.1 and 40 C.F.R. section 423.15. Discharge Prohibition III.F of this Order implements the Effluent Limitations Guidelines in 40 C.F.R. section 423.15(b) for polychlorinated biphenyl compounds.

- a. Total Suspended Solids (TSS).** The concentration-based TSS effluent limitations are from Basin Plan Table 4-2 and are more stringent than effluent limitations based solely on the Effluent Limitations Guidelines in 40 C.F.R. section 423.15(c) would be. The mass-based limits are calculated from the concentration-based limits and the 184,500-gpd average low-volume waste flow from January 1, 2012 through December 31, 2015:

Average Monthly Effluent Limit (AMEL):

$$184,500 \text{ gpd} \times 30 \text{ mg/L} \times 1 \text{ kg}/10^6 \text{ mg} \times 2.2 \text{ lbs/kg} \times 3.8 \text{ L/gal} = 46 \text{ lbs/day}$$

Maximum Daily Effluent Limit (MDEL):

$$184,500 \text{ gpd} \times 45 \text{ mg/L} \times 1 \text{ kg}/10^6 \text{ mg} \times 2.2 \text{ lbs/kg} \times 3.8 \text{ L/gal} = 70 \text{ lbs/day}$$

These newly calculated mass-based effluent limitations are less stringent than those in the previous order; therefore, the previous AMEL of 44 lbs/day and MDEL of 67 lbs/day are

retained to avoid backsliding. Compliance monitoring during the previous order term indicates that the Discharger can technologically and economically comply with these more stringent Basin Plan limits.

- b. Oil and Grease.** The concentration-based oil and grease effluent limitations are from Basin Plan Table 4-2 and are more stringent than effluent limitations based solely on the Effluent Limitations Guidelines in 40 C.F.R. section 423.15(c) would be. The mass-based limits are calculated from the concentration-based limits and the 184,500-gpd average low-volume waste flow from January 1, 2012 through December 31, 2015:

Average Monthly Effluent Limit (AMEL):

$$184,500 \text{ gpd} \times 10 \text{ mg/L} \times 1 \text{ kg}/10^6 \text{ mg} \times 2.2 \text{ lbs/kg} \times 3.8 \text{ L/gal} = 16 \text{ lbs/day}$$

Maximum Daily Effluent Limit (MDEL):

$$184,500 \text{ gpd} \times 20 \text{ mg/L} \times 1 \text{ kg}/10^6 \text{ mg} \times 2.2 \text{ lbs/kg} \times 3.8 \text{ L/gal} = 31 \text{ lbs/day}$$

These newly calculated mass-based effluent limitations are less stringent than those in the previous order; therefore, the previous AMEL of 15 lbs/day and MDEL of 30 lbs/day are retained to avoid backsliding. Compliance monitoring during the previous order term indicates that the Discharger can technologically and economically comply with these more stringent limits.

- c. pH.** The pH effluent limitations are from Basin Plan Table 4-2 and the Effluent Limitations Guidelines at 40 C.F.R. section 423.15(a). They are retained from the previous order.

C. Water Quality-Based Effluent Limitations

1. Scope and Authority

This Order contains WQBELs that implement water quality objectives that protect beneficial uses. CWA section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than federal technology-based requirements where necessary to achieve applicable water quality standards. According to 40 C.F.R. section 122.44(d)(1)(i), permits must include effluent limitations for all pollutants that are or may be discharged at levels that have a reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective, WQBELs must be established using (1) U.S. EPA 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 a narrative criterion, supplemented with relevant information (40 C.F.R. § 122.44[d][1][vi]). The process for determining reasonable potential and calculating WQBELs is intended to achieve applicable water quality objectives and criteria and protect designated uses of receiving waters as specified in the Basin Plan. This Order imposes numeric WQBELs for pollutants discharged from Discharge Point No. 001 with reasonable potential to cause or contribute to exceedances of water quality standards.

For stormwater discharges from Discharge Point No. 002, this Order contains narrative stormwater requirements in lieu of numeric WQBELs. Provision VI.C.4 is based on Basin Plan section 4.8 and 40 C.F.R. part 122.44(k), which requires permits to establish BMPs to control or abate the discharge of pollutants in stormwater runoff when numeric effluent limitations are infeasible. U.S. EPA's *NPDES Permit Writers' Manual* (EPA-833-K-10-001, September 2010, page 9-4) indicates that numeric effluent limits are infeasible "when chemical analyses are inappropriate or impossible." For pollutants in stormwater discharges, numeric WQBELs are infeasible because storms occur irregularly, unpredictably, uncontrollably, and occasionally in large volumes for short periods, so the resulting pollutant concentrations vary greatly depending on the circumstance. Even though the Facility is equipped with a holding vault (i.e., Manhole #3) that can hold some stormwater before discharge, the capacity of the vault is relatively small (approximately 1,200 gallons). The vault is equipped with a manually-operated valve that is often closed to prevent discharge of accidental spills or non-stormwater runoff such as wash down water. During continuous wet weather, however, the valve must be left open to allow stormwater to discharge.

2. Water Quality Criteria and Objectives

- a. **Basin Plan Objectives.** The Basin Plan specifies numeric water quality objectives for numerous pollutants and narrative water quality objectives for others, including toxicity. The narrative toxicity objective states, "All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms."
- b. **California Toxics Rule (CTR) Criteria.** The CTR specifies numeric aquatic life and human health criteria for numerous priority pollutants. These criteria apply to inland surface waters and enclosed bays and estuaries. Some human health criteria are for consumption of "water and organisms" and others are for consumption of "organisms only." The CTR criteria applicable to "organisms only" apply to Carquinez Strait because it does not support the municipal or domestic supply (MUN) beneficial use (i.e., it is not a drinking water source).
- c. **National Toxics Rule (NTR) Criteria.** The NTR establishes numeric aquatic life human health criteria for a number of toxic pollutants for San Francisco Bay waters upstream to and including Suisun Bay and the Sacramento-San Joaquin Delta. The NTR criteria apply to Carquinez Strait.
- d. **Sediment Quality Objectives.** The *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1, Sediment Quality* contains a narrative water quality objective: "Pollutants in sediments shall not be present in quantities that, alone or in combination, are toxic to benthic communities in bays and estuaries of California." This objective is to be implemented by integrating three lines of evidence: sediment toxicity, benthic community condition, and sediment chemistry. The policy requires that if the Regional Water Board determines that a discharge has reasonable potential to cause or contribute to an exceedance of this objective, it is to impose the objective as a receiving water limit.
- e. **Receiving Water Salinity.** Basin Plan section 4.6.2 (like the CTR and NTR) states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water are to be

considered in determining the applicable water quality objectives. Freshwater criteria 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 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 waters with salinities between these two categories, or tidally-influenced freshwaters that support estuarine beneficial uses, the water quality objectives are the lower of the salt or freshwater objectives (the latter calculated based on ambient hardness) for each substance.

Carquinez Strait, the receiving water for the discharge, is tidally-influenced. Salinity data collected from March 1993 to August 2001 at Davis Point (Station BD40), the nearest Regional Monitoring Program (RMP) station, 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.

- f. **Receiving Water Hardness.** Ambient hardness data were used to calculate freshwater water quality objectives that are hardness dependent. The data were collected at the Davis Point monitoring station (BD40) between April 1995 and August 2001. Assuming a lognormal distribution, the geometric mean of the 12 available data points is 950 mg/L. A maximum hardness value of 400 mg/L was used as recommended in the California Toxics Rule (CTR) for hardness values greater than or equal to 400 mg/L.
- g. **Site-Specific Metals Translators.** Effluent limitations for metals must be expressed as total recoverable metal (40 C.F.R. § 122.45[c]). Since the water quality objectives for metals are typically expressed as dissolved metal, translators must be used to convert metals concentrations from dissolved to total recoverable and vice versa. The CTR contains default translators; however, site-specific conditions, such as water temperature, pH, suspended solids, and organic carbon may affect the form of metal (dissolved, non-filterable, or otherwise) present and therefore available to cause toxicity. In general, dissolved metals are more available and more toxic to aquatic life than other forms. Site-specific translators can account for site-specific conditions, thereby preventing overly stringent water quality objectives.

As listed in the table below, this Order incorporates site-specific translators for copper from Basin Plan Table 7.2.1-2 and site-specific translators for nickel from *North of Dumbarton Bridge Copper and Nickel Development and Selection of Final Translators* (Clean Estuary Partnership, March 2005). CTR default translators were used for all other metals.

Table F-7. Site-Specific Translators

Pollutant	Acute	Chronic
Copper	0.66	0.38
Nickel	0.57	0.27

3. Need for Water Quality-Based Effluent Limitations (Reasonable Potential Analysis)

- a. **Available Information.** The reasonable potential analysis for Discharge Point No. 001 is based on effluent monitoring data the Discharger collected from January 2010 through September 2014. For ambient background data, this reasonable potential analysis relies

on data collected at the Yerba Buena Island RMP station (BC10) from 1993 through 2013 and additional Bay Area Clean Water Agencies data from *San Francisco Bay Ambient Water Monitoring Interim Report (2003)* and *Ambient Water Monitoring: Final CTR Sampling Update (2004)*. These reports contain monitoring results from 2002 and 2003 for priority pollutants the RMP did not monitor at the time.

In some cases, reasonable potential cannot be determined because effluent data are limited or ambient background concentrations are unavailable. Provision VI.C.2.a of the Order requires the Discharger to continue monitoring for these constituents in its effluent using analytical methods that provide the best feasible detection limits. When additional data become available, further analysis will be conducted to determine whether numeric effluent limitations are necessary.

This Order does not contain WQBELs for constituents that do not demonstrate reasonable potential; however, Provision VI.C.2.a of the Order still requires monitoring for those pollutants. If concentrations are found to have increased significantly, Provision VI.C.2 of the Order requires the Discharger to investigate the sources of the increases and implement remedial measures if the increases pose a threat to receiving water quality.

b. Toxic Pollutants

- i. **Methodology.** SIP section 1.3 sets forth the methodology used to assess whether pollutants potentially discharged from Discharge Point No. 001 have reasonable potential to exceed water quality objectives. The analysis begins with identifying the maximum effluent concentration (MEC) observed for each pollutant based on available effluent data and the ambient background concentration (B). SIP section 1.4.3 states that ambient background concentrations are either the maximum ambient concentration observed or, for water quality objectives intended to protect human health, the arithmetic mean of observed concentrations. There are three triggers in determining reasonable potential:
 - **Trigger 1** is activated if the maximum effluent concentration is greater than or equal to the lowest applicable water quality objective ($MEC \geq$ water quality objective).
 - **Trigger 2** is activated if the ambient background concentration observed in the receiving water is greater than the water quality objective ($B >$ water quality objective) *and* the pollutant is detected in any effluent sample.
 - **Trigger 3** is activated if a review of other information indicates that a WQBEL is needed to protect beneficial uses.
- ii. **Analysis.** The maximum effluent concentrations (MECs), most stringent applicable water quality criteria and objectives, and ambient background concentrations used in the analysis are presented in the following table, along with the reasonable potential analysis results (yes or no) for each pollutant. Reasonable potential was not determined for all pollutants because there are not water quality objectives for all pollutants, and monitoring data are unavailable for others. The pollutants that exhibit reasonable potential are copper, cyanide, and zinc by Trigger 1.

Table F-8. Reasonable Potential Analysis

CTR No.	Priority Pollutants	C or Governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) ^{[1][2]}	B or Minimum DL (µg/L) ^{[1][2]}	RPA Results ^[3]
1	Antimony	4,300	0.2	1.8	No
2	Arsenic	36	1.1	2.8	No
3	Beryllium	No Criteria	<0.02	0.22	U
4	Cadmium	1.0	0.031	0.13	No
5a	Chromium (III)	644	1.4	4.4	No
5b	Chromium (VI)	11	2.4	4.4	No
6	Copper	14	17	2.5	Yes
7	Lead	2.7	1.5	0.8	No
8	Mercury ^[4]	---	---	---	^[4]
9	Nickel	30	6.1	3.7	No
10	Selenium	5.0	1.4	0.39	No
11	Silver	2.2	<0.02	0.052	No
12	Thallium	6.3	<0.02	0.21	No
13	Zinc	86	1,200	5.1	Yes
14	Cyanide	2.9	17	<0.40	Yes
15	Asbestos	No Criteria	Unavailable	Unavailable	U
16	2,3,7,8-TCDD (Dioxin)	1.40E-08	1.9E-11	8.2E-09	No
17	Acrolein	780	<2.0	<0.5	No
18	Acrylonitrile	0.66	<0.4	0.03	No
19	Benzene	71	<0.3	<0.05	No
20	Bromoform	360	<0.3	<0.5	No
21	Carbon Tetrachloride	4.4	<0.4	0.06	No
22	Chlorobenzene	21,000	<0.3	<0.5	No
23	Chlorodibromomethane	34	0.42	<0.05	No
24	Chloroethane	No Criteria	<0.4	<0.5	U
25	2-Chloroethylvinyl ether	No Criteria	<0.7	<0.5	U
26	Chloroform	No Criteria	12	<0.5	U
27	Dichlorobromomethane	46	2.4	<0.05	No
28	1,1-Dichloroethane	No Criteria	<0.5	<0.05	U
29	1,2-Dichloroethane	99	<0.4	0.04	No
30	1,1-Dichloroethylene	3.2	<0.3	<0.5	No
31	1,2-Dichloropropane	39	<0.4	<0.05	No
32	1,3-Dichloropropylene	1,700	<0.4	<0.5	No
33	Ethylbenzene	29,000	<0.4	<0.5	No
34	Methyl Bromide	4,000	<0.4	<0.5	No
35	Methyl Chloride	No Criteria	<0.4	<0.5	U
36	Methylene Chloride	1,600	<0.5	22	No
37	1,1,2,2-Tetrachloroethane	11	Unavailable	<0.05	No
38	Tetrachloroethylene	8.9	<0.4	<0.05	No
39	Toluene	200,000	<0.3	<0.3	No
40	1,2-Trans-Dichloroethylene	140,000	<0.4	<0.5	No
41	1,1,1-Trichloroethane	No Criteria	<0.4	<0.5	U
42	1,1,2-Trichloroethane	42	<0.4	<0.05	No

CTR No.	Priority Pollutants	C or Governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) ^{[1][2]}	B or Minimum DL (µg/L) ^{[1][2]}	RPA Results ^[3]
43	Trichloroethylene	81	<0.4	<0.5	No
44	Vinyl Chloride	525	<0.4	<0.5	No
45	2-Chlorophenol	400	Unavailable	<1.2	No
46	2,4-Dichlorophenol	790	<0.66	<1.3	No
47	2,4-Dimethylphenol	2,300	<1.2	<1.3	No
48	2-Methyl- 4,6-Dinitrophenol	765	<0.75	<1.2	No
49	2,4-Dinitrophenol	14,000	<1.3	<0.7	No
50	2-Nitrophenol	No Criteria	<0.9	<1.3	U
51	4-Nitrophenol	No Criteria	<0.99	<1.6	U
52	3-Methyl 4-Chlorophenol	No Criteria	<0.58	<1.1	U
53	Pentachlorophenol	5.5	<1.4	<1	No
54	Phenol	4,600,000	<0.46	<1.3	No
55	2,4,6-Trichlorophenol	6.5	<0.74	<1.3	No
56	Acenaphthene	2,700	NA	0.0019	No
57	Acenaphthylene	No Criteria	<0.03	0.0013	U
58	Anthracene	110,000	<0.03	0.0006	No
59	Benzidine	0.00054	<3.4	<0.0015	No
60	Benzo(a)Anthracene	0.049	<0.04	0.0053	No
61	Benzo(a)Pyrene	0.049	<0.04	0.0033	No
62	Benzo(b)Fluoranthene	0.049	<0.04	0.0046	No
63	Benzo(ghi)Perylene	No Criteria	<0.04	0.0045	U
64	Benzo(k)Fluoranthene	0.049	<0.04	0.0018	No
65	Bis(2-Chloroethoxy)Methane	No Criteria	<0.81	<0.3	U
66	Bis(2-Chloroethyl)Ether	1.4	<0.14	<0.00015	No
67	Bis(2-Chloroisopropyl)Ether	170,000	<0.41	Unavailable	No
68	Bis(2-Ethylhexyl)Phthalate	5.9	<0.83	<0.7	No
69	4-Bromophenyl Phenyl Ether	No Criteria	<0.43	<0.23	U
70	Butylbenzyl Phthalate	5,200	<0.64	0.0056	No
71	2-Chloronaphthalene	4,300	<0.57	<0.3	No
72	4-Chlorophenyl Phenyl Ether	No Criteria	<0.93	<0.3	U
73	Chrysene	0.049	<0.04	0.0028	No
74	Dibenzo(a,h)Anthracene	0.049	<0.08	0.00064	No
75	1,2-Dichlorobenzene	17,000	<0.4	<0.3	No
76	1,3-Dichlorobenzene	2,600	<0.4	<0.3	No
77	1,4-Dichlorobenzene	2,600	<0.3	<0.3	No
78	3,3 Dichlorobenzidine	0.077	<2	<0.001	No
79	Diethyl Phthalate	120,000	<0.86	<0.21	No
80	Dimethyl Phthalate	2,900,000	<0.68	<0.21	No
81	Di-n-Butyl Phthalate	12,000	<0.91	0.016	No
82	2,4-Dinitrotoluene	9.1	<0.68	<0.27	No
83	2,6-Dinitrotoluene	No Criteria	<0.54	<0.29	U
84	Di-n-Octyl Phthalate	No Criteria	<0.65	<0.38	U
85	1,2-Diphenylhydrazine	0.54	<0.33	0.0037	No
86	Fluoranthene	370	NA	0.011	No

CTR No.	Priority Pollutants	C or Governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) ^{[1][2]}	B or Minimum DL (µg/L) ^{[1][2]}	RPA Results ^[3]
87	Fluorene	14,000	<0.03	0.0021	No
88	Hexachlorobenzene	0.00077	<0.89	0.000022	No
89	Hexachlorobutadiene	50	<0.84	<0.3	No
90	Hexachlorocyclopentadiene	17,000	<0.45	<0.3	No
91	Hexachloroethane	8.9	<0.58	<0.2	No
92	Indeno(1,2,3-cd)Pyrene	0.05	<0.05	0.004	No
93	Isophorone	600	<0.81	<0.3	No
94	Naphthalene	No Criteria	Unavailable	0.013	U
95	Nitrobenzene	1,900	<0.74	<0.25	No
96	N-Nitrosodimethylamine	8.1	<1.1	<0.3	No
97	N-Nitrosodi-n-Propylamine	1.4	<0.85	<0.001	No
98	N-Nitrosodiphenylamine	16	<0.9	<0.001	No
99	Phenanthrene	No Criteria	<0.03	0.0095	U
100	Pyrene	11,000	<0.03	0.019	No
101	1,2,4-Trichlorobenzene	No Criteria	<0.59	<0.3	U
102	Aldrin	0.00014	<0.002	0.0000028	No
103	Alpha-BHC	0.013	<0.004	0.0005	No
104	Beta-BHC	0.046	<0.002	0.00041	No
105	Gamma-BHC	0.063	<0.002	0.0007	No
106	Delta-BHC	No Criteria	<0.004	0.000053	U
107	Chlordane (303(d) listed)	0.00059	<0.04	0.00018	No
108	4,4'-DDT (303(d) listed)	0.00059	<0.003	0.00017	No
109	4,4'-DDE (linked to DDT)	0.00059	<0.004	0.0007	No
110	4,4'-DDD	0.00084	<0.02	0.00031	No
111	Dieldrin (303d listed)	0.00014	<0.005	0.00026	No
112	Alpha-Endosulfan	0.0087	<0.004	0.000031	No
113	beta-Endosulfan	0.0087	<0.002	0.000069	No
114	Endosulfan Sulfate	240	<0.02	0.000082	No
115	Endrin	0.0023	<0.002	0.00004	No
116	Endrin Aldehyde	0.81	<0.002	Unavailable	No
117	Heptachlor	0.00021	<0.003	0.000019	No
118	Heptachlor Epoxide	0.00011	<0.009	0.000094	No
119-125	PCBs sum ^[4]	--	---	---	^[4]
126	Toxaphene	0.0002	<0.2	Unavailable	No
	Tributyltin	0.0074	Unavailable	Unavailable	No
	Total PAHs	15	Unavailable	Unavailable	No

Footnotes:

- ^[1] The maximum effluent concentration and ambient 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 maximum effluent concentration or ambient background concentration is “Unavailable” when there are no monitoring data for the constituent.
- ^[3] RPA Results = Yes, if MEC ≥ WQC, B > WQC and MEC is detected, or Trigger 3
= No, if MEC and B are < WQC or all effluent data are undetected
= U, unknown; cannot be determined
- ^[4] SIP section 1.3 excludes from its reasonable potential analysis procedure priority pollutants for which a TMDL has been developed. TMDLs have been developed for mercury and PCBs in San Francisco Bay. Mercury and PCBs from wastewater discharges are regulated by NPDES Permit No. CA0038849, which implements the San Francisco Bay Mercury and PCBs TMDLs.

c. Temperature

- i. Water Quality Objectives.** The Thermal Plan objectives for “new” elevated temperature waste discharges to estuaries include the following:
- (a) The maximum temperature shall not exceed the natural receiving water temperature by more than 20°F.
 - (b) Discharges, either individually or combined with other discharges, shall not create a zone, defined by water temperatures more than 1°F above natural receiving water temperatures, that exceeds 25 percent of the cross-sectional area of a main river channel.
 - (c) No discharge shall cause a surface water temperature rise greater than 4°F above the natural temperature of the receiving waters at any time or place.
- ii. Analysis.** Temperature data were collected between January 2012 and September 2015 from Monitoring Locations EFF-001 (representing effluent from Discharge Point No. 001), RSW-003 (receiving water 1,400 feet downgradient of Discharge Point No. 001), and RSW-002 (receiving water 270 feet upgradient of Discharge Point No. 001). The maximum temperature difference between the discharge and the natural receiving water was 19°F, which is less than the Thermal Plan objective of 20°F, indicating no reasonable potential.

The Discharger shares the Discharge Point No. 001 outfall with C&H, which, on most days, takes cooling water from Carquinez Strait at an average rate of 17.2 MGD and discharges it back to Carquinez Strait at temperatures typically higher than the Discharger’s effluent. With an average flow of only 0.184 MGD, the Discharger accounts for approximately one percent of the total flow from Discharge Point No. 001; therefore, the Discharger has little effect on Carquinez Strait temperatures.

- d. Whole Effluent Acute Toxicity.** Basin Plan section 3.3.18 states, “There shall be no acute toxicity in ambient waters” and requires effluent limitations for whole effluent acute toxicity. As such, there is reasonable potential for acute toxicity to cause or contribute to exceedance of the acute toxicity water quality objective.
- e. Whole Effluent Chronic Toxicity.** Facility discharges have not been monitored for chronic toxicity because they pose little potential to contain chronic toxicants not otherwise addressed through this Order. Facility wastewater is well defined and unlikely to contain unexpected toxicants.
- f. Sediment Quality.** Pollutants in some receiving water sediments may be present in quantities that alone or in combination are toxic to benthic communities. Efforts are underway to identify stressors causing such conditions. However, to date there is no evidence directly linking compromised sediment conditions to the discharges subject to this Order; therefore, the Regional Water Board cannot draw a conclusion about reasonable potential for these discharges to cause or contribute to exceedances of the sediment quality objectives. Nevertheless, the Discharger continues to participate in the RMP, which monitors San Francisco Bay sediment and seeks to identify stressors responsible for degraded sediment quality. Thus far, the monitoring has provided only

limited information about potential stressors and sediment transport. The Regional Water Board is exploring options for obtaining additional information that may inform future analyses.

4. Effluent Limitations

WQBELs were developed for the pollutants determined to have reasonable potential to cause or contribute to exceedances of water quality objectives. For priority pollutants, the WQBELs are based on the procedures specified in SIP section 1.4, as shown in the table below.

- a. Dilution Credits.** The SIP allows dilution credits for completely-mixed discharges and, under certain circumstances, for incompletely-mixed discharges. On February 4, 2011, the Discharger submitted *Dye Dilution Study for Crockett Cogeneration and C&H Sugar Company Discharge Point No. 001*. The study showed that 10:1 dilution is achieved within 10 feet of the outfall, and dilution at the edge of the initial mixing zone varies between 37:1 and 49:1.

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...”

Copper, zinc, and cyanide are non-bioaccumulative pollutants. For these pollutants, a dilution allowance of 10:1 ($D = 9$) has been assigned. This allowance is consistent with the previous order and is based, in part, 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. The dilution credit is limited for the following reasons:

- (a)** Carquinez Strait is a very complex estuarine system with highly variable and 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. A water body-by-water body basis approach is taken here 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 RMP monitoring station is representative of the water that will mix with the discharge.
- (b)** Because of the complex hydrology of Carquinez Strait, there are uncertainties in accurately determining an appropriate mixing zone. The models used to predict dilution do not consider 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 Carquinez Strait on a twice-daily tidal cycle, generally beneath the warmer fresh water that flows seaward. When these waters mix and interact, complex circulation patterns occur due

to the carrying densities of the fresh and ocean waters. The complex patterns occur throughout San Francisco Bay, but are most prevalent in the San Pablo Bay, Carquinez Strait, 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 outfalls.

b. WQBEL Calculations. The following table shows the WQBEL calculations for Discharge Point No. 001:

Table F-9. WQBEL Calculations

PRIORITY POLLUTANTS	Cyanide	Copper	Zinc
Units	µg/L	µg/L	µg/L
Basis and Criteria type	Basin Plan Site-Specific Objectives (SSO)	Basin Plan Site-Specific Objectives (SSO)	CTR Freshwater Criteria
Criteria -Acute	-----	-----	90
Criteria -Chronic	-----	-----	81
SSO Criteria -Acute	9.4	9.4	-----
SSO Criteria -Chronic	2.9	6.0	-----
Water Effects ratio (WER)	1	1	1
Lowest WQO	2.9	14.2	86
Site Specific Translator - MDEL	-----	0.66	-----
Site Specific Translator - AMEL	-----	0.38	-----
Dilution Factor (D) (if applicable)	9	9	9
No. of samples per month	4	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y	Y
HH criteria analysis required? (Y/N)	Y	N	N
Applicable Acute WQO	9.4	14.2	95
Applicable Chronic WQO	2.9	15.8	86
HH criteria	2.2E+05	-----	-----
Background (Maximum Conc for Aquatic Life calc)	0.40	2.5	5.1
Background (Average Conc for Human Health calc)	0.40	-----	-----
Is the pollutant on the 303d list and/or bioaccumulative (Y/N)?	N	N	N
ECA acute	90	119	906
ECA chronic	25	135	810
ECA HH	2.2E+06	-----	-----
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	N	N
Avg of effluent data points	3.7	5.0	64
Std Dev of effluent data points	3.7	3.4	202
CV calculated	1.0	0.68	3.2
CV (Selected) - Final	1.0	0.68	3.2
ECA acute mult99	0.20	0.29	0.09
ECA chronic mult99	0.37	0.49	0.14
LTA acute	18.5	34	82

PRIORITY POLLUTANTS	Cyanide	Copper	Zinc
Units	µg/L	µg/L	µg/L
LTA chronic	9.5	66	112
minimum of LTAs	9.5	34	74
AMEL mult95	1.9	1.6	3.4
MDEL mult99	4.9	3.5	11
AMEL (aq life)	18	56	276
MDEL(aq life)	46	119	906
MDEL/AMEL Multiplier	2.5	2.1	3.3
AMEL (human hlth)	2.2.E+06	-----	-----
MDEL (human hlth)	5.5.E+06	-----	-----
minimum of AMEL for Aq. life vs HH	18	56	276
minimum of MDEL for Aq. Life vs HH	46	119	906
Previous order limit (30-day average)	15	72	230
Previous order limit (daily)	46	190	600
Final limit - AMEL	15	56	230
Final limit - MDEL	46	120	600

c. Whole Effluent Acute Toxicity. This Order includes effluent limitations for whole effluent acute toxicity based on Basin Plan Table 4-3.

D. Discharge Requirement Considerations

1. Anti-backsliding

This Order complies with the anti-backsliding provisions of CWA sections 402(o) and 303(d)(4) and 40 C.F.R. section 122.44(l), which generally require effluent limitations in a reissued permit to be as stringent as those in the previous permit. The requirements of this Order are at least as stringent as those in the previous order.

This Order does not retain the effluent limits for lead and selenium from the previous order because data no longer indicate reasonable potential to exceed water quality objectives. This is consistent with State Water Board Order WQ 2001-16.

2. Antidegradation

This Order complies with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16. It continues the status quo with respect to the level of discharge authorized in the previous order, which was adopted in accordance with antidegradation policies. Thus, existing water quality is the baseline by which to measure whether degradation will occur. This Order does not allow for a reduced level of treatment or increase effluent limitations relative to those in the previous order.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. This Order's technology-based requirements implement minimum, applicable federal technology-based requirements and backsliding requirements. In addition, this Order contains more stringent effluent limitations as necessary to meet water quality standards. Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement CWA requirements.

This Order's WQBELs have been derived to implement water quality objectives that protect beneficial uses. The beneficial uses and water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 C.F.R. section 131.38. The procedures for calculating these WQBELs are based on the CTR, as implemented in accordance with the SIP, which U.S. EPA approved on May 18, 2000. U.S. EPA approved most Basin Plan beneficial uses and water quality objectives prior to May 30, 2000. Beneficial uses and water quality objectives submitted to U.S. EPA prior to May 30, 2000, but not approved by U.S. EPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 C.F.R. section 131.21(c)(1). U.S. EPA approved the remaining beneficial uses and water quality objectives so they are applicable water quality standards pursuant to 40 C.F.R. section 131.21(c)(2).

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

The receiving water limitations in sections V.A of the Order are based on Thermal Plan section 5.B(1). The limitations in sections V.B and V.C of the Order are based on Basin Plan narrative and numeric water quality objectives. The receiving water limitation in section V.D of the Order requires compliance with federal and State water quality standards in accordance with the CWA and regulations adopted thereunder.

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

Attachment D contains standard provisions that apply to all NPDES permits in accordance with 40 C.F.R. section 122.41 and additional conditions applicable to specific categories of permits in accordance with 40 C.F.R. section 122.42. The Discharger must comply with these provisions. The conditions set forth in 40 C.F.R. sections 122.41(a)(1) and (b) through (n) apply to all state-issued NPDES permits and must be incorporated into the permits either expressly or by reference.

In accordance with 40 C.F.R. section 123.25(a)(12), states may omit or modify conditions to impose more stringent requirements. Attachment G contains standard provisions that supplement the federal standard provisions in Attachment D. This Order omits federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the State's enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates Water Code section 13387(e) by reference.

B. Monitoring and Reporting

Pursuant to 40 C.F.R. section 122.48, NPDES permits must specify requirements for recording and reporting monitoring results. CWC sections 13267 and 13383, and 40 C.F.R. sections 122.41(h) and (j), authorize the Regional Water Board to require technical and monitoring reports. This Order establishes monitoring and reporting requirements, contained in the Monitoring and Reporting Program (Attachment E), that implement federal and State requirements. For more background regarding these requirements, see Fact Sheet section VII.

C. Special Provisions

1. Reopener Provisions

These provisions are based on 40 C.F.R. sections 122.62 and 122.63 and allow modification of this Order and its effluent limitations as necessary in response to updated water quality objectives, regulations, or other new and relevant information that may become available in the future, and other circumstances as allowed by law.

2. Effluent Characterization Study and Report

This Order does not include effluent limitations for priority pollutants that do not demonstrate reasonable potential, but this provision requires the Discharger to continue monitoring for these pollutants at Discharge Point Nos. 001 and 002 as described in the MRP and Attachment G. Monitoring data are necessary to verify that the “no” and “unknown” reasonable potential analysis conclusions of this Order remain valid. This requirement is authorized pursuant to CWC section 13267, and is necessary to inform the next permit reissuance and to ensure that the Discharger takes timely steps in response to any unanticipated change in effluent quality during the term of this Order.

3. Pollutant Minimization Program

This provision is based on SIP section 2.4.5.

4. Stormwater Best Management Practices

Provision VI.C.4 is based on Basin Plan section 4.8 and 40 C.F.R. part 122.44(k), which requires permits to establish BMPs to control or abate the discharge of pollutants in stormwater runoff when numeric effluent limitations are infeasible. These requirements serve as narrative WQBELs.

The BMP requirements are the same as those set forth in *General Permit for Stormwater Discharges Associated with Industrial Activities*, NPDES General Permit No. CAS000001 (State Water Board Order No. 2014-0057-DWQ), sections X, XI, and XV, and emphasizes the need to control sugar intrusion from C&H, corrosion and runoff from onsite galvanized steel structures, and wash down water management.

This provision sets forth action levels the Discharger must use to evaluate the effectiveness of its BMPs in reducing or preventing pollutant discharges. The Discharger must review and, if possible, improve its BMPs if any action level is exceeded. The action level for pH is

based on the water quality objective in Basin Plan section 3.3.9. The action level for BOD is based on the shortest duration treatment standard in Basin Plan Table 4-2. The action level for oil and grease is based on the shortest duration treatment standard in Basin Plan Table 4-2 and the American Petroleum Institute standard for oil water separators. The action levels for cadmium, copper, lead, and zinc are based on the acute water quality objectives for these pollutants.

5. Copper Action Plan

This provision is based on Basin Plan section 7.2.1.2 and is necessary to ensure that use of copper site-specific objectives in setting discharge limits for treated wastewater (Discharge Point 001) is consistent with antidegradation policies. The Discharger submitted an inventory of potential copper sources on August 31, 2010. No significant copper sources were found. This Order requires the Discharger to implement source control and pollution prevention only for identified sources. Additional actions may be necessary depending on the three-year rolling mean copper concentration in Central or Lower San Francisco Bay. Data the San Francisco Estuary Institute compiled for 2010-2013 indicate no degradation of San Francisco Bay water quality with respect to copper (<http://www.sfei.org/content/copper-site-specific-objective-3-year-rolling-averages>).

6. Cyanide Action Plan

This provision is based on Basin Plan section 4.7.2.2 and is necessary to ensure that use of cyanide site-specific objectives in setting discharge limits for treated wastewater (Discharge Point 001) is consistent with antidegradation policies. The threshold for considering cyanide concentrations to indicate a possible “significant cyanide discharge” is set at 25 µg/L. The Discharger did not observe effluent cyanide concentrations greater than 17 µg/L during the previous order term. An effluent concentration 150 percent of this historical level could indicate a significant new cyanide source.

VII. MONITORING AND REPORTING PROGRAM (MRP)

CWA section 308 and 40 C.F.R. sections 122.41(h), 122.41(j)-(l), 122.44(i), and 122.48 require that NPDES permits specify monitoring and reporting requirements. CWC sections 13267 and 13383 also authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The Monitoring and Reporting Program (Attachment E) of this Order establishes monitoring, reporting, and recordkeeping requirements that implement federal and State requirements. The following provides the rationale for the MRP requirements:

A. MRP Requirements Rationale

- 1. Effluent Monitoring.** At Monitoring Location EFF-001, effluent flow monitoring is necessary to evaluate compliance with Prohibition III.C and mass-based effluent limitations. Temperature monitoring is necessary to allow future reasonable potential analysis. BOD monitoring is necessary to evaluate the impact C&H operations may have on Facility discharges. Monitoring for the other parameters is necessary to evaluate compliance with this Order’s effluent limitations and to conduct future reasonable potential analyses.

At Monitoring Location EFF-002, stormwater monitoring is necessary to evaluate the effectiveness of the Discharger’s stormwater BMPs by comparing discharge concentrations with the action levels listed in Provision VI.C.4.c. Standard observations are necessary to evaluate compliance with the narrative stormwater effluent limitations specified in section IV.B of the Order.

2. **Whole Effluent Toxicity Testing.** Acute whole effluent toxicity testing is necessary to evaluate compliance with the acute toxicity effluent limitations.
3. **Receiving Water Monitoring.** Receiving water temperature monitoring is necessary to conduct future reasonable potential analyses for temperature. Standard observations are necessary to evaluate compliance with the receiving water limitations specified in section V of the Order. In addition, the Discharger is required to continue participating in the Regional Monitoring Program (RMP), which involves collecting data on pollutants and toxicity in San Francisco Bay water, sediment, and biota.

B. Monitoring Requirements Summary

The table below summarizes routine monitoring requirements. This table is for informational purposes only. The actual requirements are specified in the MRP and elsewhere in this Order.

Table F-10. Monitoring Requirements Summary

Parameter	Effluent EFF-001	Effluent EFF-002	Receiving Water RSW-002
Flow	Continuous/D	---	---
BOD	1/Month	Each Occurrence and at least 1/Year	---
Total Suspended Solids	1/Month	---	---
Oil and Grease	1/Year	Each Occurrence and at least 1/Year	---
pH	1/Day	Each Occurrence and at least 1/Year	Support RMP
Cadmium	---	Each Occurrence and at least 1/Year	Support RMP
Copper	1/ Month	Each Occurrence and at least 1/Year	Support RMP
Lead	---	Each Occurrence and at least 1/Year	Support RMP
Zinc	1/ Month	Each Occurrence and at least 1/Year	Support RMP
Cyanide	1/ Month	---	Support RMP
Other Priority Pollutants	1/Year	1/Year	Support RMP
Acute Toxicity	1/Year	---	--
Temperature	1/Day	---	1/Day
Standard Observations	---	Each Occurrence and at least 1/Year	1/month

VIII. PUBLIC PARTICIPATION

The Regional Water Board considered the issuance of WDRs that will serve as an NPDES permit for the Facility. As a step in the WDR adoption process, Regional Water Board staff developed tentative WDRs and encouraged public participation in the WDR adoption process.

A. Notification of Interested Parties. The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through the West County Times. The public had access to the agenda and any changes in dates and locations through the Regional Water Board's website at <http://www.waterboards.ca.gov/sanfranciscobay>.

B. Written Comments. Interested persons were invited to submit written comments concerning the tentative WDRs as explained through the notification process. Comments were to be submitted either in person or by mail to the Executive Officer at the Regional Water Board at 1515 Clay Street, Suite 1400, Oakland, California 94612, to the attention of Marcia Liao.

For full staff response and Regional Water Board consideration, the written comments were due at the Regional Water Board office by 5:00 p.m. on March 25, 2016.

C. Public Hearing. The Regional Water Board held a public hearing on the tentative WDRs during its regular meeting at the following date and time, and at the following location:

Date: May 11, 2016
Time: 9:00 a.m.
Location: Elihu Harris State Office Building
1515 Clay Street, 1st Floor Auditorium
Oakland, CA 94612

Contact: Marcia Liao, (510) 622-2377, Marcia.Liao@waterboards.ca.gov

Interested persons were invited to attend. At the public hearing, the Regional Water Board heard testimony pertinent to the discharge, WDRs, and permit. For accuracy of the record, important testimony was requested to be in writing.

Dates and venues change. The Regional Water Board web address is <http://www.waterboards.ca.gov/sanfranciscobay>, where one could access the current agenda for changes in dates and locations.

D. Reconsideration of Waste Discharge Requirements. Any aggrieved person may petition the State Water Board to review the Regional Water Board decision regarding the final WDRs. The State Water Board must receive the petition at the following address within 30 calendar days of the Regional Water Board action:

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

For instructions on how to file a petition for review, see
http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml.

- E. Information and Copying.** The Report of Waste Discharge, related supporting documents, and comments received are on file and may be inspected at the address above at any time between 9:00 a.m. and 5:00 p.m., Monday through Friday. Copying of documents may be arranged by calling (510) 622-2300.
- F. Register of Interested Persons.** Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference the Facility, and provide a name, address, and phone number.
- G. Additional Information.** Requests for additional information or questions regarding this Order should be directed to Marcia Liao, at (510) 622-2377 or Marcia.Liao@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 U.S. EPA (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:

<u>Metric tons biosolids/365 days</u>	<u>Frequency</u>
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:

- Floating and suspended materials* (e.g., oil, grease, algae, and other macroscopic particulate matter): presence or absence, source, and size of affected area.
- Discoloration and turbidity*: description of color, source, and size of affected area.
- Odor*: presence or absence, characterization, source, distance of travel, and wind direction.
- 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 U.S. EPA, 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 U.S. EPA 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;

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.

- 4) Estimated quantity and duration of the unauthorized discharge (to the extent known), and the estimated amount recovered;
- 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

F. Planned Changes – Not supplemented

G. Anticipated Noncompliance – Not supplemented

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.

H. Other Noncompliance – Not supplemented

I. Other Information – Not supplemented

VI. STANDARD PROVISION – 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:

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

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 ⁶	Minimum Levels ⁷ (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
1.	Antimony	204.2					10	5	50	0.5	5	0.5		1000
2.	Arsenic	206.3				20		2	10	2	2	1		1000
3.	Beryllium						20	0.5	2	0.5	1			1000
4.	Cadmium	200 or 213					10	0.5	10	0.25	0.5			1000
5a.	Chromium (III)	SM 3500												
5b.	Chromium (VI)	SM 3500				10	5							1000
	Chromium (total) ⁸	SM 3500					50	2	10	0.5	1			1000
6.	Copper	200.9					25	5	10	0.5	2			1000
7.	Lead	200.9					20	5	5	0.5	2			10,000
8.	Mercury	1631 (note) ⁹												
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) ¹⁰	0100.2 ¹¹												
16.	2,3,7,8-TCDD and 17 congeners (Dioxin)	1613												
17.	Acrolein	603	2.0	5										
18.	Acrylonitrile	603	2.0	2										
19.	Benzene	602	0.5	2										
33.	Ethylbenzene	602	0.5	2										
39.	Toluene	602	0.5	2										
20.	Bromoform	601	0.5	2										
21.	Carbon Tetrachloride	601	0.5	2										
22.	Chlorobenzene	601	0.5	2										
23.	Chlorodibromomethane	601	0.5	2										
24.	Chloroethane	601	0.5	2										
25.	2-Chloroethylvinyl Ether	601	1	1										

⁶ The suggested method is the U.S. EPA Method unless otherwise specified (SM = Standard Methods). The Discharger may use another U.S. EPA-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.

⁷ 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., U.S. EPA 200.9); Hydride = Gaseous Hydride Atomic Absorption; CVAA = Cold Vapor Atomic Absorption; DCP = Direct Current Plasma.

⁸ Analysis for total chromium may be substituted for analysis of chromium (III) and chromium (VI) if the concentration measured is below the lowest hexavalent chromium criterion (11 µg/l).

⁹ The Discharger shall use ultra-clean sampling (U.S. EPA Method 1669) and ultra-clean analytical methods (U.S. EPA Method 1631) for mercury monitoring. The minimum level for mercury is 2 ng/l (or 0.002 µg/l).

¹⁰ MUN = Municipal and Domestic Supply. This designation, if applicable, is in the Findings of the permit.

¹¹ Determination of Asbestos Structures over 10 [micrometers] in Length in Drinking Water Using MCE Filters, U.S. EPA 600/R-94-134, June 1994.

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

CTR No.	Pollutant/Parameter	Analytical Method ⁶	Minimum Levels ⁷ (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
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) ¹²	625		1										
88.	Hexachlorobenzene	625	5	1										
89.	Hexachlorobutadiene	625	5	1										
90.	Hexachlorocyclopentadiene	625	5	5										
91.	Hexachloroethane	625	5	1										
93.	Isophorone	625	10	1										
94.	Naphthalene	625	10	1	0.2									
95.	Nitrobenzene	625	10	1										
96.	N-Nitrosodimethylamine	625	10	5										
97.	N-Nitrosodi-n-Propylamine	625	10	5										
98.	N-Nitrosodiphenylamine	625	10	1										
99.	Phenanthrene	625		5	0.05									
101.	1,2,4-Trichlorobenzene	625	1	5										
102.	Aldrin	608	0.005											
103.	α-BHC	608	0.01											
104.	β-BHC	608	0.005											
105.	γ-BHC (Lindane)	608	0.02											
106.	δ-BHC	608	0.005											
107.	Chlordane	608	0.1											
108.	4,4'-DDT	608	0.01											
109.	4,4'-DDE	608	0.05											
110.	4,4'-DDD	608	0.05											
111.	Dieldrin	608	0.01											
112.	Endosulfan (alpha)	608	0.02											
113.	Endosulfan (beta)	608	0.01											
114.	Endosulfan Sulfate	608	0.05											
115.	Endrin	608	0.01											
116.	Endrin Aldehyde	608	0.01											
117.	Heptachlor	608	0.01											
118.	Heptachlor Epoxide	608	0.01											

¹² 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 ⁶	Minimum Levels ⁷ (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
119-125	PCBs: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260	608	0.5											
126.	Toxaphene	608	0.5											