

North Coast Regional Water Quality Control Board

**ORDER No. R1-2018-0013
 NPDES No. CA0024571
 WDID No. 1B85026RHUM**

WASTE DISCHARGE REQUIREMENTS

for

**DG FAIRHAVEN POWER, LLC
 FAIRHAVEN POWER FACILITY
 HUMBOLDT COUNTY**

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

Table 1. Permittee Information

Permittee	DG Fairhaven Power, LLC
Name of Facility	Fairhaven Power Facility
Facility Address	97 Bay Street
	Samoa, CA 95564
	Humboldt County
Type of Facility	Electricity Generation (SIC code 4911)
Facility Design Flow	0.350 million gallons per day (mgd) (Maximum Anticipated Discharge Flow)
Facility Median Flow	0.145 mgd

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Process water gross effluent combined discharge (including: low volume wastes and cooling tower blowdown) following all treatment processes prior to contact with receiving water	40° 49' 10"	124° 13' 32"	Pacific Ocean
010	Low volume wastewater (boiler blowdown, demineralizer back flush, and reverse osmosis concentrate) prior to commingling with cooling tower blowdown	40° 47' 57.2"	124° 12' 10.9"	Pacific Ocean
020	Cooling tower blowdown process wastewater prior to commingling with low volume wastewater.	40° 47' 57.3"	124° 12' 11.5"	Pacific Ocean

Table 3. Administrative Information

This Order was adopted on:	July 11, 2018
This Order shall become effective on:	October 1, 2018
This Order shall expire on:	September 31, 2023
The Permittee shall file a Report of Waste Discharge as an application for reissuance of WDRs in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	October 1, 2022
The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, North Coast Region have classified this discharge as follows:	Minor

IT IS HEREBY ORDERED, that Waste Discharge Requirements (WDR) Order No. R1-2012-0027 and Monitoring and Reporting Program (MRP) No. R1-2012-0027, are rescinded upon the effective date of this Order except for enforcement purposes, and in order to meet the provisions contained in division 7 of the California Water Code (Water Code) (commencing with section 13000) and regulations and guidelines adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Permittee shall comply with the requirements of this Order. This action in no way prevents the North Coast Regional Water Quality Control Board (Regional Water Board) from taking enforcement action for past violations of the previous permit.

I, Matthias St. John, 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, North Coast Region, on **July 11, 2018**.

 Matthias St. John, Executive Officer

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I. FACILITY INFORMATION

Information describing the DG Fairhaven Power, LLC (Permittee), Fairhaven Power Facility (Facility) is summarized in Table 1 and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Facility's permit application.

II. FINDINGS

The California Regional Water Quality Control Board, North Coast Region (Regional Water Board), finds:

- A. Legal Authorities.** This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (U.S. EPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit authorizing the Permittee to discharge into waters of the United States at the discharge locations described in Table 2 subject to the Waste Discharge Requirements (WDRs). This Order also serves as WDRs pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).
- B. Basis and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information submitted as part of the Permittee's application, monitoring and reporting program, and other available information. The Fact Sheet (Attachment F) contains background information and rationale for the requirements in this Order, and is hereby incorporated into this Order and constitutes Findings for this Order. Attachments A through E are also incorporated into this Order.
- C. Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections V.B and VI.C.6.b of this Order and section IX.E of the Monitoring and Reporting Program are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.
- D. Notification of Interested Parties.** The Regional Water Board has notified the Permittee and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet.
- E. Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet.

III. DISCHARGE PROHIBITIONS

- A.** The discharge of any waste not disclosed by the Permittee or not within the reasonable contemplation of the Regional Water Board is prohibited.
- B.** The discharge of waste to Humboldt Bay is prohibited.
- C.** Creation of pollution, contamination, or nuisance, as defined by section 13050 of the Water Code is prohibited.
- D.** The discharge of domestic waste, treated or untreated, to surface waters is prohibited.

- E. The discharge of waste to land that is not owned by the Permittee or under agreement to use by the Permittee is prohibited.
- F. The discharge of waste at any point not described in Finding II.B of the Fact Sheet or authorized by a permit issued by the State Water Resources Control Board (State Water Board) or another Regional Water Board is prohibited.
- G. The intentional introduction of pollutant-free wastewater to the collection, treatment, and disposal system for purposes of dilution is prohibited. The discharge of non-contact cooling water is not subject to this prohibition.
- H. The discharge of waste to shallow usable groundwaters of the Samoa Peninsula is prohibited. Notwithstanding this prohibition, the discharge of wastes from employee sanitary facilities in compliance with the North Coast Basin Plan Policy on the Control of Water Quality with Respect to On-Site Waste Treatment and Disposal Practices is authorized.
- I. The discharge of any radiological, chemical, or biological warfare agent or high-level radioactive waste into waters of the state is prohibited.
- J. The discharge of sludge directly into the ocean or into a waste stream that discharges to the ocean is prohibited.
- K. The by-passing of untreated wastes containing concentrations of pollutants in excess of those of Ocean Plan Tables 1 or 2 (2015) is prohibited.
- L. Discharges of metal cleaning wastes into the ocean or into a waste stream that discharges to the ocean is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point 001

1. Final Effluent Limitations – Discharge Point 001

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

Table 4. Effluent Limitations – Discharge Point 001

Parameter	Units	Effluent Limitations ¹				
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
Copper, Total Recoverable	µg/L	--	1,200 ²	--	3,300 ³	120 ⁴
	lbs/day ^{5,6}	--	1.9	--	17	0.13
pH	s.u.	--	--	6.0	9.0	--

Parameter	Units	Effluent Limitations ¹				
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
Table Notes:						
1. See Definitions in Attachment A and Compliance Determination discussion in section VII of this Order.						
2. This daily maximum limit shall apply to flow weighted 24-hour composite samples based on section III.C.4.g of the Ocean Plan.						
3. This instantaneous maximum limit shall apply to grab sample determinations based on section III.C.4.h of the Ocean Plan.						
4. This 6-month median limit shall apply as a moving median of daily values for any 180-day period in which daily values represent flow weighted average concentrations within a 24-hour period. For intermittent discharges, the daily value shall be considered to equal zero for days on which no discharge occurred based on section III.C.4.f of the Ocean Plan.						
5. Mass-based effluent limitations are based on the highest 6-month median flow of 0.130 mgd, the highest daily maximum flow of 0.186 mgd and the highest instantaneous flow of 0.634 MGD.						
6. See section VII.G of this Order regarding calculation of mass (lbs/day) results.						

B. Effluent Limitations – Discharge Point 010

1. Final Effluent Limitations – Discharge Point 010

- a. The discharge of low volume wastes shall maintain compliance with the following effluent limitations at Discharge Point 010, with compliance measured at Monitoring Location EFF-010 as described in the Monitoring and Reporting Program (MRP) (Attachment E).

Table 5. Effluent Limitations – Discharge Point 010

Parameter	Units	Effluent Limitations ¹			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Total Suspended Solids (TSS)	mg/L	30	100	--	--
Oil and Grease	mg/L	15	20	--	--
pH	s.u.	--	--	6.0	9.0
Table Notes:					
1. See Definitions in Attachment A and Compliance Determination discussion in section VII of this Order.					

C. Effluent Limitations – Discharge Point 020

1. Final Effluent Limitations – Discharge Point 020

- a. The discharge of recirculated cooling tower blowdown shall maintain compliance with the following effluent limitations at Discharge Point 020, with compliance measured at Monitoring Location EFF-020 as described in the Monitoring and Reporting Program (MRP) (Attachment E).

Table 6. Effluent Limitations – Discharge Point 020

Parameter	Units	Effluent Limitations ¹					
		Average Monthly	Maximum Daily	Average ²	Maximum ³	Instantaneous Minimum	Instantaneous Maximum
Free Available Chlorine	mg/L	--	--	0.2	0.5	--	--

Parameter	Units	Effluent Limitations ¹					
		Average Monthly	Maximum Daily	Average ²	Maximum ³	Instantaneous Minimum	Instantaneous Maximum
Chromium, Total Recoverable	mg/L	0.2	0.2	--	--	--	--
Zinc, Total Recoverable	mg/L	1.0	1.0	--	--	--	--
CTR Priority Pollutants ⁴	mg/L	Table Note 5	Table Note 5	--	--	--	--
pH	s.u.	--	--	--	--	6.0	9.0

Table Notes:

1. See Definitions in Attachment A and Compliance Determination discussion in section VII of this Order.
2. The term "average concentration," as it relates to chlorine discharge under effluent limitations guidelines (ELGs) at 40 C.F.R. part 423, means the average of analyses made over a single period of chlorine release which does not exceed 2 hours (See Attachment A).
3. The term "maximum concentration," as it relates to chlorine discharge under ELGs at 40 C.F.R. part 423, means the maximum of analyses made over a single period of chlorine release which does not exceed 2 hours (See Attachment A).
4. Applies to those pollutants contained in chemicals added for cooling tower maintenance except total recoverable chromium and total recoverable zinc. CTR priority pollutants to be monitored shall be identified according to the requirements contained in section VIII.A of the MRP.
5. No detectable amount.

D. Interim Effluent Limitations – Not Applicable

This Order does not establish interim effluent limitations or schedules for compliance with final limitations.

E. Land Discharge Specifications and Requirements – Not Applicable

This Order does not authorize discharges to land.

F. Water Recycling Specifications and Requirements – Not Applicable

This Order does not authorize discharges of recycled water.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

Receiving water limitations are based on water quality objectives contained in the Ocean Plan, and are a required part of this Order. Receiving water conditions not in conformance with the limitation are not necessarily a violation of this Order. The Regional Water Board may require an investigation to determine cause and culpability prior to asserting that a violation has occurred.

Discharges from the Facility shall not cause the following in the receiving water upon completion of initial dilution:

1. Ocean Plan

a. Bacterial Characteristics

i. **Water-Contact Standards.** Within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and in areas outside this zone designated for water contact recreation use by the Regional Water Board, but including all kelp beds, the following bacteriological objectives shall be maintained throughout the water column:

(a) 30-Day Geometric Mean – The following standards are based on the geometric mean of the five most recent samples from each receiving water monitoring location.

- (1) Total coliform density shall not exceed 1,000 per 100 mL;
- (2) Fecal coliform density shall not exceed 200 per 100 mL; and
- (3) Enterococcus density shall not exceed 35 per 100 mL.

(b) Single Sample Maximum:

- (1) Total coliform density shall not exceed 10,000 per 100 mL;
- (2) Fecal coliform density shall not exceed 400 per 100 mL;
- (3) Enterococcus density shall not exceed 104 per 100 mL; and
- (4) Total coliform density shall not exceed 1,000 per 100 mL when the fecal coliform to total coliform ratio exceeds 0.1.

ii. **Shellfish Harvesting Standards.** At all areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the following bacterial objectives shall be maintained throughout the water column:

(a) The median total coliform density shall not exceed 70 per 100 mL, and not more than 10 percent of the samples shall exceed 230 per 100 mL.

iii. Physical Characteristics

- (a) Floating particulates and oil and grease shall not be visible.
- (b) The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean surface.
- (c) Natural light shall not be significantly reduced at any point outside the initial dilution zone as the result of the discharge of waste.
- (d) The rate of deposition of inert solids and the characteristics of inert solids in ocean sediments shall not be changed such that benthic communities are degraded.

iv. Chemical Characteristics

(a) The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste materials.

- (b)** The pH shall not be changed at any time more than 0.2 units from that which occurs naturally.
 - (c)** The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions.
 - (d)** The concentration of substances set forth in Chapter II, Table 1 of the Ocean Plan shall not be increased in marine sediments to levels which would degrade indigenous biota.
 - (e)** The concentration of organic materials in marine sediments shall not be increased to levels that would degrade marine life.
 - (f)** Nutrient materials shall not cause objectionable aquatic growths or degrade indigenous biota.
 - (g)** Discharges shall not cause exceedances of water quality objectives for ocean waters of the state established in Chapter II, Table 1 of the Ocean Plan.
 - (h)** Discharge of radioactive waste shall not degrade marine life.
- v. Biological Characteristics**
 - (a)** Marine communities, including vertebrate, invertebrate and plant species, shall not be degraded.
 - (b)** The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered.
 - (c)** The concentration of organic materials in fish, shellfish, or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.
- vi. General Standards**
 - (a)** The discharge shall not cause a violation of any applicable water quality standard for the receiving waters adopted by the Regional Water Board or the State Water Board as required by the CWA and regulations adopted thereunder.
 - (b)** Waste management systems that discharge to the ocean must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.
 - (c)** Waste discharged to the ocean must be essentially free of:
 - (1)** Material that is floatable or will become floatable upon discharge.
 - (2)** Settleable material or substances that may form sediments which will degrade benthic communities or other aquatic life.
 - (3)** Substances which will accumulate to toxic levels in marine waters, sediments or biota.
 - (4)** Substances that significantly decrease the natural light to benthic communities and other marine life.

- (5) Materials that result in aesthetically undesirable discoloration of the ocean surface.
- (d) Waste effluents shall be discharged in a manner which provides sufficient initial dilution to minimize the concentrations of substances not removed in the treatment.
- (e) Location of waste discharges must be determined after a detailed assessment of the oceanographic characteristics and current patterns to assure that:
 - (1) Pathogenic organisms and viruses are not present in areas where shellfish are harvested for human consumption or in areas used for swimming or other body-contact sports.
 - (2) Natural water quality conditions are not altered in areas designated as being of special biological significance or areas that existing marine laboratories use as a source of seawater.
 - (3) Maximum protection is provided to the marine environment.
 - (4) The discharge does not adversely affect recreational beneficial uses such as surfing and beach walking.

B. Groundwater Limitations – Not Applicable

VI. PROVISIONS

A. Standard Provisions

- 1. **Federal Standard Provisions.** The Permittee shall comply with all Standard Provisions included in Attachment D of this Order.
- 2. **Regional Water Board Standard Provisions.** The Permittee shall comply with the following Regional Water Board standard provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply:
 - a. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this facility, may subject the Permittee to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Permittee to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.
 - b. In the event the Permittee does not comply or will be unable to comply for any reason, with any prohibition, final effluent limitation, receiving water limitation, or provision of this Order that may result in a significant threat to human health or the environment that results in a discharge to a drainage channel or a surface water, the Permittee shall notify Regional Water Board staff within 24 hours of having knowledge of such non-compliance. Spill notification and reporting shall be conducted in accordance with Section V.E of Attachment D and IX.E of the Monitoring and Reporting Program.

B. Monitoring and Reporting Program (MRP) Requirements

The Permittee shall comply with the MRP, included as Attachment E of this Order, and future revisions thereto.

C. Special Provisions

1. Reopener Provisions

- a. Standard Revisions.** If applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA, or amendments thereto, the Regional Water Board may reopen this Order and make modifications in accordance with such revised standards.
- b. Reasonable Potential.** This Order may be reopened for modification to include an effluent limitation, if monitoring establishes that the discharge causes, or has the reasonable potential to cause or contribute to, an excursion above a water quality criterion or objective applicable to the receiving water.
- c. Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a new chronic toxicity limitation, acute toxicity limitation and/or a limitation for a specific toxicant identified in the TRE.
- d. 303(d)-Listed Pollutants.** If an applicable total maximum daily load (TMDL) (see Fact Sheet, section III.D) program is adopted, this Order may be reopened and effluent limitations for the pollutant(s) that are the subject of the TMDL modified or imposed to conform this Order to the TMDL requirements.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

- a. Climate Change Readiness Study Plan.** Extreme weather events, sea level rise, shifting precipitation patterns and temperature variability, all intensified by climate change, have significant implications for wastewater treatment and operations. In order to ensure that Facility operations are not disrupted, compliance with conditions of this Order are achieved, and receiving waters are not adversely impacted by permitted and unpermitted discharges, a Climate Change Readiness Study Plan shall be submitted to the Regional Water Board by August 1, 2022, for Executive Officer review and approval.

The Permittee shall (1) conduct an assessment of the wastewater treatment facility, operations, and discharge systems to determine areas of short and long term vulnerabilities related to climate change, (2) identify control measures needed to protect, improve, and maintain wastewater infrastructure, waste discharge compliance, and receiving water quality under changing climate conditions, and (3) develop a schedule to implement necessary control measures. Control measures shall include, but are not limited to, emergency procedures, contingency plans, alarm/notification systems, training, backup power and equipment, and the need for planned mitigations to ameliorate climate-induced impacts such as changing influent and receiving water quality and conditions, as well as the impact of rising sea level, storm surges and back-to-back severe storms that are expected to become more frequent.

In the event that additional sources of wastewater begin discharging to the Ocean Outfall (Discharge Point 001), the Permittee may work with the additional dischargers

to develop and submit for Executive Officer review and approval a joint Climate Change Readiness Plan for the Samoa Peninsula.

3. Best Management Practices and Pollution Prevention

a. Pollutant Minimization Program (PMP)

- i.** The Permittee shall, as required by the Executive Officer, develop and conduct a PMP as further described below when there is evidence (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, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:
 - (a)** The concentration of the pollutant is reported as DNQ and the effluent limitation is less than the reporting level (RL); and
 - (b)** A sample result is reported as non-detect (ND) and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in MRP section IX.B.5.
- ii.** The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:
 - (a)** An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;
 - (b)** Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;
 - (c)** Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;
 - (d)** Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and
 - (e)** An annual status report that shall be submitted as part of the Annual Facility Report due **March 1** to the Regional Water Board and shall include:
 - (1)** All PMP monitoring results for the previous year;
 - (2)** A list of potential sources of the reportable pollutant(s);
 - (3)** A summary of all actions undertaken pursuant to the control strategy; and
 - (4)** A description of actions to be taken in the following year.

4. Construction, Operation and Maintenance Specifications

- a.** This Order (Attachment D, Standard Provision I.D) requires that the Permittee at all times properly operate and maintain all facilities and systems of treatment and control

(and related appurtenances) that are installed or used by the Permittee to achieve compliance with this Order. Proper operation and maintenance includes adequate laboratory quality control and appropriate quality assurance procedures.

- b.** The Permittee shall maintain an updated Operation and Maintenance (O&M) Manual for the operational components of the Facility. The Permittee shall update the O&M Manual, as necessary, to conform to changes in operation and maintenance of the Facility. The Permittee shall operate and maintain the Facility in accordance with the most recently updated O&M Manual. The O&M Manual shall be readily available to operating personnel onsite and for review by state or federal inspectors. The O&M Manual shall include the following.
 - i.** Description of the Facility's organizational structure showing the number of employees, duties and qualifications and plant attendance schedules (daily, weekends and holidays, part-time, etc.). The description should include documentation that the personnel are knowledgeable and qualified to operate the Facility so as to achieve the required level of treatment at all times.
 - ii.** Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.
 - iii.** Description of laboratory and quality assurance procedures.
 - iv.** Inspection and essential maintenance schedules for all processes and equipment.
 - v.** Description of safeguards to assure that, should there be reduction, loss, or failure of electric power, the Permittee will be able to comply with requirements of this Order.
 - vi.** Description of preventive (fail-safe) and contingency (response and cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. These plans shall identify the possible sources (such as loading and storage areas, power outage, waste treatment unit failure, process equipment failure, tank and piping failure) of accidental discharges, untreated or partially treated waste bypass, and polluted drainage.

5. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable

6. Other Special Provisions

a. Storm Water

For the control of storm water discharges from the Facility, if required, the Permittee shall seek separate authorization to discharge under the requirements of the State Water Board's Water Quality Order No. 2014-0057-DWQ, NPDES General Permit No. CAS000001, General Permit for Storm Water Discharges Associated with Industrial Activities (or subsequent renewed versions of the NPDES General Permit CAS000001), which is not incorporated by reference in this Order.

b. Solids Disposal and Handling.

Bottom ash and fly ash generated at the Facility shall be managed, processed, sampled and handled in accordance with the Executive Officer approved¹ *DG Fairhaven Power LLC (DGF) Best Management Practices for Reuse of Wood Fly Ash as a Soil Amendment* and *DG Fairhaven Power LLC (DGF) Best Management Practices (BMP) for Reuse of Wood Bottom Ash to Amend Soil in High-Trafficked Livestock Agricultural Areas* (collectively BMPs). The Permittee shall comply with the requirements of Monitoring and Reporting Program R1-2013-0047.

7. Compliance Schedules – Not Applicable

This Order does not establish interim effluent limitations or schedules of compliance for final numeric effluent limitations.

VII. COMPLIANCE DETERMINATION

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

A. Compliance with Effluent Limitations

- 1. Single Constituent Effluent Limitations.** The Permittee is out of compliance with the effluent limitation if the concentration of the pollutant (see section VII.B) in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (ML).
- 2. Effluent Limitations Expressed as a Sum of Several Constituents.** The Permittee is out of compliance with an effluent limitation which applies to the sum of a group of chemicals (e.g., PCBs) if the sum of the individual pollutant concentrations is greater than the effluent limitation. Individual pollutants of the group will be considered to have a concentration of zero if the constituent is reported as non-detect (ND) or detected but not quantified (DNQ).

B. Multiple Sample Data

When determining compliance with an AMEL for priority pollutants, and more than one sample result is available, the Permittee shall compute the arithmetic mean unless the data set contains one or more reported determinations of “Detected, but Not Quantified” (DNQ) or “Not Detected” (ND). In those cases, the Permittee shall compute the median in place of the arithmetic mean in accordance with the following procedure.

- 1.** The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
- 2.** The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two middle values 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 and a value of zero shall be used for the ND or DNQ value in the median calculation for compliance purposes only.

¹ Revised on August 23, 2016

Using a value of zero for DNQ or ND samples does not apply when performing reasonable potential or antidegradation analyses.

C. Average Monthly Effluent Limitation (AMEL)

If the average (or when applicable, the median determined by subsection C above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Permittee will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Permittee will be considered out of compliance for that calendar month. The Permittee will only be considered out of compliance for days when the discharge occurs. If there are ND or DNQ results for a specific constituent in a calendar month, the Permittee shall calculate the median of all sample results within that month for compliance determination with the AMEL as described in section VII.B, above.

D. Maximum Daily Effluent Limitation (MDEL)

If a daily discharge (or when applicable, the median determined by subsection C, above, for multiple sample data of a daily discharge) exceeds the MDEL for a given parameter, the Permittee will be considered out of compliance for that parameter for that 1 day only within the reporting period.

E. Instantaneous Minimum Effluent Limitation

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, the Permittee will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

If the Permittee monitors pH continuously, pursuant to 40 C.F.R. section 401.17, the Permittee shall be in compliance with the pH limitation specified herein provided that both of the following conditions are satisfied: (1) the total sum of time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and (2) no individual excursion from the range of pH values shall exceed 60 minutes.

F. Instantaneous Maximum Effluent Limitation

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, the Permittee will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).

If the Permittee monitors pH continuously, pursuant to 40 C.F.R. section 401.17, the Permittee shall be in compliance with the pH limitation specified herein provided that both of the following conditions are satisfied: (1) the total sum of time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and (2) no individual excursion from the range of pH values shall exceed 60 minutes.

G. Mass-Based Effluent Limitations

- 1. 6-Month Median.** Compliance with the 6-month median mass-based limitation shall be determined using the following formula:

$$\text{lbs/day} = 0.00834 * C_e * Q, \text{ where}$$

C_e = median of effluent concentrations collected during the previous 6 month period ($\mu\text{g/L}$)

Q = median flow rate over the same 6 month period (mgd).

- 2. Daily Maximum.** Compliance with the daily maximum mass-based limitation shall be determined using the following formula:

$$\text{lbs/day} = 0.00834 * C_e * Q, \text{ where}$$

C_e = maximum daily effluent concentration from a flow-weighted 24-hour composite sample ($\mu\text{g/L}$)

Q = average flow rate averaged over the same 24-hour period (mgd).

- 3. Instantaneous Maximum.** Compliance with the instantaneous maximum mass-based limitation shall be determined using the following formula:

$$\text{lbs/day} = 0.00834 * C_e * Q, \text{ where}$$

C_e = maximum effluent concentration from a grab sample ($\mu\text{g/L}$)

Q = instantaneous flow rate at the time of sampling (mgd).

H. Chronic Toxicity

Compliance with the accelerated monitoring and TRE provisions shall constitute compliance with the chronic toxicity requirements, as specified in the MRP (Attachment E, sections IV.A and IV.B).

ATTACHMENT A – DEFINITIONS

Areas of Special Biological Significance (ASBS)

Those areas designated by the State Water Resources Control Board (State Water Board) as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable. All Areas of Special Biological Significance are also classified as a subset of STATE WATER QUALITY PROTECTION AREAS.

Arithmetic Mean (μ)

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

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

Average Monthly Effluent Limitation (AMEL)

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

Average Weekly Effluent Limitation (AWEL)

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

Bioaccumulative Pollutants

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

Best Management Practices (BMPs)

Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "waters of the United States." BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Bottom Ash

The ash, including boiler slag, which settles in the furnace or is dislodged from furnace walls. Economizer ash is included in this definition when it is collected with bottom ash

Chlordane

Shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

Chronic Toxicity

Chronic toxicity measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response. See also Test of Significant Toxicity.

Daily Discharge

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

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

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

DDT

The sum of 4,4'DDT, 2,4'DDT, 4,4'DDE, 2,4'DDE, 4,4'DDD, and 2,4'DDD.

Degrade

Degradation shall be determined by comparison of the waste field and reference site(s) for characteristic species diversity, population density, contamination, growth anomalies, debility, or supplanting of normal species by undesirable plant and animal species. Degradation occurs if there are significant differences in any of three major biotic groups, namely, demersal fish, benthic invertebrates, or attached algae. Other groups may be evaluated where benthic species are not affected, or are not the only ones affected.

Detected, but Not Quantified (DNQ)

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

Dichlorobenzenes

Shall mean the sum of 1,2- and 1,3-dichlorobenzene.

Dilution Credit

The amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Downstream Ocean Waters

Waters downstream with respect to ocean currents.

Dredged Material

Any material excavated or dredged from the navigable waters of the United States, including material otherwise referred to as "spoil."

Enclosed Bays

Indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

Endosulfan

The sum of endosulfan-alpha and -beta and endosulfan sulfate.

Estimated Chemical Concentrations

The estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Fly Ash

The ash that is carried out of the furnace by a gas stream and collected by a capture device such as a mechanical precipitator, electrostatic precipitator, or fabric filter. Economizer ash is included in this definition when it is collected with fly ash.

Free Available Chlorine

The value obtained using the amperometric titration method for free available chlorine described in *Standard Methods for the Examination of Water and Wastewater*, page 112, (13th edition).

Halomethanes

The sum of bromoform, bromomethane (methyl bromide) and chloromethane (methyl chloride).

HCH

The sum of the alpha, beta, gamma (lindane) and delta isomers of hexachlorocyclohexane.

Initial Dilution

The process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

For a submerged buoyant discharge, characteristic of most municipal and industrial wastes that are released from the submarine outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

For shallow water submerged discharges, surface discharges, and non-buoyant discharges, characteristic of cooling water wastes and some individual discharges, turbulent mixing results primarily from the momentum of discharge. Initial dilution, in these cases, is considered to be completed when the momentum induced velocity of the discharge ceases to produce significant mixing of the waste, or the diluting plume reaches a fixed distance from the discharge to be specified by the Regional Water Board, whichever results in the lower estimate for initial dilution.

Inland Surface Waters

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

Instantaneous Maximum Effluent Limitation

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

Instantaneous Minimum Effluent Limitation

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

Kelp Beds

For purposes of the bacteriological standards of the Ocean Plan, are significant aggregations of marine algae of the genera Macrocystis and Nereocystis. Kelp beds include the total foliage canopy of Macrocystis and Nereocystis plants throughout the water column.

Low Volume Waste Sources

Taken collectively as if from one source, wastewater from all sources except those for which specific limitations or standards are otherwise established in 40 C.F.R. part 423. Low volume waste sources include, but are not limited to, the following: Wastewaters from ion exchange water treatment systems, water treatment evaporator blowdown, laboratory and sampling streams, boiler blowdown, floor drains, cooling tower basin cleaning wastes, recirculating house service water systems, and wet scrubber air pollution control systems whose primary purpose is particulate removal. Sanitary wastes, air conditioning wastes, and wastewater from carbon capture or sequestration systems are not included in this definition.

Mariculture (Marine Community)

The culture of plants and animals in marine waters independent of any pollution source.

Material

(a) In common usage: (1) the substance or substances of which a thing is made or composed (2) substantial; (b) For purposes of the Ocean Plan relating to waste disposal, dredging and the disposal of dredged material and fill, MATERIAL means matter of any kind or description which is subject to regulation as waste, or any material dredged from the navigable waters of the United States. See also, DREDGED MATERIAL.

Maximum Daily Effluent Limitation (MDEL)

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

Median

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

Metal Cleaning Waste

Any wastewater resulting from cleaning [with or without chemical cleaning compounds] any metal process equipment including, but not limited to, boiler tube cleaning, boiler fireside cleaning, and air preheater cleaning.

Method Detection Limit (MDL)

The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 C.F.R. part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML)

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

Mixing Zone

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

Natural Light

Reduction of natural light may be determined by the Regional Water Board by measurement of light transmissivity or total irradiance, or both, according to the monitoring needs of the Regional Water Board.

Not Detected (ND)

Those sample results less than the laboratory's MDL.

Ocean Waters

The territorial marine waters of the state as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. If a discharge outside the territorial waters of the state could affect the quality of the waters of the state, the discharge may be regulated to assure no violation of the Ocean Plan will occur in ocean waters.

PAHs (polynuclear aromatic hydrocarbons)

The sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene and pyrene.

PCBs (polychlorinated biphenyls)

The sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254 and Aroclor-1260.

Persistent Pollutants

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

Pollutant Minimization Program (PMP)

PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of Ocean Plan Table 1 pollutants through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may

consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention

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

Publicly Owned Treatment Works (POTW)

A treatment works as defined in section 212 of the Clean Water Act (CWA), which is owned by a government agency as defined by section 502(4) of the CWA. [Section 502(4) of the CWA defines a municipality as a city, town, borough, county, parish, district, association, or other public body created by or pursuant to State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes). This definition includes any devices and systems used in the storage, treatment, recycling, and recycling of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW Treatment Plant. The term also means the municipality as defined in section 502(4) of the CWA, which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works.

Recycled Water

Water which, as a result of treatment of municipal wastewater, is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefore considered a valuable resource (Water Code section 13050). The terms “recycled water” and “reclaimed water” have the same meaning (Water Code section 26).

Reported Minimum Level

The reported ML (also known as the Reporting Level or RL) is the ML (and its associated analytical method) chosen by the Permittee 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 Appendix II of the Ocean Plan in accordance with section III.C.5.a. of the Ocean Plan or established in accordance with section III.C.5.b. of the Ocean Plan. 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.

Septage

Defined as the liquid or solid material removed from a septic tank, cesspool, portable toilet, type III marine sanitation device, recreational vehicle’s sanitation tank, or similar storage or treatment works that receives domestic waste.

Shellfish

Organisms identified by the California Department of Health Services as shellfish for public health purposes (i.e., mussels, clams and oysters).

Significant Difference

Defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.

Six-Month Median Effluent Limitation

The highest allowable moving median of all daily discharges for any 180-day period.

Source of Drinking Water

Any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

Standard Deviation (σ)

A measure of variability that is calculated as follows:

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

where:

x is the observed value;

μ is the arithmetic mean of the observed values; and

n is the number of samples.

State Water Quality Protection Areas (SWQPAs)

Non-terrestrial marine or estuarine areas designated to protect marine species or biological communities from an undesirable alteration in natural water quality. All AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE (ASBS) that were previously designated by the State Water Board in Resolution Nos. 74-28, 74-32, and 75-61 are now also classified as a subset of State Water Quality Protection Areas and require special protections afforded by the Ocean Plan.

TCDD Equivalentents

The sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below.

Isomer Group	Toxicity Equivalence Factor
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8 tetra CDF	0.1

Isomer Group	Toxicity Equivalence Factor
1,2,3,7,8 penta CDF	0.05
2,3,4,7,8 penta CDF	0.5
2,3,7,8 hexa CDFs	0.1
2,3,7,8 hepta CDFs	0.01
octa CDF	0.001

Test of Significant Toxicity (TST)

The statistical approach described in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R10-003, 2010). TST was developed by the U.S. Environmental Protection Agency (EPA) for analyzing WET and ambient toxicity data. Using the TST approach, the sample is declared toxic if there is greater than or equal to a 25% effect in chronic tests, or if there is greater than or equal to a 20% effect in acute tests at the permitted instream waste concentration (IWC) (referred to as the toxic regulatory management decision (RMD)). The sample is declared non-toxic if there is less than or equal to a 10% effect at the IWC in acute or chronic tests (referred to as the non-toxic RMD).

Toxicity Reduction Evaluation (TRE)

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

Waste

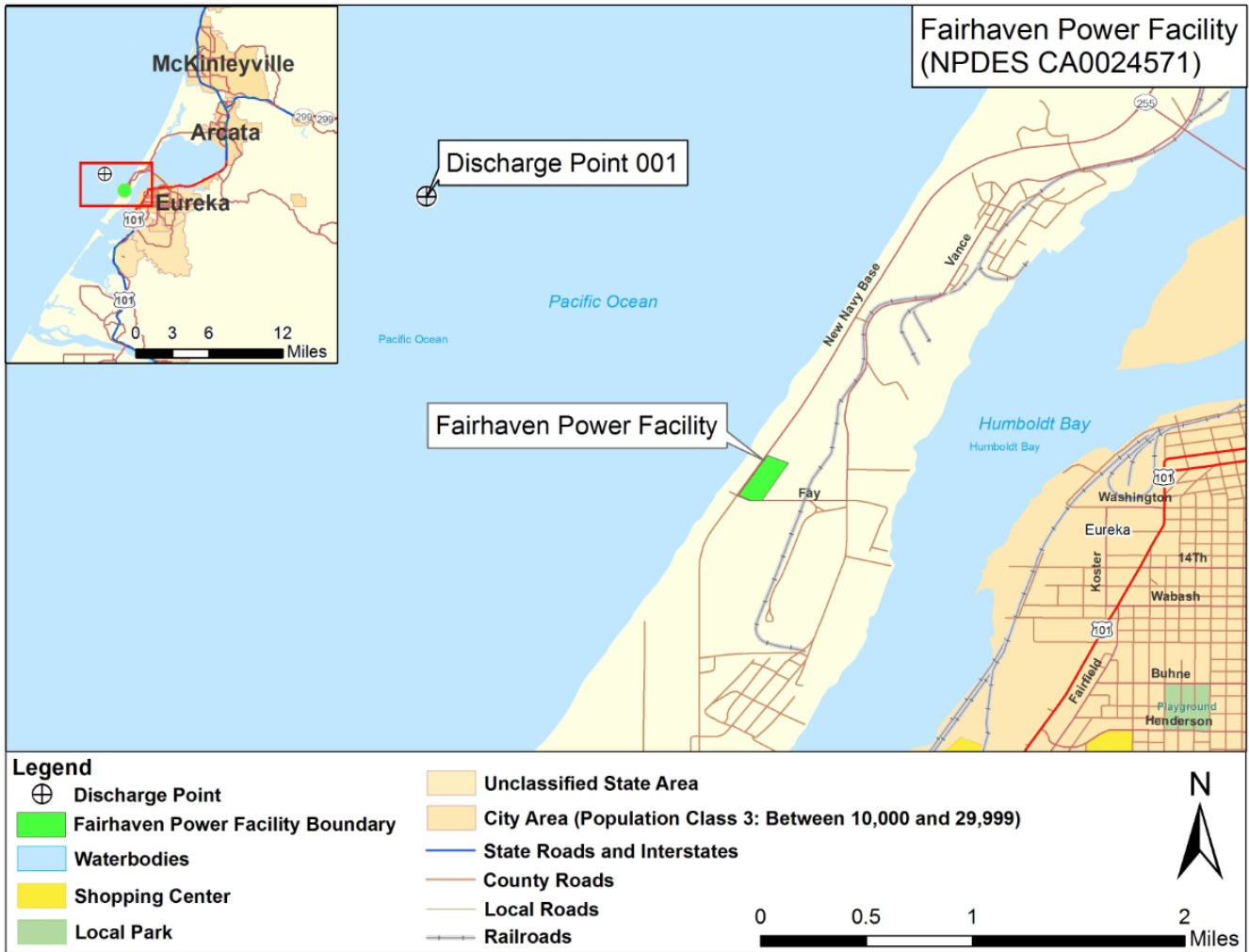
As used in the Ocean Plan, waste includes a discharger’s total discharge, of whatever origin, i.e., gross, not net, discharge.

Water Recycling

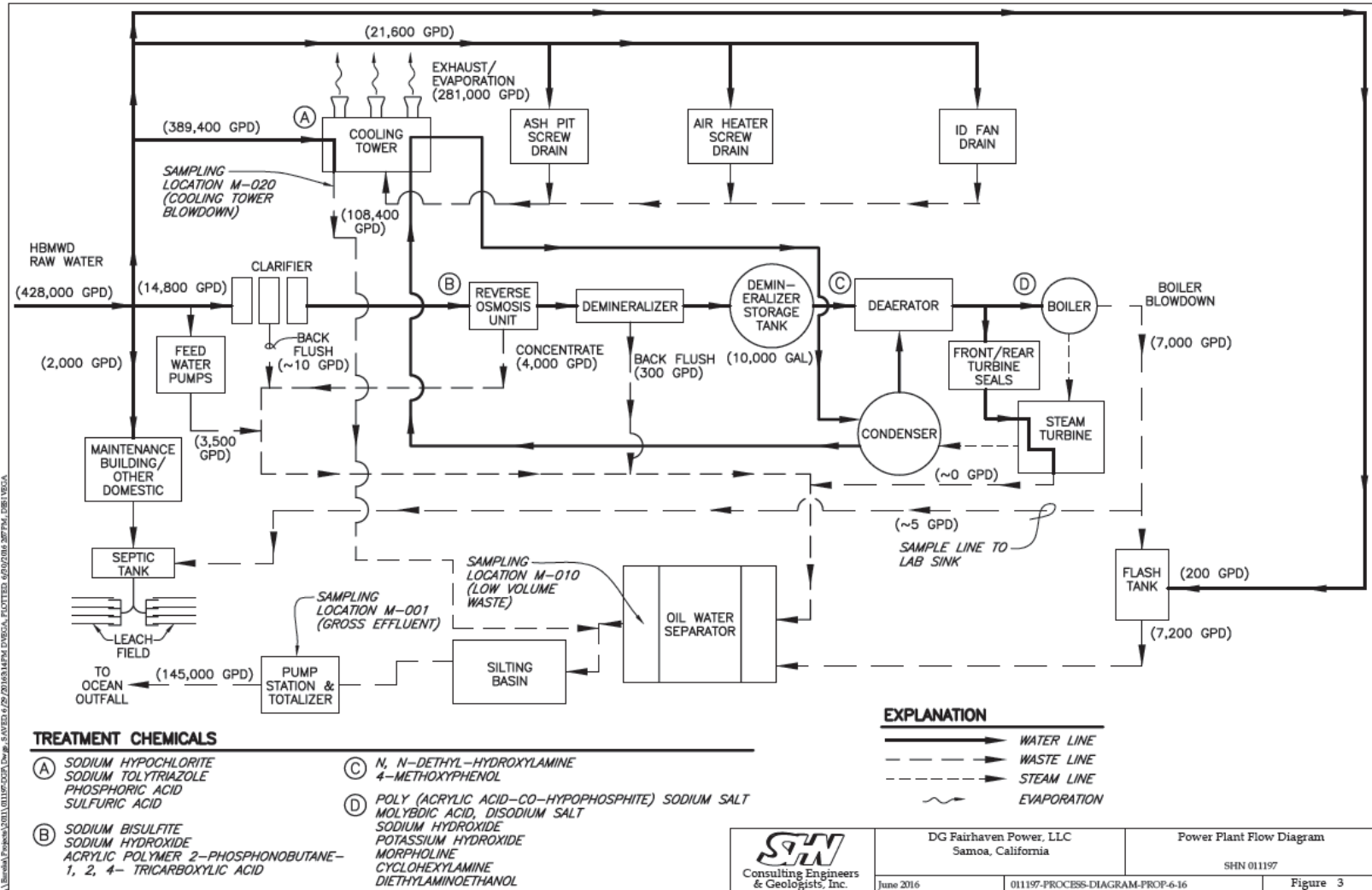
The treatment of wastewater to render it suitable for reuse, the transportation of treated wastewater to the place of use, and the actual use of treated wastewater for a direct beneficial use or controlled use that would not otherwise occur.

ATTACHMENT B – MAP

Fairhaven Power Facility



ATTACHMENT C - FLOW SCHEMATIC



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Permittee must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; 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 Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Permittee 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 Permittee 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 Permittee 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 Permittee 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 Permittee 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 Permittee 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 Permittee'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 assuring 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 Permittee 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 Permittee 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 Permittee 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. **Burden of Proof.** In any enforcement proceeding, the Permittee seeking to establish the bypass defense has the burden of proof.
5. 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).)
6. **Notice**
 - a. **Anticipated bypass.** If the Permittee knows in advance of the need for a bypass, it shall submit a prior 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 Permittee 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 Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 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 Permittee 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 Permittee 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 Permittee 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 Permittee 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 Permittee 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 Permittee 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 Permittee wishes to continue an activity regulated by this Order after the expiration date of this Order, the Permittee 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 Permittee 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 must be conducted according to test procedures under 40 C.F.R. part 136 for the analyses of pollutants unless another method is required under 40 C.F.R., chapter 1, subchapters N or O. Monitoring must be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 C.F.R. part 136 for the analysis of pollutants or pollutant parameters or required under 40 C.F.R. chapter 1, subchapter N or O. For the purposes of this paragraph, a method is “sufficiently sensitive” when:
 1. The method minimum level (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant or pollutant parameter, and, either the method ML is at or below the level of the applicable water quality criterion for the measured pollutant or pollutant parameter or the method ML is above the applicable water quality criterion, but the amount of the pollutant or pollutant parameter in a facility’s discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or
 2. The method has the lowest ML of the analytical methods approved under 40 C.F.R. part 136 or required under 40 C.F.R. chapter 1, subchapter N or O for the measured pollutant or pollutant parameter.

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. chapter 1, 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).)

In the case of sludge use or disposal approved under 40 C.F.R. part 136, monitoring must be conducted according to test procedures in part 503 unless otherwise specified in 40 C.F.R. or other test procedures have been specified in this Order.

IV. STANDARD PROVISIONS – RECORDS

- A.** Except for records of monitoring information required by this Order related to the Permittee'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 Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)
- B. Records of monitoring information shall include:**
1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
 2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
 3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
 4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
 5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and
 6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)
- C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):**
1. The name and address of any permit applicant or Permittee (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 Permittee 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 Permittee 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.)

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. 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).)

- 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).)

6. Any person providing the electronic signature for documents described in Standard Provisions – V.B.1, V.B.2, or V.B.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting V.B, and shall ensure that all relevant requirements of 40 C.F.R. part 3 (Cross-Media Electronic Reporting) and 40 C.F.R. part 127 (NPDES Electronic Reporting Requirements) are met for that submission. (40 C.F.R. § 122.22(e).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.41(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring, sludge use, or disposal practices. As of December 21, 2016, all reports and forms must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J and comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(l)(4)(i).)
3. If the Permittee 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. chapter 1, 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 Permittee shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Permittee becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Permittee 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).)

For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (i.e., combined sewer overflow, sanitary sewer overflow, or bypass event), type of overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volume untreated by the treatment works treating domestic

sewage, types of human health and environmental impacts of the event, and whether the noncompliance was related to wet weather.

As of December 21, 2020, all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events must be submitted to the Regional Water Board and must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J. The reports shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. The Regional Water Board may also require the Permittee to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (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 Permittee shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. § 122.41(l)(1)(ii).)
3. The alteration or addition results in a significant change in the Permittee'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 Permittee shall give advance notice to the Regional 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 Permittee 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. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in Standard Provision – Reporting V.E and the applicable required data in appendix A to 40 C.F.R. part 127. The Regional Water Board may also require the Permittee to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

When the Permittee 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 Permittee shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

J. Initial Recipient for Electronic Reporting Data

The owner, operator, or the duly authorized representative is required to electronically submit NPDES information specified in appendix A to 40 C.F.R. part 127 to the initial recipient defined in 40 C.F.R. section 127.2(b). U.S. EPA will identify and publish the list of initial recipients on its website and in the Federal Register, by state and by NPDES data group [see 40 C.F.R. section 127.2(c)]. U.S. EPA will update and maintain this listing. (40 C.F.R. § 122.41(l)(9).)

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 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)):

- e.** 500 micrograms per liter ($\mu\text{g/L}$) (40 C.F.R. § 122.42(a)(2)(i));
- f.** 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(2)(ii));
- g.** 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
- h.** The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(2)(iv).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (40 C.F.R. § 122.48) requires that all NPDES permits specify monitoring and reporting requirements. California Water Code section 13383 also authorizes the Regional Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement federal and California regulations.

I. GENERAL MONITORING PROVISIONS

- A. Wastewater Monitoring Provision.** Composite samples may be taken by a proportional sampling device approved by the Executive Officer or by grab samples composited in proportion to flow. In compositing grab samples, the sampling interval shall not exceed 1 hour.
- B. Supplemental Monitoring Provision.** If the Permittee monitors any pollutant more frequently than required by this Order, using test procedures approved by 40 C.F.R. part 136 or as specified in this Order, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the monthly and annual discharge monitoring reports.
- C. Laboratory Certification.** Laboratories analyzing monitoring samples shall be certified by the State Water Resources Control Board (State Water Board) in accordance with the provisions of Water Code section 13176, and must include quality assurance/quality control data with their analytical reports.
- D. Instrumentation and Calibration Provision.** All monitoring instruments and devices used by the Permittee to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated no less than the manufacturer’s recommended intervals or one year intervals, (whichever comes first) to ensure continued accuracy of the devices.
- E. Minimum Levels (ML) and Reporting Levels (RL).** Compliance and reasonable potential monitoring analyses shall be conducted using detection limits that are lower than the applicable effluent limitations and/or water quality objectives in Table 1 of the Ocean Plan. If no Minimum Level (ML) value is below these levels, then the method used to analyze samples for permit compliance must achieve an ML no greater than the lowest ML valued indicated in Table E-1 as the Reporting Level (RL).

Table E-1. Test Methods and Minimum Levels for Priority Pollutants

Constituent	Types of Analytical Methods MLs (µg/L) ¹				
	Flame Atomic Absorption	Graphite Furnace Atomic Absorption	Inductively Coupled Plasma	Inductively Coupled Plasma / Mass Spectrometry	Stabilized Platform Graphite Furnace Atomic Absorption
Copper, Total Recoverable	20	5	10	0.5	2
Chromium, Total Recoverable	50	2	10	0.5	1
Zinc, Total Recoverable	20	--	20	1	10

Constituent	Types of Analytical Methods MLs (µg/L) ¹				
	Flame Atomic Absorption	Graphite Furnace Atomic Absorption	Inductively Coupled Plasma	Inductively Coupled Plasma / Mass Spectrometry	Stabilized Platform Graphite Furnace Atomic Absorption

Table Notes:

1. Minimum levels for Ocean Plan Table 1 pollutants are from Tables II-1, II-2, II-3 and II-4 of the California Ocean Plan. The MLs represent the lowest concentration of a pollutant that can be quantitatively measured in a sample given the current state of performance in analytical chemistry methods in California. These MLs were derived from data provided by state-certified analytical laboratories in 1997 and 1998.

F. Discharge Monitoring Report Quality Assurance (DMR-QA) Study. The Permittee shall ensure that the results of the DMR-QA Study or the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Board at the following address:

State Water Resources Control Board
 Quality Assurance Program Officer
 Office of Information Management and Analysis
 1001 I Street, Sacramento, CA 95814

II. MONITORING LOCATIONS

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

Table E-2. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
001	EFF-001	Process Water Gross Effluent combined discharge (including: Low Volume Wastes and Cooling Tower Blowdown) following all treatment processes prior to contact with receiving water (Pacific Ocean).
010	EFF-010	Combined low volume wastewaters (boiler blowdown, demineralizer back flush, and reverse osmosis concentrate) prior to commingling with cooling tower blowdown. Low volume wastes may be monitored as separate waste stream or as a combined low volume waste stream. If measured as separate waste streams, a flow weighted aliquot, consisting of all low volume waste stream contributions, shall be used to determine compliance with applicable effluent limitations.
020	EFF-020	Cooling tower blowdown process wastewater prior to commingling with low volume wastewaters.

III. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Permittee shall monitor process water at Monitoring Location EFF-001 during periods of discharge to the Pacific Ocean as follows:

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

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method ¹
Flow ²	mgd	Meter	Continuous	--
pH	s.u.	Grab	Monthly ³	Standard Methods
Temperature	°F	Grab	Daily	Standard Methods
Copper, Total Recoverable	µg/L	Flow Weighted 24-hour Composite	Monthly ³	FAA (ML 20 µg/L), GFAA (ML 5 µg/L), ICP (ML 10 µg/L), ICPMS (ML 0.5 µg/L), SPGFAA (ML 2 µg/L) ⁴
	µg/L	Grab	Monthly ³	
	lbs/day	Calculation ⁵	Monthly	--
	lbs/day	Calculation ⁶	Monthly	--
Chromium, Total Recoverable	µg/L	Grab	Monthly ³	FAA (ML 50 µg/L), GFAA (ML 2 µg/L), ICP (ML 10 µg/L), ICPMS (ML 0.5 µg/L), SPGFAA (ML 1 µg/L) ⁴
Zinc, Total Recoverable	µg/L	Grab	Monthly ³	FAA (ML 20 µg/L), ICP (ML 20 µg/L), ICPMS (ML 1 µg/L), SPGFAA (ML 10 µg/L) ⁴
Ocean Plan Table 1 Pollutants ⁷	µg/L	Grab/24-hour Composite ⁸	Once Per Permit Term ⁹	Standard Methods
Chronic Toxicity ¹⁰	Pass or Fail, % Effect	Grab	Annually	See section IV below

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method ¹
<u>Table Notes:</u>				
<ol style="list-style-type: none"> In accordance with the current edition of <i>Standard Methods for Examination of Water and Wastewater</i> (American Public Health Administration) or current test procedures specified in 40 C.F.R. part 136. Each month, the Permittee shall report the daily average and monthly average flows. Additionally, the Permittee shall report instantaneous flow monthly. The time of the reported instantaneous flow shall coincide with the grab sample time of the total recoverable copper and zinc at Monitoring Location EFF-001. Accelerated Monitoring (monthly and annual monitoring frequency). If a test result exceeds an effluent limitation the Permittee shall take two more samples, one within 7 days and one within 14 days following receipt of the initial sample result. During the intervening period, the Permittee shall take steps to identify the cause of the exceedance and take steps needed to return to compliance. 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 GC = Gas Chromatography Calculation of the mass emission rates in lbs/day shall be performed using the resulting concentration from a grab sample multiplied by the instantaneous flow at Monitoring Location EFF-001. Calculation of the mass emission rates in lbs/day shall be performed using the resulting concentration from a flow weighted Excluding Table 1 pollutants with specific monitoring requirements established in Table E-5 and acute toxicity. Grab samples shall be used for volatile chemicals listed in Table II-1 of the Ocean Plan (2015). 24-hour composite samples shall be used for all other Ocean Plan Table 1 parameters. Ocean Plan Table 1 Pollutant sampling shall be completed no later than July 1, 2022. Whole effluent chronic toxicity shall be monitored in accordance with the requirements of section IV of this Monitoring and Reporting Program. 				

B. Monitoring Location EFF-010

- The Permittee shall monitor low volume wastes at Monitoring Location EFF-010 as follows:

Table E-4. Effluent Monitoring – Monitoring Location EFF-010

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method ¹
Flow ²	mgd	Meter	Continuous	--
pH	s.u.	Grab	Monthly ³	Standard Methods
Total Suspended Solids (TSS)	mg/L	Grab	Quarterly ³	Standard Methods
Oil and Grease	mg/L	Grab	Quarterly ³	Standard Methods
<u>Table Notes:</u>				
<ol style="list-style-type: none"> In accordance with the current edition of <i>Standard Methods for Examination of Water and Wastewater</i> (American Public Health Administration) or current test procedures specified in 40 C.F.R. part 136. Each month, the Permittee shall report the daily average and monthly average flows. Accelerated Monitoring (monthly and quarterly frequency). If a test result exceeds an effluent limitation the Permittee shall take two more samples, one within 7 days and one within 14 days following receipt of the initial sample result. During the intervening period, the Permittee shall take steps to identify the cause of the exceedance and take steps needed to return to compliance. 				

C. Monitoring Location EFF-020

- The Permittee shall monitor cooling tower blowdown at Monitoring Location EFF-020 as follows:

Table E-5. Effluent Monitoring – Monitoring Location EFF-020

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method ¹
Flow ²	mgd	Meter	Continuous	--
Free Available Chlorine	mg/L	Grab	Monthly ³	Standard Methods
Total Residual Chlorine	mg/L	Grab	Monthly	Standard Methods
pH	s.u.	Grab	Monthly ³	Standard Methods
Total Suspended Solids (TSS)	mg/L	Grab	Quarterly ³	Standard Methods
Oil and Grease	mg/L	Grab	Quarterly ³	Standard Methods
Chromium, Total Recoverable	µg/L	Grab	Quarterly ³	FAA (ML 50 µg/L), GFAA (ML 2 µg/L), ICP (ML 10 µg/L), ICPMS (ML 0.5 µg/L), SPGFAA (ML 1 µg/L) ⁴
Zinc, Total Recoverable	µg/L	Grab	Monthly ³	FAA (ML 20 µg/L), ICP (ML 20 µg/L), ICPMS (ML 1 µg/L), SPGFAA (ML 10 µg/L) ⁴
CTR Priority Pollutants ⁵	µg/L	Grab	Semiannually ⁶	Standard Methods

Table Notes:

- In accordance with the current edition of *Standard Methods for Examination of Water and Wastewater* (American Public Health Administration) or current test procedures specified in 40 C.F.R. part 136.
- Each month, the Permittee shall report the daily average and monthly average flows.
- Accelerated Monitoring (monthly and quarterly monitoring frequency). If a test result exceeds an effluent limitation the Permittee shall take two more samples, one within 7 days and one within 14 days following receipt of the initial sample result. During the intervening period, the Permittee shall take steps to identify the cause of the exceedance and take steps needed to return to compliance.
- 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
 GC = Gas Chromatography
- Applies to those pollutants contained in chemicals added for cooling tower maintenance except total chromium and total zinc. Priority pollutants to be monitored shall be identified according to the requirements in section VIII.A of the MRP.
- Increased monitoring frequency will apply if chemicals used in process make-up water change between scheduled sampling periods.

IV. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Chronic Toxicity Testing

The Permittee shall conduct chronic toxicity testing in accordance with the following chronic toxicity testing requirements:

- 1. Test Frequency.** The Permittee shall conduct chronic WET testing annually while discharging at Discharge Point 001, as summarized in Table E-3, above.

2. **Discharge In-stream Waste Concentration (IWC) for Chronic Toxicity.** The chronic toxicity IWC for this discharge is 0.87 percent effluent.
3. **Sample Volume and Holding Time.** The total sample volume shall be determined by the specific toxicity test method used. Sufficient sample volume shall be collected to perform the required toxicity test. All toxicity tests shall be conducted as soon as possible following sample collection.

For toxicity tests requiring renewals (*Atherinops affinis*), a minimum of three samples shall be collected. The lapsed time (holding time) from sample collection to first use of each sample must not exceed 36 hours.

4. **Chronic Marine Test Species and Test Methods.** If effluent samples are collected from outfalls discharging to receiving waters with salinity >1 ppt, the Permittee shall conduct the following chronic toxicity tests on effluent samples at the IWC for the discharge in accordance with species¹ and test methods in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995). Artificial sea salts or hypersaline brine prepared from natural seawater shall be used to increase sample salinity. In no case shall these species be substituted with another test species unless written authorization from the Executive Officer is received.
 - a. A static renewal toxicity test with the topsmelt, *Atherinops affinis* (Larval Survival and Growth Test Method 1006.0).
 - b. A static non-renewal toxicity test with the purple sea urchin, *Strongylocentrotus purpuratus*, and the sand dollar, *Dendraster excentricus* (Fertilization Test Method 1008.0), or a static non-renewal toxicity test with the mussel, *Mytilus spp* (Embryo-Larval Shell Development Test Method).
 - c. A static non-renewal toxicity test with the giant kelp, *Macrocystis pyrifera* (Germination and Growth Test Method 1009.0).
5. **Species Sensitivity Screening.** Species sensitivity screening shall be conducted during this permit's first required sample collection. The Permittee shall collect a single effluent sample and concurrently conduct three chronic toxicity tests using the fish, an invertebrate, and the alga species identified in section IV.A.4, above. This sample shall also be analyzed for the parameters required for the discharge. The species that exhibits the highest "Percent (%) Effect" at the discharge IWC during species sensitivity screening shall be used for routine monitoring during the permit term.
6. **Quality Assurance and Additional Requirements.** Quality assurance measures, instructions, and other recommendations and requirements are found in the test methods manual previously referenced. Additional requirements are specified below.
 - a. The discharge is subject to determination of "Pass" or "Fail" and "Percent (%) Effect" for chronic toxicity tests using the TST approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document*

¹ The species listed come from Table III of the Ocean Plan and are all first tier species. First tier species are the preferred toxicity tests for compliance monitoring. Use of a second tier test method can be used, upon Executive Officer approval, if first tier species are unavailable.

(EPA 833-R10-003, 2010), Appendix A, Figure A-1, and Table A-1. The null hypothesis (H_0) for the TST approach is: Mean discharge IWC response $\leq 0.75 \times$ Mean control response. A test result that rejects this null hypothesis is reported as "Pass". A test result that does not reject this null hypothesis is reported as "Fail". The relative "Percent (%) Effect" at the discharge IWC is defined and reported as: $((\text{Mean control response} - \text{Mean discharge IWC response}) \div \text{Mean control response}) \times 100$.

- b. If the effluent toxicity test does not meet the minimum effluent or reference toxicant test acceptability criteria (TAC) specified in the referenced test method, then the Permittee shall re-sample and re-test within 14 days.
- c. Dilution water and control water, including brine controls, shall be laboratory water prepared and used as specified in the test methods manual. If dilution water and control water is different from test organism culture water, then a second control using culture water shall also be used.
- d. Monthly reference toxicant testing is sufficient. All reference toxicant test results should be reviewed and reported.
- e. The Permittee shall perform toxicity tests on final effluent samples collected at Monitoring Location EFF-001. Ammonia shall not be removed from the effluent sample prior to toxicity testing, unless explicitly authorized under this section of the MRP and the rationale is explained in the Fact Sheet (Attachment F). If any chlorine is detected in the sample upon arrival at the analytical laboratory, the effluent sample may be further dechlorinated with anhydrous sodium thiosulfate to non-toxic levels in accordance with section 8.8.7 of the test method identified in section IV.A.4, above. The removal of chlorine by the analytical laboratory shall be clearly documented in the chronic toxicity report submitted to the Regional Water Board.
- f. **Ammonia Removal.** Except with prior approval from the Executive Officer of the Regional Water Board, ammonia shall not be removed from bioassay samples. The Permittee must demonstrate the effluent toxicity is caused by ammonia because of increasing test pH when conducting the toxicity test. It is important to distinguish the potential toxic effects of ammonia from other pH sensitive chemicals, such as certain heavy metals, sulfide, and cyanide. The following may be steps to demonstrate that the toxicity is caused by ammonia and not other toxicants before the Executive Officer would allow for control of pH in the test.
 - i. There is consistent toxicity in the effluent and the maximum pH in the toxicity test is in the range to cause toxicity due to increased pH.
 - ii. Chronic ammonia concentrations in the effluent are greater than 4 mg/L total ammonia.
 - iii. Conduct graduated pH tests as specified in the toxicity identification evaluation methods. For example, mortality should be higher at pH 8 and lower at pH 6.
 - iv. Treat the effluent with a zeolite column to remove ammonia. Mortality in the zeolite treated effluent should be lower than the non-zeolite treated effluent. Then add ammonia back to the zeolite-treated samples to confirm toxicity due to ammonia.

When it has been demonstrated that toxicity is due to ammonia because of increasing test pH, pH may be controlled using appropriate procedures which do not significantly alter the nature of the effluent.

- 7. Notification.** The Permittee shall notify the Regional Water Board verbally within 72 hours and in writing within 14 days after the receipt of a result of “Fail” during routine or accelerated monitoring.
- 8. Accelerated Monitoring Requirements.** The trigger for accelerated monitoring for chronic toxicity is exceeded when a chronic toxicity test, analyzed using the TST approach, results in “Fail” and the “Percent Effect” is ≥ 0.50 . Within 24 hours of the time the Permittee becomes aware of a result of “Fail”, the Permittee shall implement an accelerated monitoring schedule consisting of four toxicity tests—consisting of 5-effluent concentrations (including the discharge IWC) and a control—conducted at approximately 2 week intervals, over an 8 week period. If each of the accelerated toxicity tests results is “Pass,” the Permittee shall return to routine monitoring for the next monitoring period. If one of the accelerated toxicity tests results is “Fail”, the Permittee shall immediately implement the TRE Process conditions set forth in section IV.B, below.
- 9. Reporting**
 - a. Routine Reporting.** The self-monitoring report (SMR) shall include a full laboratory report for the month that chronic toxicity monitoring was performed (WET report). Routine reporting shall include the following in order to demonstrate compliance with permit requirements:
 - i.** WET reports shall include the contracting laboratory’s complete report provided to the Permittee and shall be consistent with the appropriate “Report Preparation and Test Review” sections of the methods manual and this MRP. The WET test reports shall contain a narrative report that includes details about WET test procedures and results, including the following:
 - (a)** Receipt and handling of the effluent sample that includes a tabular summary of initial water quality characteristics (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, chlorine, ammonia);
 - (b)** The source and make-up of the lab control/diluent water used for the test;
 - (c)** Any manipulations done to lab control/diluent and effluent such as filtration, nutrient addition, etc.;
 - (d)** Identification of any reference toxicant testing performed;
 - (e)** Tabular summary of test results for control water and each effluent dilution and statistics summary to include calculation of the NOEC, TUC, and IC25;
 - (f)** The toxicity test results for the TST approach, reported as “Pass” or “Fail” and “Percent (%) Effect” at the chronic toxicity IWC for the discharge;
 - (g)** Identification of any anomalies or nuances in the test procedures or results;
 - (h)** Summary and conclusions section.
 - (i)** WET test results shall include, at a minimum, for each test:

- (1)** Sample date(s);
- (2)** Test initiation date;
- (3)** Test species;
- (4)** Determination of “Pass” or “Fail” and “Percent Effect” following the Test of Significant Toxicity hypothesis testing approach in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010). The “Percent Effect” shall be calculated as follows:
$$\text{“Percent Effect” (or Effect, in \%)} = ((\text{Control mean response} - \text{IWC mean response}) \div \text{Control mean response}) \times 100$$
- (5)** End point values for each dilution (e.g., number of young, growth rate, percent survival);
- (6)** NOEC value(s) in percent effluent;
- (7)** IC15, IC25, IC40, and IC50 values (or EC15, EC25...etc.) in percent effluent;
- (8)** TUC values (100/NOEC);
- (9)** Mean percent mortality (\pm s.d.) after 96 hours in 100 percent effluent (if applicable);
- (10)** NOEC and LOEC values for reference toxicant test(s);
- (11)** IC50 or EC50 value(s) for reference toxicant test(s);
- (12)** Available water quality measurements for each test (e.g., pH, DO, temperature, conductivity, hardness, salinity, ammonia);
- (13)** Statistical methods used to calculate endpoints;
- (14)** The statistical program (e.g., TST calculator, CETIS, etc.) output results, which includes the calculation of percent minimum significant difference (PMSD); and
- (15)** Results of applicable reference toxicant data with the statistical output page identifying the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD and dates tested; the reference toxicant control charts for each endpoint, to include summaries of reference toxicant tests performed by the contracting laboratory; and any information on deviations from standard test procedures or problems encountered in completing the test and how the problems were resolved.

Items (6) through (8) do not apply to routine testing which is performed at the in-stream waste concentration only, but do apply when performing accelerated monitoring which requires effluent dilutions.

- b. TRE/TIE Results.** The Executive Officer shall be notified no later than 30 days from completion of each aspect of TRE/TIE analyses. TRE/TIE results shall be submitted to the Regional Water Board within 60 days of completion.

B. Toxicity Reduction Evaluation (TRE) Process

- 1. TRE Work Plan.** The Permittee submitted a TRE Work Plan to the Regional Water Board on **November 19, 2012**. The Permittee's TRE Work Plan shall be reviewed and updated as necessary in order to remain current and applicable to the discharge and discharge facilities.

The Permittee shall notify the Regional Water Board of this review and submit any revisions of the TRE Work Plan within 90 days of the notification, to be ready to respond to toxicity events. The TRE Work Plan shall describe the steps the Permittee intends to follow if toxicity is detected, and should include at least the following items:

- a.** A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.
 - b.** A description of the facility's methods of maximizing in-house treatment efficiency, good housekeeping practices, and a list of all chemicals used in the operation of this Facility.
 - c.** If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor).
- 2. Preparation and Implementation of a Detailed TRE Work Plan.** If one of the accelerated toxicity tests described in section IV.A.8, above, results in "Fail", the Permittee shall immediately initiate a TRE using, according to type of treatment facility, EPA manual *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, 1989) and within 30 days of receipt of the accelerated monitoring result submit to the Regional Water Board Executive Officer a Detailed TRE Work Plan, which shall follow the generic TRE Work Plan revised as appropriate for the toxicity event described in section IV.A.8 of this MRP. The Detailed TRE Work Plan shall include the following information, and comply with additional conditions set by the Regional Water Board Executive Officer:
 - a.** Further actions by the Permittee to investigate, identify, and correct causes of toxicity.
 - b.** Actions the Permittee will take to mitigate effects of the discharge and prevent the recurrence of toxicity.
 - c.** A schedule for these actions, progress reports, and the final report.
- 3. TIE Implementation.** The Permittee may initiate a TIE as part of a TRE to identify the causes of toxicity using the same species and test methods and, as guidance, EPA manuals: *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures* (EPA/600/6-91/003, 1991); *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080, 1993); *Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/081, 1993); and *Marine Toxicity Identification Evaluation*

(TIE): Phase I Guidance Document (EPA/600/R-96-054, 1996). The TIE should be conducted on the species demonstrating the most sensitive toxicity response.

4. Many recommended TRE elements parallel required or recommended efforts for source control, pollution prevention, and storm water control programs. TRE efforts should be coordinated with such efforts. As toxic substances are identified or characterized, the Permittee shall continue the TRE by determining the sources and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with toxicity evaluation parameters.
5. The Permittee shall conduct routine effluent monitoring for the duration of the TRE process. Additional accelerated monitoring and TRE work plans are not required once a TRE has begun.
6. The Regional Water Board recognizes that toxicity may be episodic and identification of the causes and reduction of sources of toxicity may not be successful in all cases. The TRE may be ended at any stage if monitoring finds there is no longer toxicity.

V. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

This Order does not authorize discharges to land.

VI. RECYCLING MONITORING REQUIREMENTS – NOT APPLICABLE

This Order does not authorize discharges of recycled water.

VII. RECEIVING WATER MONITORING REQUIREMENTS

A. Surface Water Monitoring – Not Applicable

1. This Order does not require surface water monitoring at this time.

B. Groundwater Monitoring – Not Applicable

1. This Order does not require groundwater monitoring at this time.

VIII. OTHER MONITORING REQUIREMENTS

A. Cooling Tower Maintenance Chemical Records

The Permittee shall maintain a record of all chemicals used in cooling tower maintenance. This record shall indicate the date on which each maintenance chemical was used and whether that chemical contains any priority pollutants listed in 40 C.F.R. part 423, Appendix A. As discussed in footnote 5 of Table E-5 of the MRP, the addition of any chemicals used in cooling tower maintenance which contain priority pollutants shall trigger monitoring for the added priority pollutants. The Permittee shall submit a summary list of added chemicals in their quarterly SMRs and indicate which chemicals contain priority pollutants.

B. Biological Survey

The Permittee shall conduct a comparative evaluation of indigenous biota in the vicinity of the outfall using a qualified aquatic biologist, at least once every 5 years. The biologist shall prepare a report of observations, including objectionable aquatic growths, floating particulates or grease and oil, aesthetically undesirable discoloration of the ocean surface, color of fish or shellfish, and any evidence of degradation of indigenous biota attributable to the rate of deposition of inert

solids, settleable material, nutrient materials, increased concentrations of organic materials, or increased concentrations of Ocean Plan Table 1 substances. The Permittee shall submit to the Regional Water Board Executive Officer for approval a Biological Survey work plan no later than **August 1, 2021**, in order to complete the survey and prepare a final report by the due date for receipt of an application for permit renewal. The final report shall be submitted no later than **August 1, 2022**

- C. **Outfall Inspection.** As future dischargers connect to the outfall used by the Permittee, the Permittee shall work with the Humboldt Bay Harbor District and additional dischargers, to perform an outfall inspection. Divers shall visually inspect the outfall structure, including the diffuser ports, at least once during the life of this permit to verify operational status of the outfall. A report documenting outfall condition and maintenance, including any observed cracks, breaks, malfunctions, and appropriate repairs, shall be submitted within 90 days of completing the inspection.

IX. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

B. Self-Monitoring Reports (SMRs)

1. The Permittee shall submit electronic Self-Monitoring Reports (eSMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal. The Permittee shall maintain sufficient staffing and resources to ensure it submits eSMRs that are complete and timely. This includes provision of training and supervision of individuals (e.g., Permittee personnel or consultant) on how to prepare and submit eSMRs.
2. The Permittee shall report in the SMR the results for all monitoring specified in this MRP under sections III through VIII. The Permittee shall submit quarterly SMRs including the results of all required monitoring using U.S. EPA-approved test methods or other test methods specified in this Order. SMRs are to include all new monitoring results obtained since the last SMR was submitted. If the Permittee monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.
3. All monitoring results reported shall be supported by the inclusion of the complete analytical report from the laboratory that conducted the analyses.
4. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-6. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	First day of second calendar month following the end of each quarter (February 1, May 1, August 1, November 1)
Monthly	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	First day of calendar month through last day of calendar month	First day of second calendar month following the end of each quarter (February 1, May 1, August 1, November 1)
Quarterly	First day of calendar quarter following permit effective date or on permit effective date if that date is first day of the month	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	First day of second calendar month following the end of each quarter (February 1, May 1, August 1, November 1)
Semiannually	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31	September 1, each year March 1, each year
Annually	January 1 following (or on) permit effective date	January 1 through December 31	March 1, each year (with annual report)
Once per permit term	Permit effective date	All	Submit with Report of Waste Discharge

- 5. Reporting Protocols.** The Permittee shall report with each sample result the applicable ML, the RL, and the current Method Detection Limit (MDL), as determined by the procedure in 40 C.F.R. part 136.

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

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

- c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
 - d. The Permittee is to instruct laboratories to establish calibration standards so that the 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 Permittee to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.
6. The Permittee shall submit SMRs in accordance with the following requirements:
- a. The Permittee shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The reported data shall include calculation of all effluent limitations that require averaging, taking of a median, or other computation. The Permittee is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Permittee shall electronically submit the data in a tabular format as an attachment.
 - b. The Permittee shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify:
 - i. Facility name and address;
 - ii. WDID number;
 - iii. Applicable period of monitoring and reporting;
 - iv. Violations of the waste discharge requirements (identified violations must include a description of the requirement that was violated and a description of the violation);
 - v. Corrective actions taken or planned; and
 - vi. The proposed time schedule for corrective actions.
 - c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the CIWQS Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). In the event that that an alternate method for submittal of SMRs is required, the Permittee shall submit the SMR electronically via e-mail to NorthCoast@waterboards.ca.gov or on disk (CD or DVD) in Portable Document Format (PDF) file in lieu of paper-sourced documents. The guidelines for electronic submittal of documents can be found on the Regional Water Board website at <https://www.waterboards.ca.gov/northcoast/>

C. Discharge Monitoring Reports (DMRs)

- 1. DMRs are U.S. EPA reporting requirements. The Permittee shall electronically certify and submit DMRs together with SMRs using Electronic Self-Monitoring Reports module eSMR 2.5 or any upgraded version. DMRs shall be submitted quarterly on the first day of the second calendar month following the end of each quarter (February 1, May 1, August 1, November 1). Electronic DMR submittal shall be in addition to electronic SMR submittal. Information about electronic submittal of DMRs is available at the Discharge Monitoring

Report web site at:

https://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring/

D. Other Reports

- 1. Special Study Reports and Progress Reports.** As specified in the Special Provisions contained in section VI of the Order and in the MRP, special study and progress reports shall be submitted in accordance with the following reporting requirements.

Table E-7. Reporting Requirements for Special Provisions Reports

Order Section	Special Provision Requirement	Reporting Requirements
Special Provision VI.C.2.a	Climate Change Readiness Study Plan	August 1, 2022
Special Provision VI.C.3.a.i	Pollutant Minimization Program	If required by the Executive Officer
Special Provision VI.C.3.a.ii(e)	Pollutant Minimization Program, Annual Facility Report	March 1 , annually, following development of Pollutant Minimization Program
MRP, section I.F	DMR-QA Study	Annually , per State Water Board instructions
MRP section IV.B.1	TRE Work Plan Revisions	As necessary
MRP section IV.B.2	Detailed TRE Work Plan	Within 30 days of an accelerated monitoring test that results in "Fail"
MRP section VIII.A	Cooling Tower Maintenance Chemical Records	February 1, May 1, August 1, November 1 , each year
MRP section VIII.B	Biological Survey Work Plan	August 1, 2021
MRP section VIII.B	Biological Survey Final Report	August 1, 2022
MRP section IX.D.2	Annual Report	March 1 , each year
MRP section IX.E	Spills and Unauthorized Discharge Reporting	Within 24 hours , verbal notification Within 5 days , written report

- 2. Annual Report.** The Permittee shall submit an annual report to the Regional Water Board for each calendar year through the CIWQS Program Web site. In the event that a paper copy of the annual report is required, the Permittee shall submit the report to the email address in section IX.B.6.c, above. The report shall be submitted by March 1 of the following year. The report shall, at a minimum, include the following:
 - a.** Where appropriate, tabular and/or graphical summaries of the monitoring data and disposal records from the previous year. If the Permittee monitors any pollutant more frequently than required by this Order, using test procedures approved under 40 C.F.R. part 136 or as specified in this Order, the results of this monitoring shall be included in the calculation and report of the data submitted SMR.
 - b.** A comprehensive discussion of the Facility's compliance (or lack thereof) with all effluent limitations and other WDRs, and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the Order.
 - c.** The names and general responsibilities of all persons employed at the Facility;

- d. The names and telephone numbers of persons to contact regarding the Facility for emergency and routine situations; and
- e. A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration.
- f. **Storm Water Reporting.** The Permittee shall submit, as part of its annual report to the Regional Water Board, an evaluation of the effectiveness of the Permittee's BMPs to control the run-on of storm water to the facility site, as well as activities to maintain and upgrade these BMPs.
- g. **DMR-QA Study Report.** The Permittee shall submit, as part of its annual report to the Regional Water Board, an electronic copy of the annual DMR-QA study report submitted to the State Water Board, Quality Assurance Program Officer pursuant to section I.F of this MRP.

E. Spill Notification

- 1. **Spills and Unauthorized Discharges.** Information regarding all spills and unauthorized discharges that may endanger health or the environment shall be provided orally to the Regional Water Board² within 24 hours from the time the Permittee becomes aware of the circumstances and a written report shall also be provided within five (5) days of the time the Permittee becomes aware of the circumstances, in accordance with section V.E of Attachment D.

Information to be provided verbally to the Regional Water Board includes:

- a. Name and contact information of caller;
- b. Date, time, and location of spill occurrence;
- c. Estimates of spill volume, rate of flow, and spill duration, if available and reasonably accurate;
- d. Surface water bodies impacted, if any;
- e. Cause of spill, if known at the time of the notification;
- f. Cleanup actions taken or repairs made at the time of the notification; and
- g. Responding agencies.

² The contact number of the Regional Water Board during normal business hours is (707) 576-2220. After normal business hours, spill reporting to the California Governor's Office of Emergency Services Warning Center (CalOES) will satisfy the 24 hour spill reporting requirement for the Regional Water Board. The contact number for spill reporting for the CalOES is (800) 852-7550.

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

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

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	1B85026RHUM
Permittee	DG Fairhaven Power, LLC
Name of Facility	Fairhaven Power Facility
Facility Address	97 Bay Street
	Samoa, CA 95564
	Humboldt County
Facility Contact, Title and Phone	Bob Marino, General Manager, (707) 445-5434
Authorized Person to Sign and Submit Reports	Bob Marino, General Manager, (707) 445-5434
Mailing Address	Same as Facility Address
Billing Address	Same as Facility Address
Type of Facility	Electricity Generation (SIC code 4911)
Major or Minor Facility	Minor
Threat to Water Quality	2
Complexity	C
Pretreatment Program	Not Applicable
Recycling Requirements	Not Applicable
Facility Permitted Flow	Not Applicable
Facility Design Flow	0.350 million gallons per day (mgd)(maximum anticipated discharge flow)
Facility Median Flow	0.145 mgd
Watershed	Eureka Plain
Receiving Water	Pacific Ocean
Receiving Water Type	Ocean Waters

- A. DG Fairhaven Power, LLC (hereinafter Permittee) is the owner and operator of the Fairhaven Power Facility (hereinafter Facility) an electrical power generating facility.

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 Permittee herein.

The Permittee is authorized to discharge subject to waste discharge requirements in this Order at the discharge locations described in Table 2 on the cover page of this Order. The Code of Federal Regulations at 40 C.F.R. section 122.46 limits the duration of National Pollutant Discharge

Elimination System (NPDES) permits to be effective for a fixed term not to exceed five years. Accordingly, Table 3 of this Order limits the effective period for the discharge authorized by this Order. Pursuant to California Code of Regulations (CCR), title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending issuance of a new permit if all requirements of the federal NPDES regulations on continuation of expired permits are complied with.

- B.** The Facility discharges process water to the Pacific Ocean, a water of the United States. The Permittee was previously regulated by Order No. R1-2012-0027 and NPDES Permit No. CA0024571 adopted on April 26, 2012, and expired on June 30, 2017. The terms and conditions of the current Order and Monitoring and Reporting Program (MRP) have been automatically continued and remain in effect until new Waste Discharge Requirements (WDRs) and NPDES permit are adopted pursuant to this Order. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.
- C.** The Permittee filed a report of waste discharge (ROWD) and submitted an application for reissuance of its WDRs and NPDES permit on June 30, 2016. The application was deemed complete on December 14, 2016.

II. FACILITY DESCRIPTION

The Permittee owns and operates a power generation facility in Samoa, California. The Facility is located on the Samoa Peninsula of Humboldt Bay, with Humboldt Bay to the east and the Pacific Ocean to the west. The Facility was formerly owned by Eel River Sawmills and in April 2005 was acquired by DG Fairhaven Power, LLC in April 2005.

A. Description of Wastewater and Biosolids Treatment and Controls

The Facility combusts wood waste to produce electricity using a steam-turbine power generation process. Power generation uses approximately 0.5 mgd of potable water per day. The process water originates from the Humboldt Bay Municipal Water District.

The source water from Humboldt Bay Municipal Water District is used in non-contact processes to cool screws and bearings and to condense steam (via cooling tower). Additionally, source water is treated via reverse osmosis, a demineralizer, and a deaerator prior to being pumped to the boiler to generate steam. A schematic of the process waters is provided in Attachment C to this Order.

Process waters discharged under this Order include cooling tower blowdown, low volume wastes (including: boiler water blowdown, reverse osmosis concentrate, and demineralizer back-wash), and intermittent wastes (including: cooling tower cleaning wastes). Approximately 0.130 mgd of used process water is discharged to the Pacific Ocean through Humboldt Bay Harbor, Recreation & Conservation District's (Harbor District) outfall, located at the former Samoa Pulp Mill to the north of the Facility. The metal cleaning wastes from boiler cleaning also represent an intermittent waste stream, which is applied to incoming fuel and is not discharged to the Pacific Ocean. Approximately 0.021 mgd of screw and bearing cooling process water is recycled from the low-volume waste stream into the cooling tower feed water.

Process water is treated at various points in the power generation cycle before being discharged as effluent. The reverse osmosis unit and a demineralizer are used to reduce the concentration of total dissolved solids in the boiler water. The demineralizer back-wash, boiler blowdown and reverse osmosis concentrate are then routed back to the cooling tower. More than 60% of the

cooling tower water is evaporated. The remaining cooling tower water is blown down via a valve to an oil/water separator and then discharged.

Bottom ash and fly ash generated during biomass combustion is used for amendment of soil in high-trafficked livestock agricultural areas and is regulated by separate Monitoring and Reporting Program R1-2013-0047.

Sanitary wastewater flows originating from employee facilities (i.e., washrooms, restrooms) are discharged to an on-site septic tank and leach field treatment system. Sanitary flows are not discharged to a water of the United States. The on-site system has been designed and constructed in accordance with Humboldt County regulations and Regional Water Quality Control Board, North Coast Region (Regional Water Board) policies.

B. Discharge Points and Receiving Waters

The process water is discharged at Discharge Point 001 at 40° 49' 10" N latitude and 124° 13' 32" W longitude to the Pacific Ocean. The Harbor District outfall is a 48-inch diameter line that terminates approximately 1.5 miles off-shore.

This outfall was formerly owned by Freshwater Pulp (formerly Evergreen Pulp, formerly Samoa Pacific Cellulose, LLC). The Harbor District acquired the outfall during a property acquisition of Freshwater Tissue/Freshwater Pulp property in August 2013. DG Fairhaven, LLC has entered into a long-term contractual lease agreement with the Harbor District to continue using the outfall for Facility operations. The Facility's discharge line connects to the outfall pipe downstream from Manhole No. 5, which was formerly the monitoring point for the pulp mill.

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

Effluent limitations contained in Order No. R1-2012-0027 for discharges from Discharge Points 001 (Monitoring Location EFF-001) and internal outfalls (Monitoring Locations EFF-010 and EFF-020) with representative monitoring data from the term of Order No. R1-2012-0027 are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data – Discharge Point 001

Parameter	Units	Effluent Limitation			Monitoring Data (August 2012 – October 2016)		
		30-Day Average	Maximum Daily	Instantaneous Maximum	Highest 30-Day Average Discharge	Highest Daily Discharge	Highest Instantaneous Maximum Discharge
Copper Total Recoverable	mg/L	118 ¹	1,162	3,200	25.7 ³	564	3,630
	lbs/day ²	0.172 ¹	1.698	4.749	0.025 ³	0.424	19.19
pH	s.u.	--	--	6.0 – 9.0	--	--	6.5 – 8.3
Acute Toxicity	TU _a	--	3.75	--	--	0.41	--
Chronic Toxicity	TU _c	--	116	--	--	29.4	--

Parameter	Units	Effluent Limitation			Monitoring Data (August 2012 - October 2016)		
		30-Day Average	Maximum Daily	Instantaneous Maximum	Highest 30-Day Average Discharge	Highest Daily Discharge	Highest Instantaneous Maximum Discharge
Table Notes:							
1. Represents the 6-month median effluent limitation.							
2. Flow weighted mass-based effluent limitations for total recoverable copper are performance-based, as described in the Fact Sheet (Attachment F) of Order No. R1-2012-0027.							
3. Represents the highest observed 6-month median.							

Table F-3. Historic Effluent Limitations and Monitoring Data - Discharge Point 010

Parameter	Units	Effluent Limitation		Monitoring Data (August 2012 - October 2016)	
		30-Day Average	Maximum Daily	Highest 30-Day Average Discharge	Highest Daily Discharge
Total Suspended Solids (TSS)	mg/L	30	100	19	19
Oil and Grease	mg/L	15	20	17	17
pH	s.u.	--	6.0 - 9.0	--	6.3 - 8.2

Table F-4. Historic Effluent Limitations and Monitoring Data - Discharge Point 020

Parameter	Units	Effluent Limitation		Monitoring Data (August 2012 - October 2016)	
		30-Day Average	Maximum Daily	Highest 30-Day Average Discharge	Highest Daily Discharge
Free Available Chlorine	mg/L	0.2 ¹	0.5 ²	0.3	0.3
Chromium, Total Recoverable	mg/L	0.2	0.2	0.00601	0.00601
Zinc, Total Recoverable	mg/L	1.0	1.0	10.1	10.1
Priority Pollutants	mg/L	³	³	N/A	N/A
pH	s.u.	--	6.0 - 9.0	--	7.7 - 8.7

Table Notes:

1. The term "average concentration", as it relates to chlorine discharge under effluent limitations guidelines (ELGs) at 40 C.F.R. part 423, means the average of analyses made over a single period of chlorine release which does not exceed 2 hours (See Attachment A).
2. The term "maximum concentration", as it relates to chlorine discharge under ELGs at 40 C.F.R. part 423, means the maximum of analyses made over a single period of chlorine release which does not exceed 2 hours (See Attachment A).
3. No detectable amount.
4. N/A = Not Applicable

D. Compliance Summary

The Permittee was not assessed any administrative civil liability during the term of Order No. R1-2012-0027.

E. Planned Changes

The Permittee does not have any changes planned for this permit term.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (U.S. EPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit authorizing the Permittee to discharge into waters of the U.S. at the discharge location described in Table 2 subject to the WDRs in this Order. This Order also serves as WDRs pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of the Public Resources Code.

C. State and Federal Laws, Regulations, Policies, and Plans

1. Water Quality Control Plan. The Regional Water Board adopted a *Water Quality Control Plan for the North Coast Region* (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which establishes state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. With high concentrations of total dissolved solids, ocean waters meet an exception to State Water Board Resolution No. 88-63; and therefore, the MUN designation is not applicable to the ocean receiving water for this Permittee. Beneficial uses applicable to the Pacific Ocean are summarized in Table F-5, below:

Table F-5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	<p><u>Existing:</u> Navigation (NAV); Water contact recreation (REC-1); Non-contact water recreation (REC-2); Commercial and sport fishing (COMM); Wildlife habitat (WILD); Rare, threatened, or endangered species (RARE); Marine habitat (MAR); Migration of aquatic organisms (MIGR); Spawning, reproduction, and/or early development (SPAWN); Shellfish harvesting (SHELL); and Aquaculture (AQUA).</p> <p><u>Potential:</u> Industrial water supply (IND); Industrial process supply (PRO); and Preservation of Areas of Special Biological Significance (ASBS).</p>

Requirements of this Order implement the Basin Plan.

2. **Thermal Plan.** The State Water Board adopted a *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 coastal waters. Requirements of this Order implement the Thermal Plan.
3. **California Ocean Plan.** The State Water Board adopted the Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, 2005, 2009, 2012, and 2015. The State Water Board adopted the latest amendment on May 6, 2015, and it became effective on January 28, 2016. The Ocean Plan is applicable, in its entirety, to point source discharges to the Pacific Ocean. In order to protect the beneficial uses, the Ocean Plan establishes water quality objectives and a program for implementation. The Ocean Plan identifies the beneficial uses of ocean waters of the state to be protected as summarized below:

Table F-6. Ocean Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	<p><u>Existing:</u> Industrial water supply; Water contact and non-contact recreation, including aesthetic enjoyment; Navigation; Commercial and sport fishing; Mariculture; Preservation and enhancement of designated Areas of Special Biological Significance (ASBS); Rare and endangered species; Marine habitat; Fish migration; Fish spawning; and Shellfish harvesting.</p>

Requirements of this Order implement the Ocean Plan.

- 4. Compliance Schedules and Interim Requirements.** The State Water Board adopted Resolution No. 2008-0025 on April 15, 2008, titled *Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits*, which includes compliance schedule policies for pollutants that are not addressed by the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). This Policy became effective on August 27, 2008.

This Order does not include any compliance schedules or interim effluent limitations.

- 5. Antidegradation Policy.** 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California’s antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates 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 Regional Water Board’s Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16. As discussed in detail in section IV.D.2 of this Fact Sheet, the permitted discharge is consistent with the antidegradation provision of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16.
- 6. Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 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 must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.
- 7. Endangered Species Act Requirements.** This Order does not authorize an act that results in the taking of a threatened or endangered species or any act that is now prohibited, or

becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 or 2097) or the Federal Endangered Species Act (16 U.S.C.A sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The Permittee is responsible for meeting all requirements of the applicable Endangered Species Act.

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

Section 303(d) of the federal CWA requires states to identify waterbodies that do not meet water quality standards and are not supporting their beneficial uses after implementation of technology-based effluent limitations on point sources. Each state must submit an updated list, the 303(d) List of Impaired Waterbodies every two years. In addition to identifying the waterbodies that are not supporting beneficial uses, the 303(d) list also identifies the pollutant or stressor causing impairment and establishes a schedule for developing a control plan to address the impairment. The CWA requires development of a total maximum daily load (TMDL) or alternate program of implementation for each 303(d) listed pollutant and water body to remedy the impairment. TMDLs establish the maximum quantity of a given pollutant that can be added to a water body from all sources without exceeding the applicable water quality standard for that pollutant and determine wasteload allocations (the portion of a TMDL allocated to existing and future point sources) and load allocations (the portion of a TMDL attributed to existing and future nonpoint sources).

On June 26, 2015, the U.S. EPA provided final approval of the 2012 303(d) list of impaired water bodies prepared by the state. The Pacific Ocean, in the vicinity of the discharge, is not listed as an impaired waterbody on the 303(d) list.

E. Other Plans, Policies and Regulations

1. State Water Board Water Quality Order No. 2014-0057-DWQ, NPDES General Permit No. CAS000001, General Permit for Storm Water Discharges Associated with Industrial Activities (Industrial Storm Water General Permit) does not require facilities to obtain coverage if storm water is captured and treated and/or disposed of within the facility's NPDES permitted process wastewater or if storm water is disposed of in evaporation ponds, percolation ponds, or combined sewer systems. The Facility utilizes a storm water percolation/retention basin to prevent storm water runoff from discharging offsite, therefore, coverage under the Industrial Storm Water General Permit is not required for this Facility. The Regional Water Board approved the Facility's Notice of Termination (NOT) of Coverage under the Statewide Storm Water General Permit on March 30, 2015.

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 that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 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 the receiving water where a reasonable potential to exceed those criteria exist.

A. Discharge Prohibitions

- 1. Discharge Prohibition III.A.** The discharge of any waste not disclosed by the Permittee or not within the reasonable contemplation of the Regional Water Board is prohibited.

This prohibition has been retained from Order No. R1-2012-0027 and is based on the Basin Plan and State Water Board Order No. WQO 2002-0012 regarding the petition of WDRs Order No. 01-072 for the East Bay Municipal Utility District and Bay Area Clean Water Agencies. In State Water Board Order No. WQO 2002-0012, the State Water Board found that this prohibition is acceptable in orders, but should be interpreted to apply only to constituents that are either not disclosed by the Permittee, or are not reasonably anticipated to be present in the discharge but have not been disclosed by the Permittee. It specifically does not apply to constituents in the discharge that do not have “reasonable potential” to exceed water quality objectives.

The State Water Board has stated that the only pollutants not covered by this prohibition are those which were “disclosed to the permitting authority and...can be reasonably contemplated.” [In re the Petition of East Bay Municipal Utilities District et al., (State Water Board, 2002) Order No. WQO 2002-0012, p. 24]. In that Order, the State Water Board cited a case which held the Permittee is liable for the discharge of pollutants “not within the reasonable contemplation of the permitting authority...whether spills or otherwise...” [Piney Run Preservation Assn. v. County Commissioners of Carroll County, Maryland (4th Cir. 2001) 268 F. 3d 255, 268.] Thus the State Water Board authority provides that, to be permissible, the constituent discharged (1) must have been disclosed by the Permittee and (2) can be reasonably contemplated by the Regional Water Board.

- 2. Discharge Prohibition III.B.** The discharge of waste to Humboldt Bay is prohibited.

This prohibition is retained from Order No. R1-2012-0027 and is consistent with the Water Quality Control Policy for the Enclosed Bays and Estuaries of California (1974, 1995).

- 3. Discharge Prohibition III.C.** Creation of pollution, contamination, or nuisance, as defined by section 13050 of the Water Code is prohibited.

This prohibition has been retained from Order No. R1-2012-0027 and is based on section 13050 of the Water Code and section 5411 of the California Health and Safety Code.

- 4. Discharge Prohibition III.D.** The discharge of domestic waste, treated or untreated, to surface waters is prohibited.

This prohibition is retained from Order R1-2012-0027 and is based on the Basin Plan policy on the control of water quality with respect to on-site waste treatment and disposal practices.

- 5. Discharge Prohibition III.E.** The discharge of waste to land that is not owned by the Permittee or under agreement to use by the Permittee is prohibited.

This prohibition is retained from Order R1-2012-0027 with minor modifications. Land used for the application of wastewater must be owned by the Permittee or be under the control of the Permittee by contract so that the Permittee maintains a means for ultimate disposal of treated wastewater.

- 6. Discharge Prohibition III.F.** The discharge of waste at any point not described in Finding II.B of the Fact Sheet or authorized by a permit issued by the State Water Board or another Regional Water Board is prohibited.

This prohibition is retained from Order R1-2012-0027. This prohibition is a general prohibition that allows the Permittee to discharge waste only in accordance with WDRs. It is based on sections 301 and 402 of the federal CWA and section 13263 of the Water Code.

- 7. Discharge Prohibition III.G.** The intentional introduction of pollutant-free wastewater to the collection, treatment, and disposal system for purposes of dilution is prohibited. The discharge of non-contact cooling water is not subject to this prohibition.

This prohibition is retained from Order No. R1-2012-0027 and is necessary to ensure that the Permittee's treatment system is demonstrating adequate treatment performance necessary to prevent an exceedance of receiving water quality standards or objectives.

- 8. Prohibition III.H.** The discharge of waste to shallow usable groundwaters of the Samoa Peninsula is prohibited. Notwithstanding this prohibition, the discharge of wastes from employee sanitary facilities in compliance with the North Coast Basin Plan Policy on the Control of Water Quality with Respect to On-Site Waste Treatment and Disposal Practices is authorized.

This prohibition is retained from Order No. R1-2012-0027 and is based on the Basin Plan and section 13263 of the Water Code. The Facility has an on-site septic system for subsurface disposal of sanitary waste. The discharge of sanitary waste to Discharge Point 001 is neither anticipated nor permitted.

- 9. Prohibition III.I.** The discharge of any radiological, chemical, or biological warfare agent or high-level radioactive waste into waters of the state is prohibited.

This prohibition is newly established by this Order and is based on the discharge prohibitions contained in section III.I of the Ocean Plan and section 13375 of the Water Code.

- 10. Prohibition III.J.** The discharge of sludge directly into the ocean or into a waste stream that discharges to the ocean is prohibited.

This prohibition is retained from Order No. R1-2012-0027 and is based on the discharge prohibitions contained in section III.I.3 of the Ocean Plan.

- 11. Prohibition III.K.** The by-passing of untreated wastes containing concentrations of pollutants in excess of those of Ocean Plan Tables 1 or 2 (2015) is prohibited.

This prohibition is newly established by this Order and is based on the discharge prohibitions contained in section III.I. of the Ocean Plan.

- 12. Prohibition III.L.** Discharges of metal cleaning wastes into the ocean or into a waste stream that discharges to the ocean is prohibited.

This prohibition is retained from Order No. R1-2012-0027 and is necessary to ensure compliance with 40 C.F.R. section 423.12(b)(5), which contains technology-based effluent limitations for metal cleaning wastes. Since this waste stream exists, but has not been monitored and is not anticipated to discharge into the ocean, this prohibition is a substitute for otherwise requisite effluent limitations.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing U.S. EPA permit regulations at 40 C.F.R. section 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Best Professional Judgement (BPJ) in accordance with 40 C.F.R. section 125.3. The CWA requires that technology-based effluent limitations are established based on several levels of controls:

- a.** Best practicable treatment control technology (BPT) represents the average of the best existing performance by well-operated facilities within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.
- b.** Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.
- c.** Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including five-day biochemical oxygen demand (BOD), total suspended solids (TSS), fecal coliform, pH, and oil and grease. The BCT standard is established after considering a two-part reasonableness test. The first test compares the relationship between the cost of attaining a reduction in effluent discharge and the resulting benefits. The second test examines the cost and level of reduction of pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources. Effluent limitations must be reasonable under both tests.
- d.** New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires U.S. EPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and 40 C.F.R. section 125.3 authorize the use of BPJ to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the Regional Water Board must consider specific factors outlined in Section 125.3.

2. Applicable Technology-Based Effluent Limitations

Pursuant to CWA section 306(b)(1)(B), U.S. EPA has established standards of performance (technology-based limitations and standards) for steam electric power plants at 40 C.F.R. part 423, Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards for the Steam Electric Power Generating Point Source Category. The requirements of 40 C.F.R. part 423 are applicable to discharges resulting from the operation of a generating unit by an establishment primarily engaged in the generation of electricity

for distribution and sale which results primarily from a process utilizing fossil-type fuel or nuclear fuel. The Facility combusts wood waste to produce electricity using a steam-turbine power generation process, however operations and wastes generated are similar to those addressed in 40 C.F.R. part 423 for facilities utilizing fossil-type fuels. Because operations and wastes generated at the Facility are similar to those addressed in 40 C.F.R. part 423, Order No. R1-2012-0027 established effluent limitations and permit conditions for the Permittee similar to those contained in 40 C.F.R. part 423. Consistent with Order No. R1-2012-0027, this Order applies the requirements of 40 C.F.R. part 423 to the Facility based on BPJ.

When establishing permit requirements based on BPJ, 40 C.F.R. section 125.3(c)(2) requires the consideration of appropriate factors listed in 40 C.F.R. section 125.3(d), including cost of application of technology, age of equipment, process employed, engineering aspects, process changes, and non-water quality environmental impacts. Because the requirements of 40 C.F.R. part 423 have historically been applied to the Facility, additional costs associated with the application of these requirements are not expected to be significant. Further, because the requirements of 40 C.F.R. part 423 have been applied in Order No. R1-2012-0027, the available technology, process wastewaters, and engineering are sufficient to meet the requirements established in 40 C.F.R. part 423.

The Facility is considered an existing facility; therefore, the Order includes effluent limitations based on BPT and BAT. The ELGs do not include standards of performance based on BCT. Section IV.B.2.a details the specific technology-based effluent limitations (BPT and BAT) applicable to the Facility.

a. Effluent Limitations Guidelines Based on 40 C.F.R. part 423

i. Standards of Performance Based on BPT

- (a)** The pH of all discharges, except once-through cooling water, shall be within the range of 6.0 – 9.0. [40 C.F.R. § 423.12(b)(1)].
- (b)** There shall be no discharge of polychlorinated biphenyl compounds (PCBs) such as those commonly used for transformer fluid. [40 C.F.R. §423.12(b)(2)].
- (c)** The quantity of pollutants discharged from low volume waste sources shall not exceed the quantity determined by multiplying the flow of low volume waste sources times the concentration listed in Table F-7 below [40 C.F.R. § 423.12(b)(3)]. Low volume wastes are defined as those wastewater sources for which specific limitations are not established by the ELGs at 40 C.F.R. part 423 (i.e., all process streams other than cooling tower blowdown). This includes, but is not limited to, boiler blowdown, reverse osmosis concentrate, and demineralizer backwash water.

Table F-7. Low Volume Wastes BPT ELGs

Parameter	Units	30-Day Average Concentration	Daily Maximum Concentration
Total Suspended Solids (TSS)	mg/L	30	100
Oil and Grease	mg/L	15	20

- (d) The quantity of pollutants discharged in cooling tower blowdown shall not exceed the quantity determined by multiplying the cooling tower blowdown sources times the concentration listed in Table F-8 below.
 [40 C.F.R § 423.12(b)(7)].

Table F-8. Cooling Tower Blowdown BPT ELGs

Parameter	Units	Average Concentration ¹	Maximum Concentration ²
Free Available Chlorine	mg/L	0.2	0.5
Table Notes: 1. The term “average concentration,” as it relates to chlorine discharge under ELGs at 40 C.F.R. part 423, means the average of analyses made over a single period of chlorine release which does not exceed two hours. 2. The term “maximum concentration,” as it relates to chlorine discharge under ELGs at 40 C.F.R. part 423, means the maximum of analyses made over a single period of chlorine release which does not exceed two hours.			

- (e) Neither free available chlorine nor total residual chlorine may be discharged from any one unit for more than 2 hours in any 1 day and not more than one unit in any plant may discharge free available or total residual chlorine at any one time unless the utility can demonstrate that the units in a particular location cannot operate at or below this level of chlorination.

ii. Standards of Performance Based on BAT

- (a) There shall be no discharge of PCBs such as those commonly used for transformer fluid. [40 C.F.R. § 423.13(a)]
- (b) Total residual chlorine may not be discharged from any single generating unit for more than 2 hours per day unless the Permittee demonstrates to the permitting authority that discharge for more than 2 hours is required for macroinvertebrate control. Simultaneous multi-unit chlorination is permitted. [40 C.F.R. § 423.13(b)(2)]
- (c) The quantity of pollutants discharged in cooling tower blowdown shall not exceed the quantity determined by multiplying the flow of cooling tower blowdown times the concentration listed in Table F-9, below.
 [40 C.F.R. § 423.13(d)(1)]

Table F-9. Cooling Tower Blowdown BAT ELGs

Parameter	Units	30-Day Average Concentration	Daily Maximum Concentration	Average Concentration ¹	Maximum Concentration ²
Free Available Chlorine	mg/L	--	--	0.2	0.5
Chromium, Total Recoverable	mg/L	0.2	0.2	--	--
Zinc, Total Recoverable	mg/L	1.0	1.0	--	--
Priority Pollutants	mg/L	Table Note 3	Table Note 3	--	--

Parameter	Units	30-Day Average Concentration	Daily Maximum Concentration	Average Concentration ¹	Maximum Concentration ²
Table Notes:					
1. The term “average concentration,” as it relates to chlorine discharge under ELGs at 40 C.F.R. part 423, means the average of analyses made over a single period of chlorine release which does not exceed two hours.					
2. The term “maximum concentration,” as it relates to chlorine discharge under ELGs at 40 C.F.R. part 423, means the maximum of analyses made over a single period of chlorine release which does not exceed two hours.					
3. No detectable amount of the 126 priority pollutants contained in chemicals added for cooling water maintenance, as defined in 40 CFR 423, may be discharge from the cooling tower blowdown except for total chromium and total zinc.					

3. Summary of Technology-Based Effluent Limitations

The Facility discharges process waters to the receiving water via Discharge Points 001, 010, and 020. The total flow volume to the receiving water through the outfall is a combination of cooling tower blowdown and in-plant waste streams that consist of low volume waste waters, as defined in 40 C.F.R. part 423. 40 C.F.R. sections 423.12(b)(12) and 423.13(h) states that in the event that waste streams from various sources are combined for treatment or discharge, the quantity of each pollutant or pollutant property attributable to each pollutant waste source shall not exceed the specified limitation for that waste source. In order to ensure that the discharge from each individual waste stream is in compliance with 40 C.F.R. part 423, effluent limitations have been established at the discharge of each waste stream before commingling and prior to being discharged through Discharge Point 001. However, because the ELGs for pH contained in 40 C.F.R. section 423.12(b)(1) are applicable to all discharges covered under this Order, the technology-based effluent limitations for pH have been applied to the combined discharge.

As discussed in sections IV.B.2.a.i.(b) and IV.B.2.a.ii.(a) of this Fact Sheet, 40 C.F.R. part 423 establishes ELGs for the discharge of PCBs. However, the Permittee has stated, and the Regional Water Board has confirmed, that there is no potential for PCBs to contaminate effluent discharged from the Facility. Thus, since the ELGs are being applied based on BPJ, and because the Facility is not a fossil fuel or nuclear fuel process generating facility, the Regional Water Board has flexibility in the application of the ELGs. Because it has been determined that there is no potential for PCBs to contaminate the effluent discharged by the Facility, the ELGs for PCBs have not been established in this Order. However, monitoring for PCBs shall be required at least once during this permit term with all other Ocean Plan Table 1 pollutants, as established in section III of the MRP.

Effluent limitations in 40 C.F.R. sections 423.12(b)(11) and 423.13(g) specify that, at the permitting authority’s discretion, effluent limitations can be expressed as concentration-based or mass-based. To be consistent with Order No. R1-2012-0027, technology-based effluent limitations in this Order are expressed as concentration-based limitations.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

CWA Section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) of 40 C.F.R. requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) 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 the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan and Ocean Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the Ocean Plan.

2. **Applicable Beneficial Uses and Water Quality Criteria and Objectives**

- a. **Beneficial Uses.** Beneficial use designations for receiving waters for discharges from the Facility are presented in section III.C.1 and III.C.3 of this Fact Sheet.
- b. **Ocean Plan Water Quality Objectives.** Water quality criteria applicable to ocean waters of the Region are established by the Ocean Plan, which includes general provisions and water quality objectives for bacterial characteristics, physical characteristics, chemical characteristics, biological characteristics, and radioactivity. These water quality objectives from the Ocean Plan are incorporated as receiving water limitations in section V.A of the Order. Table 1 of the Ocean Plan contains numeric water quality objectives for 83 toxic pollutants for the protection of marine aquatic life and human health. Pursuant to NPDES regulations at 40 C.F.R. section 122.44(d)(1), and in accordance with procedures established by the Ocean Plan, the Regional Water Board has performed an Ocean Plan reasonable potential analysis (RPA) to determine the need for effluent limitations for the Table 1 toxic pollutants.

3. **Determining the Need for WQBELs**

NPDES regulations at 40 C.F.R. section 122.44(d) require effluent limitations to control all pollutants which are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard.

- a. **Ocean Plan Reasonable Potential Analysis (RPA).** Procedures for performing an RPA for ocean dischargers are described in Section III.C. and Appendix VI of the Ocean Plan. In general, the procedure is a statistical method that projects an effluent data set while taking into account the averaging period of water quality objectives, the long term variability of pollutants in the effluent, limitations associated with sparse data sets, and uncertainty associated with censored data sets. The procedure assumes a lognormal distribution of the effluent data set, and compares the 95th percentile concentration at 95 percent confidence of each Table 1 pollutant, accounting for dilution, to the applicable water quality criterion. The RPA results in one of three following endpoints.

Endpoint 1 – There is “reasonable potential,” and a WQBEL and monitoring are required.

Endpoint 2 – There is “no reasonable potential.” WQBELs are not required, and monitoring is required at the discretion of the Regional Water Board.

Endpoint 3 – The Ocean Plan RPA is inconclusive. Existing WQBELs are retained, and monitoring is required.

The State Water Resources Control Board has developed a reasonable potential calculator, which is available at https://www.waterboards.ca.gov/water_issues/programs/ocean/docs/trirev/stakeholder050505/rpcalc22_setup.zip. The calculator (RPcalc 2.2) was used in conducting the RPA and considers several pathways in the determination of reasonable potential.

i. First Path

If available information about the receiving water or the discharge supports a finding of reasonable potential without analysis of effluent data, the Regional Water Board may decide that WQBELs are necessary after a review of such information. Such information may include: the facility or discharge type, solids loading, lack of dilution, history of compliance problems, potential toxic effects, fish tissue data, 303(d) status of the receiving water, or the presence of threatened or endangered species or their critical habitat, or other information.

ii. Second Path

If any pollutant concentration, adjusted to account for dilution, is greater than the most stringent applicable water quality objective, there is reasonable potential for that pollutant.

iii. Third Path

If the effluent data contains three or more detected and quantified values (i.e., values that are at or above the ML), and all values in the data set are at or above the ML, a parametric RPA is conducted to project the range of possible effluent values. The 95th percentile concentration is determined at 95 percent confidence for each pollutant, and compared to the most stringent applicable water quality objective to determine reasonable potential. A parametric analysis assumes that the range of possible effluent values is distributed log normally. If the 95th percentile value is greater than the most stringent applicable water quality objective, there is reasonable potential for that pollutant.

iv. Fourth Path

If the effluent data contains three or more detected and quantified values (i.e., values that are at or above the ML), but at least one value in the data set is less than the ML, a parametric RPA is conducted according to the following steps.

- (a)** If the number of censored values (those expressed as a “less than” value) account for less than 80 percent of the total number of effluent values, calculate the ML (the mean of the natural log of transformed data) and SL (the standard deviation of the natural log of transformed data) and conduct a parametric RPA, as described above for the Third Path.

(b) If the number of censored values account for 80 percent or more of the total number of effluent values, conduct a non-parametric RPA, as described below for the Fifth Path. (A non-parametric analysis becomes necessary when the effluent data is limited, and no assumptions can be made regarding its possible distribution.)

v. Fifth Path

A non-parametric RPA is conducted when the effluent data set contains less than three detected and quantified values, or when the effluent data set contains three or more detected and quantified values but the number of censored values accounts for 80 percent or more of the total number of effluent values. A non-parametric analysis is conducted by ordering the data, comparing each result to the applicable water quality objective, and accounting for ties. The sample number is reduced by one for each tie, when the dilution adjusted method detection limit (MDL) is greater than the water quality objective. If the adjusted sample number, after accounting for ties, is greater than 15, the pollutant has no reasonable potential to exceed the water quality objective. If the sample number is 15 or less, the RPA is inconclusive, monitoring is required, and any existing effluent limitations in the expiring permit are retained.

b. Reasonable Potential Determination

The RPA for the effluent was conducted using effluent monitoring data generated from the sampling event for all Ocean Plan Table 1 parameters in May 2016, and from routine monitoring events conducted between August 2012 and October 2016 for copper, chromium, zinc, acute toxicity, and chronic toxicity as required by the Monitoring and Reporting Program for Order No. R1-2012-0027. Results from the RPA have been used to determine the need for effluent limitations for Table 1 parameters given in the Ocean Plan.

For the RPA conducted for this permit renewal, pollutant concentrations were adjusted to account for the calculated initial dilution of 115 parts seawater per part wastewater. The adjustment for dilution is consistent with previous orders for this Facility.

Table F-10, below, identifies the RPA endpoint for each Table 1 parameter detected in the effluent and shows the analysis reached an Endpoint 3 for most of the parameters analyzed. An Endpoint 3 RPA is inconclusive and results when a majority of the effluent data is reported as ND (not detected). In these circumstances, the Regional Water Board views the “inconclusive” result as an indication of no concern for a particular pollutant; however, additional monitoring will be required for those parameters during the term of the permit.

The RPA conducted for the Facility demonstrated reasonable potential (Endpoint 1) for discharges from the Facility to cause or contribute to exceedances of applicable water quality criteria for copper.

The following table summarizes the RPA for each priority pollutant that was reported in detectable concentrations in the effluent. The maximum effluent concentrations (MECs), most stringent water quality objectives (WQO), and background concentrations (B) used in the RPA are presented, along with the RPA results for each toxic pollutant analyzed. No other pollutants with applicable numeric water quality

criteria from the Ocean Plan were measured above detectable concentrations or analyzed for during the monitoring events conducted by the Permittee.

Attachment F-1 to this Order includes a summary of RPA results for all priority toxic pollutants with water quality criteria/objectives that are applicable to the Pacific Ocean.

Table F-10. Summary of Reasonable Potential Analysis Results

Table 1 Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Back-ground Conc. (µg/L) Cs ¹	Max Effluent Conc. (µg/L) Ce	Calculated Max Conc. (µg/L) ² X-obs	RPA Results, Comment
Objectives for Protection of Marine Aquatic Life							
Ammonia	600	1	0	0	42 DNQ	<0.86 ³	Endpoint 3 - RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Arsenic	8	1	0	3	1.01	3.0	Endpoint 3 - RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chromium (VI)	2	35	5	0	6.44	0.039 ⁴	Endpoint 2 - An effluent limitation is not required for the pollutant. Monitoring may be required as appropriate.
Copper	3	102	0	2	3,630	33	Endpoint 1 - An effluent limitation must be developed for the pollutant. Monitoring is required.
Total Residual Chlorine	2	1	0	0	0.4	0.0034	Endpoint 3 - RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Lead	2	1	0	0	0.11 DNQ	<0.0086 ³	Endpoint 3 - RPA is inconclusive. Less than 3 detects or greater than 80% ND.

Table 1 Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Back-ground Conc. (µg/L) Cs ¹	Max Effluent Conc. (µg/L) Ce	Calculated Max Conc. (µg/L) ² X-obs	RPA Results, Comment
Nickel	5	1	0	0	1.61	0.014	Endpoint 3 - RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Selenium	15	1	0	0	0.233 DNQ	<0.0086 ³	Endpoint 3 - RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Zinc	20	52	0	8	71.9	8	Endpoint 2 - An effluent limitation is not required for the pollutant. Monitoring may be required as appropriate.
Objectives for Protection of Human Health – Noncarcinogens							
Antimony	1,200	1	0	0	0.527 DNQ	<0.0086 ³	Endpoint 3 - RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chromium (III)	190,000	18	2	0	5.1	0.050 ⁴	Endpoint 2 - An effluent limitation is not required for the pollutant. Monitoring may be required as appropriate.
Objectives for Protection of Human Health – Carcinogens							
Bis(2-Ethylhexyl) Phthalate	3.5	1	0	0	14	0.12	Endpoint 3 - RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chloroform	130	1	0	0	4	0.035	Endpoint 3 - RPA is inconclusive. Less than 3 detects or greater than 80% ND.

Table 1 Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Back-ground Conc. (µg/L) Cs ¹	Max Effluent Conc. (µg/L) Ce	Calculated Max Conc. (µg/L) ² X-obs	RPA Results, Comment
Chlorodibromomethane	8.6	1	0	0	0.059 DNQ	<0.0086 ³	Endpoint 3 - RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Dichlorobromomethane	6.2	1	0	0	1.7	0.015	Endpoint 3 - RPA is inconclusive. Less than 3 detects or greater than 80% ND.
TCDD Equivalents ⁵	3.9x10 ⁻⁹	1	0	0	8.4x10 ⁶ DNQ	<5.9x10 ⁻⁷ ⁽³⁾	Endpoint 3 - RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Acute Toxicity	1 TUa	7	0	0	0.41	0.033	Endpoint 2 - An effluent limitation is not required for the pollutant. Monitoring may be required as appropriate.
Chronic Toxicity	1 TUC	25	0	0	114.9	0.50 ⁴	Endpoint 2 - An effluent limitation is not required for the pollutant. Monitoring may be required as appropriate.

Table Notes:

1. Background (Cs) is zero (0) for all pollutants except those with background concentrations specified in Table 3 of the Ocean Plan.
2. Represents the maximum concentration after complete mixing, calculated according to Step 4 of Appendix VI of the Ocean Plan using the permitted dilution ratio (Dm) of 115 as follows: $X\text{-obs} = (Ce + Dm * Cs) / (Dm + 1)$, unless otherwise noted. The calculated maximum concentration is compared to the most stringent water quality objective to determine if effluent limitations are required. Effluent limitations are then calculated as described in Fact Sheet section IV.C.4, below.
3. In accordance with Appendix VI, step 4 of the Ocean Plan, for DNQ values Ce was replaced with <ML (minimum level).
4. Represents the one-sided, upper 95% confidence bound for the 95th percentile of the effluent distribution after complete mixing (i.e., the lognormal UCB) calculated per Step 9 of Appendix VI of the Ocean Plan. This was compared to the most stringent water quality objective in lieu of X-obs because 1) X-obs is less than the water quality objective (Step 5), 2) there are three or more detected observations (Step 6), and 3) the data consists entirely of detected values or the data is censored by 80% or less (Steps 7 and 8).
5. The sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as identified in Attachment A of this Order and Appendix I of the Ocean Plan under the TCDD Equivalents definition.

4. WQBEL Calculations

Based on results of the RPA, performed in accordance with methods of the Ocean Plan for discharges to the Pacific Ocean, the Regional Water Board is establishing WQBELs for copper at Discharge Point 001.

As described by Section III.C of the Ocean Plan, effluent limits for Table 1 pollutants are calculated according to the following equation.

$$C_e = C_o + D_m (C_o - C_s)$$

Where ...

C_e = the effluent limitation ($\mu\text{g/L}$)

C_o = the concentration (the water quality objective) to be met at the completion of initial dilution ($\mu\text{g/L}$)

C_s = background seawater concentration ($\mu\text{g/L}$)

D_m = minimum probable initial dilution expressed as parts seawater per part wastewater (here, $D_m = 115$)

For the Facility, the D_m of 115 is retained from Order No. R1-2012-0027. Initial dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge. In accordance with Table 1 implementing procedures, C_s equals zero for all parameters, except the following:

Table F-11. Background Seawater Concentrations – Ocean Plan

Pollutant	Background Seawater Concentration ($\mu\text{g/L}$)
Arsenic	3
Copper	2
Mercury	0.0005
Silver	0.16
Zinc	8

Applicable water quality objectives from Table 1 of the Ocean Plan are as follows.

Table F-12. Water Quality Objectives – Ocean Plan

Pollutant	Units	6-Month Median	Daily Maximum	Instantaneous Maximum	30-Day Average
Copper	$\mu\text{g/L}$	3	12	30	--

Using the equation, $C_e = C_o + D_m (C_o - C_s)$, effluent limitations are calculated as follows. Here, D_m is equal to 115 for each effluent limitation calculation. The effluent limitations established in this Order have been rounded to two significant figures.

Copper

$$C_e = 3 + 115 (3 - 2) = 120 \mu\text{g/L (6-Month Median)}$$

$$C_e = 12 + 115 (12 - 2) = 1,200 \mu\text{g/L (Daily Maximum)}$$

$$C_e = 30 + 115 (30 - 2) = 3,300 \mu\text{g/L (Instantaneous Maximum)}$$

The Ocean Plan requires development of concentration and mass-based WQBELs, because there is reasonable potential for copper to cause or contribute to exceedances of applicable water quality criteria. As described by Section III.C of the Ocean Plan, mass-based effluent limits for Table 1 pollutants are calculated according to the following equation.

$$\text{lbs/day} = 0.00834 \times C_e \times Q$$

Where

C_e = the effluent limitation ($\mu\text{g/L}$)

Q = the flow rate in million gallons per day (mgd)

0.00834 = the conversion factor

Using the equation, $\text{lbs/day} = 0.00834 \times C_e \times Q$ mass-based effluent limitations are calculated as follows, using the highest six-month median flow of 0.130. The mass-based effluent limitations established in this Order have been rounded to two significant figures.

Copper

$$120 \times 0.00834 \times 0.130 = 0.13 \text{ lbs/day (6-Month Median)}$$

$$1,200 \times 0.00834 \times 0.186 = 1.9 \text{ lbs/day (Daily Maximum)}$$

$$3,300 \times 0.00834 \times 0.634 = 17 \text{ lbs/day (Instantaneous Maximum)}$$

5. Whole Effluent Toxicity (WET)

Monitoring triggers for chronic toxicity protect the receiving water from the aggregate effect of a mixture of pollutants that may be present in effluent. There are two types of WET tests – acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic test is conducted over a longer period of time and may measure mortality, reproduction, and/or growth.

WET requirements are derived from the CWA and the Basin Plan. The Basin Plan establishes a narrative water quality objective for toxicity that states “*All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, or aquatic life.*” Detrimental responses may include, but are not limited to, decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alterations in population, community ecology, or receiving water biota. For compliance with the Basin Plan’s narrative toxicity objective, this Order requires the Permittee to conduct WET testing for chronic toxicity, as specified in the MRP (Attachment E, section IV).

Order No. R1-2012-0027 contained effluent limitations for acute toxicity based on the numeric water quality criteria from the Ocean Plan. As shown in Table F-10, the RPA conducted for the Facility was inconclusive (Endpoint 3) for acute toxicity. For RPA results of Endpoint 3, Appendix VI of the Ocean Plan specifies that existing effluent limitations for the pollutant shall remain in the permit. However, the Ocean Plan, Appendix VI, also states, “*The Regional Water Board may use an alternative approach for assessing reasonable potential such as an appropriate stochastic dilution model that incorporates both ambient and effluent variability. The permit fact sheet or statement of basis will document the justification or basis for the conclusions of the reasonable potential assessment.*” For ocean waste discharges with minimum initial dilution factors ranging from 100:1 to 350:1 the Ocean Plan

does not require Acute toxicity testing but states that the Regional Water Board may require additional acute toxicity testing as necessary for the protection of beneficial uses of ocean waters. Additionally, acute toxicity testing results, obtained during the term of Order No. R1-2012-0027, demonstrated that the lowest percent survival observed over seven sampling events was 95% or 0.41 TUa. Based on the alternative approach for assessing reasonable potential, and taking into consideration requirements of the Ocean Plan and the acute toxicity monitoring data, the Regional Water Board concludes that acute toxicity does not exhibit reasonable potential to cause or contribute to an exceedance of the Ocean Plan water quality objectives. The effluent limitation and monitoring requirement for acute toxicity has been removed from this Order. Removal of the effluent limitation and monitoring requirement for acute toxicity is consistent with the requirements of the Ocean Plan.

The Permittee conducted chronic toxicity testing using *Macrocystis pyrifera*, *Mytilus galloprovincialis*, and *Menidia beryllina*. The following table summarizes the chronic toxicity testing results collected between October 2012 and June 2016.

Table F-13. Summary of Chronic Toxicity Results (TUc)

Date	<i>Macrocystis pyrifera</i>		<i>Mytilus galloprovincialis</i>	<i>Menidia beryllina</i>	
	Germination (TUc)	Germ-Tube Length (TUc)	Larval Development (TUc)	Survival (TUc)	Growth (TUc)
October 11, 2012	114.9	29.4	29.4	29.4	29.4
November 13, 2012	--	--	--	29.4	29.4
March 5, 2013	--	--	--	29.4	29.4
June 4, 2013	--	--	--	29.4	29.4
October 31, 2013	--	--	--	29.4	29.4
November 19, 2013	--	--	--	29.4	29.4
May 13, 2014	--	--	--	29.4	29.4
December 4, 2014	--	--	--	29.4	29.4
June 25, 2015	--	--	--	29.4	29.4
December 8, 2015	--	--	--	29.4	29.4
June 14, 2016	--	--	--	29.4	29.4

The Ocean Plan contains toxicity testing requirements based on minimum initial dilution (Dm) factors in section III.C.4.c. Following the implementation procedures of the Ocean Plan, dischargers with Dm factors ranging from 100:1 to 350:1 are required to conduct chronic toxicity testing, and may be required to conduct acute toxicity testing. This Order allows for a Dm of 115 for the chronic condition. As shown in Table F-10 of this Fact Sheet, the analysis conducted for the Facility demonstrated no reasonable potential (Endpoint 2) for discharges to cause or contribute to exceedances of applicable water quality criteria for chronic toxicity. For RPA results of Endpoint 2, the Ocean Plan specifies that effluent limitations and effluent monitoring for the pollutant are not required, but that the Regional Board may require occasional monitoring for the pollutant or for whole effluent toxicity, as appropriate, to determine if the discharge has reasonable potential to cause or contribute to an exceedance of the Ocean Plan objective. Additionally, as discussed further below, the discharge does not exhibit reasonable potential to cause or contribute to an exceedance of the water quality objective for chronic toxicity based on the Test of Significant Toxicity (TST) approach in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010). Therefore, this Order does not contain WET limitations. Order No. R1-2012-0027 required semi-annual chronic toxicity

testing. Based on monitoring data demonstrating that the discharge does not exhibit reasonable potential for chronic toxicity and in accordance with the Ocean Plan (section III.C, Implementation Provisions for Table 1), this Order reduces the frequency of chronic toxicity monitoring requirements from semi-annually to annually for the discharge at Discharge Point 001.

Test of Significant Toxicity

The Ocean Plan establishes a daily maximum chronic toxicity objective of $1.0 \text{ TUc} = 100/\text{NOEC}$, using a five-concentration hypothesis test, and a daily maximum acute toxicity objective of $0.3 \text{ TUa} = 100/\text{LC50}$, using a point estimate model. In 2010, U.S. EPA endorsed the peer-reviewed Test of Significant Toxicity (TST) two-concentration hypothesis testing approach in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010) as an improved hypothesis-testing tool to evaluate data from U.S. EPA's toxicity test methods. The TST hypothesis testing approach more reliably identifies toxicity—in relation to the chronic (0.25 or more) and acute (0.20 or more) mean responses of regulatory management concern—than the current NOEC hypothesis-testing approach used in the Ocean Plan.

This Order does not include effluent limitations for toxicity based on the TST approach. However, this Order does require the Permittee to monitor and report results in a manner that will allow the Regional Water Board to conduct an RPA in accordance with the TST approach at the time of the next permit renewal.

The State Water Board is developing a toxicity amendment to the Water Quality Control Plan for Enclosed Bays and Estuaries of California that will standardize the regulation of aquatic toxicity for all non-oceanic surface waters. U.S. EPA's TST approach is an essential component of this draft toxicity amendment as it forms the basis for utilizing numeric water quality objectives and acts as the primary means of determining compliance with the proposed effluent limitations.

In a letter dated February 12, 2014, the State Water Board submitted an alternative test process (ATP) request to U.S. EPA Region 9 for the statewide use of a two-concentration toxicity test design when using the TST approach. This two-concentration test design is composed of a single effluent concentration and a control concentration. U.S. EPA approved the ATP request on March 17, 2014. In June 2014, the approval was challenged in court on procedural grounds under the Administrative Procedures Act by the Southern California Alliance of Publicly Owned Treatment Works (SCAP) and the Central Valley Clean Water Association (CVCWA). The U.S. EPA withdrew the approval and notified State Water Board in a memo dated February 11, 2015.

It is important to note that U.S. EPA's rescission of its approval of the ATP is not based on the substantive TST statistical analysis or the scientific validity of a two-concentration test design. The withdrawal letter also states that currently there is a proposed rulemaking to change the language in the ATP regulations at 40 C.F.R. part 136.

The benefits of requiring the TST in new or amended permits include improving the statistical power of the toxicity test, and simplifying the analysis as compared to the traditional hypothesis statistical approaches or point estimates. The calculations are straightforward and provide a clear pass/fail result. With the withdrawal of the two-concentration test design approval, an NPDES permit can still require the TST for statistical

analyses. If the two-concentration test design is approved at a future date, the MRP may be modified to remove the need for a five-concentration test. Toxicity tests shall be run using a multi-concentration test design in accordance with 40 C.F.R. section 136.3, and the TST shall be utilized with the biological responses from the permitted in-stream waste concentration (IWC) and the control (effluent concentration of zero). However, even with only two of the five concentration biological responses being used, cost savings in the form of time and effort are still realized for the statistical analysis and data interpretation carried out by the Permittee, lab, and permit manager. This Order requires application of the TST for statistical analysis of whole effluent toxicity data.

Test of Significant Toxicity Design

The TST’s null hypothesis for chronic toxicity is:

H_0 : Mean response (In-stream Waste Concentration (IWC) in % effluent) \leq 0.75 mean response (control)

Results are analyzed using the TST approach and an acceptable level of chronic toxicity is demonstrated by rejecting the null hypothesis and reporting “Pass” or “P”.

The chronic IWC (in % effluent) for Discharge Point 001 is 0.87%¹. The chronic toxicity trigger for Discharge Point 001 is expressed as a null hypothesis (H_0) and regulatory management decision (b value) of 0.75 for the chronic toxicity methods in the MRP. The null hypothesis for this discharge is:

H_0 : Mean response (0.87% effluent) \leq 0.75 mean response (control)

The Permittee conducted chronic toxicity testing at the IWC of 0.87% during the term of Order No. R1-2012-0027. As shown in the following table, all chronic toxicity tests collected between October 2012 and June 2016 resulted in “Pass” at the IWC of 0.87%, indicating that the discharge does not exhibit reasonable potential to cause or contribute to an exceedance of water quality objectives for chronic toxicity using the TST approach. Therefore, this Order does not include an effluent limitation for chronic toxicity.

Table F-14. Summary of Chronic Toxicity Results (TST Approach)

Date	<i>Macrocystis pyrifera</i>		<i>Mytilus galloprovincialis</i>	<i>Menidia beryllina</i>		
	Germination	Germ-Tube Length	Larval Development	Germination	Survival	Growth
October 11, 2012	Pass	Pass	Pass	Pass	Pass	Pass
November 13, 2012	--	--	--	--	Pass	Pass
March 5, 2013	--	--	--	--	Pass	Pass
June 4, 2013	--	--	--	--	Pass	Pass
October 31, 2013	--	--	--	--	Pass	Pass
November 19, 2013	--	--	--	--	Pass	Pass
May 13, 2014	--	--	--	--	Pass	Pass
December 4, 2014	--	--	--	--	Pass	Pass
June 25, 2015	--	--	--	--	Pass	Pass
December 8, 2015	--	--	--	--	Pass	Pass

¹ The IWC was calculated as follows, using the dilution of 115:
 $1/115 \times 100 = 0.87\%$

Date	<i>Macrocystis pyrifera</i>		<i>Mytilus galloprovincialis</i>	<i>Menidia beryllina</i>		
	Germination	Germ-Tube Length	Larval Development	Germination	Survival	Growth
June 14, 2016	--	--	--	--	Pass	Pass

This Order requires annual monitoring for chronic toxicity. Results shall be analyzed using the TST hypothesis testing approach in section IV.A.6.a of the MRP. Compliance with this chronic toxicity limitation is demonstrated by rejecting the null hypothesis and reporting “Pass” or “P”.

When the chronic toxicity test results in a “Fail” or “F,” the Permittee must initiate accelerated monitoring as specified in the MRP (Attachment E, section IV). After accelerated monitoring, if conditions of chronic toxicity are found to persist, the Permittee will be required to conduct a TRE, as described by the MRP.

Notification requirements for chronic WET testing include a 72-hour verbal notification requirement and a 14 day written report requirement, if test results indicate toxicity. The 14 day written notification is established in the U.S. EPA WET Guidance documents cited in the MRP. The 72-hour verbal notification requirement is being added to provide the Regional Water Board with knowledge of the toxicity in advance of the written report. The 72-hour requirement is intended to give the Permittee sufficient time to make a telephone call to Regional Water Board staff and accounts for non-working days (e.g., weekends). Verbal notification of WET test exceedances may be left by voice mail if the Regional Water Board staff person is not immediately available by telephone.

This Order retains the requirement for the Permittee to conduct a screening test using at least one vertebrate, invertebrate, and plant species. After the screening test is completed, monitoring can be reduced to the most sensitive species.

Chronic WET limitations will be established if future monitoring results demonstrate that discharges from the Facility are causing or contributing to chronic toxicity in the receiving water.

D. Final Effluent Limitation Considerations

1. Anti-Backsliding Requirements

Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as the effluent limitations in Order No. R1-2012-0027, except for acute and chronic toxicity.

Order No. R1-2012-0027 established final effluent limitations for chronic toxicity. As shown in Table F-10 of this Fact Sheet, effluent data indicates that the discharge no longer demonstrates reasonable potential to cause or contribute to an exceedance of the water quality objective for chronic toxicity. The updated effluent data for chronic toxicity constitutes new information, which permits the removal of effluent limitations consistent with CWA section 402(o)(2)(B). Therefore, the Order does not retain the effluent limitations for chronic toxicity.

Order No. R1-2012-0027 established final effluent limitations for acute toxicity. As discussed in section IV.C.5 of this Fact Sheet, acute toxicity testing results obtained during the term of Order No. R1-2012-0027 demonstrate that the lowest percent survival observed over seven sampling events was 95%, and there is no significant acute toxicity in the effluent. The updated effluent data for acute toxicity constitutes new information, which permits the removal of effluent limitations consistent with CWA section 402(o)(2)(B). Therefore, the Order does not retain the effluent limitations for acute toxicity.

2. Antidegradation Policies

This Order is consistent with applicable federal and state antidegradation policies, as it does not authorize the discharge of increased concentrations of pollutants or increased volumes of treated wastewater beyond that which was permitted to discharge in accordance with Order No. R1-2012-0027.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on free available chlorine, total recoverable chromium, total recoverable zinc, TSS, oil and grease, and the remaining priority pollutants (as defined in 40 C.F.R. part 423) based on BPJ. Restrictions on these pollutants are discussed in section IV.B of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

WQBELs have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. Most beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by U.S. EPA prior to May 30, 2000. Any water quality objectives and beneficial uses 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). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

The Regional Water Board has considered the factors in Water Code section 13263, including the provisions of Water Code section 13241, in establishing these requirements.

E. Interim Effluent Limitations – Not Applicable

This Order does not establish interim effluent limitations or schedules for compliance with final limitations.

F. Land Discharge Specifications and Requirements – Not Applicable

This Order does not authorize discharges to land.

G. Recycling Specifications – Not Applicable

This Order does not authorize discharges of recycled water.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

CWA section 303(a-c) requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The State Water Board adopted water quality criteria as water quality objectives in the Ocean Plan. Receiving water limitations within this Order reflect all applicable, general water quality objectives of the Ocean Plan.

The Ocean Plan includes numeric and narrative water quality objectives for various beneficial uses. This Order contains receiving water limitations for discharges to the Pacific Ocean based on the Ocean Plan numerical and narrative water quality objectives for bacteria, dissolved oxygen, floating particulates, oil and grease, pH, discoloration, natural lighting, deposition of solids, dissolved sulfides, organic materials in sediments, Table 1 parameters, nutrient materials, radioactive wastes, and biological characteristics.

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

1. Federal Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are provided in Attachment D to the Order. The Permittee must comply with all standard provisions and with those additional conditions that are applicable under 40 C.F.R. section 122.42. The rationale for the special conditions contained in the Order is provided in section VI.B, below.

Sections 122.41(a)(1) and (b) through (n) of 40 C.F.R. establish conditions that apply to all state-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 C.F.R. section 123.25, 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 enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

2. Regional Water Board Standard Provisions

In addition to the Federal Standard Provisions (Attachment D), the Permittee shall comply with the Regional Water Board Standard Provisions provided in Standard Provisions VI.A.2 of the Order.

- a.** Order Provision VI.A.2.a identifies the state's enforcement authority under the Water Code, which is more stringent than the enforcement authority specified in the federal regulations (e.g., 40 C.F.R. sections 122.41(j)(5) and (k)(2)).
- b.** Order Provision VI.A.2.b requires the Permittee to notify Regional Water Board staff, orally and in writing, in the event that the Permittee does not comply or will be unable to comply with any Order requirement. This provision requires the Permittee to make direct contact with a Regional Water Board staff person.

B. Special Provisions

1. Reopener Provisions

- a. Standard Revisions (Special Provision VI.C.1.a).** Conditions that necessitate a major modification of a permit are described in 40 C.F.R. section 122.62, which include the following:
 - i.** When standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision. Therefore, if revisions of applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such revised standards.
 - ii.** When new information that was not available at the time of permit issuance would have justified different permit conditions at the time of issuance.
- b. Reasonable Potential (Special Provision VI.C.1.b).** This provision allows the Regional Water Board to modify, or revoke and reissue, this Order if present or future investigations demonstrate that the Permittee governed by this Permit is causing or contributing to excursions above any applicable priority pollutant criterion or objective, or adversely impacting water quality and/or the beneficial uses of receiving waters.
- c. Whole Effluent Toxicity (Special Provision VI.C.1.c).** This Order requires the Permittee to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity through a TRE. This Order may be reopened to include a numeric acute and/or chronic toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE.
- d. 303(d)-Listed Pollutants (Special Provision VI.C.1.d).** This provision allows the Regional Water Board to reopen this Order to modify existing effluent limitations or add effluent limitations for pollutants that are subject of any future TMDL action.

2. Special Studies and Additional Monitoring Requirements

- a. Climate Change Readiness Study Plan (Special Provision VI.C.2.a).** Extreme weather events, sea level rise, shifting precipitation patterns and temperature variability, all intensified by climate change, have significant implications for wastewater treatment and operations. In order to ensure that Facility operations are not disrupted, compliance with conditions of this Order are achieved, and receiving waters are not adversely impacted by permitted and unpermitted discharges, this Order requires the Permittee to submit a Climate Change Readiness Study Plan.

3. Best Management Practices and Pollution Prevention

- a. Pollutant Minimization Program (Special Provision VI.C.3.a).** This provision is included in this Order pursuant to section III.C.9 of the Ocean Plan. The Regional Water Board includes standard provisions in all NPDES permits requiring development of a Pollutant Minimization Program when there is evidence that a toxic pollutant is present in the effluent at a concentration greater than an applicable effluent limitation.

4. Construction, Operation, and Maintenance Specifications

a. Operation and Maintenance (Special Provision VI.C.4.a and VI.C.4.b).

40 C.F.R. section 122.41(e) requires proper operation and maintenance of permitted wastewater systems and related facilities to achieve compliance with permit conditions. An up-to-date operation and maintenance manual, as required by Provision VI.C.4.b of this Order, is an integral part of a well-operated and maintained facility.

5. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable

6. Other Special Provisions

a. Storm Water (Special Provision VI.C.6.a). This provision requires the Permittee, if applicable, to obtain coverage under the State Water Board’s Water Quality Order No. 2014-0057-DWQ, NPDES General Permit No. CAS000001, General Permit for Storm Water Discharges Associated with Industrial Activities (or subsequent renewed versions of the NPDES General Permit CAS000001). Currently, the Facility maintains an approved notice of non-applicability and is exempted from these requirements because all storm water is captured in a percolation/retention basin.

b. Solids Disposal and Handling (Special Provision VI.C.6.b). The Regional Water Board issued a Monitoring and Reporting Program (MRP) (Order No. R1-2013-0047) in 2013 and revised it in August 2016, to allow reuse of fly and bottom ash as a soil amendment. This Order requires compliance with the Executive Officer approved *DG Fairhaven Power LLC (DGF) Best Management Practices for Reuse of Wood Fly Ash as a Soil Amendment* and *DG Fairhaven Power LLC (DGF) Best Management Practices (BMP) for Reuse of Wood Bottom Ash to Amend Soil in High-Trafficked Livestock Agricultural Areas* (collectively BMPs), and the MRP for *DG Fairhaven Power LLC, Bottom and Fly Ash Reuse as a Soil Amendments* (Order No. R1-2013-0047).

7. Compliance Schedules – Not Applicable

This Order does not establish interim effluent limitations or schedules of compliance for final numeric effluent limitations.

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 of 40 C.F.R. requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code section 13383 authorizes the Regional Water Board to require technical and monitoring reports. The MRP, Attachment E, establishes monitoring and reporting requirements that implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this Facility.

A. Influent Monitoring – Not Applicable

This Order does not require influent monitoring.

B. Effluent Monitoring

1. Effluent monitoring requirements are necessary to determine compliance with prohibitions and/or effluent limitations established by the Order. Monitoring at Monitoring Locations EFF-001, EFF-010, and EFF-020 is necessary to demonstrate compliance with effluent limitations and demonstrate whether or not the discharge poses reasonable potential for a

pollutant to exceed any numeric or narrative water quality objectives for discharges to the Pacific Ocean.

a. Monitoring Location EFF-001

- i. Effluent monitoring requirements for flow, copper, chromium, zinc, pH, and Ocean Plan Table 1 pollutants have been retained from Order No. R1-2012-0027.
- ii. Effluent monitoring requirements for temperature are established in this Order to characterize the temperature of the cooling water discharge.

b. Monitoring Location EFF-010

- i. Low volume waste monitoring requirements for flow and pH have been retained from Order No. R1-2012-0027.
- ii. Low volume waste monitoring data demonstrated at least six consecutive monitoring results for TSS and oil and grease in compliance with respective limitations. Consistent with recommendations in Order No. R1-2012-0027, effluent monitoring requirements for TSS and oil and grease have been reduced from monthly to quarterly.

c. Monitoring Location EFF-020

- i. Cooling tower blowdown monitoring requirements for flow, free available chlorine, total residual chlorine, pH, zinc, and priority pollutants have been retained from Order No. R1-2012-0027.
- ii. Cooling tower blowdown monitoring data demonstrated at least six consecutive monitoring results for total recoverable chromium in compliance with the applicable limitation. Consistent with recommendations in Order No. R1-2012-0027, effluent monitoring requirements for total recoverable chromium have been reduced from monthly to quarterly.
- iii. Cooling tower blowdown monitoring for TSS and Oil and Grease are established in this Order, to characterize the effects of diverting screw and bearing cooling process water from the low-volume waste stream to the cooling towers.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) monitoring requirements for discharges to the Pacific Ocean from Discharge Point 001 at Monitoring Location EFF-001 and are included in the Order to protect the receiving water quality from the aggregate effect of a mixture of pollutants in the effluent. Acute toxicity testing measures mortality in 100 percent effluent over a short test period and chronic toxicity testing is conducted over a longer time period and may measure mortality, reproduction, and/or growth. The Ocean Plan (section III.C.4.c.(3)) requires chronic testing where the minimum initial dilution of the effluent is between 100:1 and 350:1, and allows for the Regional Water Board to require additional acute testing as necessary to protect beneficial uses of Ocean waters. Because this Order allows for a Dm of 115 for the Facility, and because the RPA for acute toxicity was inconclusive, but the lowest percent survival was 95%, acute toxicity monitoring is discontinued in this Order, and WET monitoring shall consist of chronic toxicity testing. This Order includes monitoring requirements for chronic toxicity to assess whether there is reasonable potential to exceed the Ocean Plan's narrative water quality objectives for toxicity.

Consistent with Appendix III of the Ocean Plan, this Order requires annual chronic toxicity testing.

In addition to routine toxicity monitoring, this Order requires the Permittee to maintain and update its TRE Work Plan, in accordance with appropriate U.S. EPA guidance to ensure that the Permittee has a plan to immediately move forward with the initial tiers of a TRE in the event effluent toxicity is encountered in the future. The TRE is initiated by evidence of a pattern of toxicity demonstrated through the additional effluent monitoring provided as a result of an accelerated monitoring program.

D. Land Discharge Monitoring Requirement – Not Applicable

This Order does not authorize discharges to land.

E. Recycling Monitoring Requirements – Not Applicable

This Order does not authorize discharges of recycled water.

F. Receiving Water Monitoring

1. Surface Water Discharge Monitoring Requirements – Not Applicable

This Order does not require surface water monitoring at this time.

2. Groundwater Discharge Monitoring Requirements – Not Applicable

This Order does not require groundwater monitoring at this time.

G. Other Monitoring Requirements

1. Discharge Monitoring Report Quality Assurance (DMR-QA) Study Program

Under the authority of section 308 of the CWA (33 U.S.C. § 1318), U.S. EPA requires permittees under the NPDES Program to participate in the annual DMR-QA Study Program. The DMR-QA Study evaluates the analytical ability of laboratories that routinely perform or support self-monitoring analyses required by NPDES permits. There are two options to satisfy the requirements of the DMR-QA Study Program: (1) The Permittee can obtain and analyze a DMR-QA sample as part of the DMR-QA Study; or (2) Per the waiver issued by U.S. EPA to the State Water Board, the Permittee can submit the results of the most recent Water Pollution Performance Evaluation Study from its own laboratories or its contract laboratories. A Water Pollution Performance Evaluation Study is similar to the DMR-QA Study. Thus, it also evaluates a laboratory's ability to analyze wastewater samples to produce quality data that ensure the integrity of the NPDES Program. The Permittee shall ensure that the results of the DMR-QA Study or the results of the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Board. The State Water Board's Quality Assurance Program Officer will send the DMR-QA Study results or the results of the most recent Water Pollution Performance Evaluation Study to U.S. EPA's DMR-QA Coordinator and Quality Assurance Manager.

2. Accelerated Monitoring Requirements. Tables E-5, E-6, and E-7 include accelerated monitoring requirements for parameters that are required to be monitored monthly, quarterly, and annually.

H. Reporting Requirements

The reporting frequency has been changed from monthly to quarterly for routine effluent monitoring. The Permittee is still required to perform monitoring at the frequencies specified in the MRP, but will submit reports quarterly. The reduced reporting frequency is intended to improve reporting efficiency. Although Regional Water Board staff will receive monitoring reports less frequently, the Order retains the requirement for the Permittee to notify Regional Water Board staff within 24-hours any non-compliance issues that may result in a significant threat to human health or the environment.

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, North Coast Region (Regional Water Board) has considered the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for DG Fairhaven Power, LLC, Fairhaven Power Facility. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs and has encouraged public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board notified the Permittee and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through the following posting on the Regional Water Board's Internet site at: https://www.waterboards.ca.gov/northcoast/board_decisions/tentative_orders/ and through publication in the **Santa Rosa Press Democrat and the Eureka Times Standard** on **February 7, 2018**.

B. Written Comments

Interested persons were invited to submit written comments concerning these tentative WDRs as provided through the notification process. Comments were due to the Regional Water Board Executive Office electronically via e-mail to NorthCoast@waterboards.ca.gov or on disk (CD or DVD) in Portable Document Format (PDF) file in lieu of paper-sourced documents. The guidelines for electronic submittal of documents can be found on the Regional Water Board website at <https://www.waterboards.ca.gov/northcoast/>.

To be fully responded to by staff and considered by the Regional Water Board, the written comments were due at the Regional Water Board office by 5:00 p.m. on **March 7, 2018**.

C. Public Hearing

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

Date: July 11, 2018
Time: 8:30 a.m. or as announced in the Regional Water Board's agenda
Location: Regional Water Quality Control Board
5550 Skylane Blvd. Suite A
Santa Rosa, California

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 in writing.

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

D. Waste Discharge Requirements Petitions

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

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

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

E. Information and Copying

The Report of Waste Discharge (ROWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address identified in section VIII.C, above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (707) 576-2220.

F. Register of Interested Persons

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

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Justin McSmith at Justin.McSmith@waterboards.ca.gov or (707) 576-2082.

Attachment F-1 – DG Fairhaven Power, LLC, Fairhaven Power Facility RPA Summary

Pollutant	Qualifier	Value	Unit	No. ND	MEC	Co	B	Endpoint
Arsenic		1.01	µg/L	0	1.01	8	3	3
Cadmium	ND	0.128	µg/L	1	<0.128	1	0	3
Chromium (III)	DNQ	2.7	µg/L	1	5.1	190,000	0	2
Chromium (III)		2.2	µg/L					
Chromium (III)		2.59	µg/L					
Chromium (III)		1.47	µg/L					
Chromium (III)		1.59	µg/L					
Chromium (III)		1.55	µg/L					
Chromium (III)		1.14	µg/L					
Chromium (III)		1.63	µg/L					
Chromium (III)		1.85	µg/L					
Chromium (III)		2.63	µg/L					
Chromium (III)		3.06	µg/L					
Chromium (III)		1.3	µg/L					
Chromium (III)		3.56	µg/L					
Chromium (III)		5.1	µg/L					
Chromium (III)		1.55	µg/L					
Chromium (III)		1.22	µg/L					
Chromium (III)		1.19	µg/L					
Chromium (III)	ND	5	µg/L					
Chromium (VI)		1.25	µg/L	1	6.44	2	0	2
Chromium (VI)		1.17	µg/L					
Chromium (VI)		1.56	µg/L					
Chromium (VI)		1.39	µg/L					
Chromium (VI)		1.64	µg/L					
Chromium (VI)		1.84	µg/L					

Pollutant	Qualifier	Value	Unit	No. ND	MEC	Co	B	Endpoint
Chromium (VI)		1.02	µg/L					
Chromium (VI)		1.36	µg/L					
Chromium (VI)		1.7	µg/L					
Chromium (VI)		1.51	µg/L					
Chromium (VI)		1.42	µg/L					
Chromium (VI)		1.17	µg/L					
Chromium (VI)		1.08	µg/L					
Chromium (VI)		1.08	µg/L					
Chromium (VI)		1.53	µg/L					
Chromium (VI)		1.04	µg/L					
Chromium (VI)		1.45	µg/L					
Chromium (VI)		1.78	µg/L					
Chromium (VI)		1.2	µg/L					
Chromium (VI)		2.38	µg/L					
Chromium (VI)		1.73	µg/L					
Chromium (VI)		1.57	µg/L					
Chromium (VI)		1.55	µg/L					
Chromium (VI)		1.53	µg/L					
Chromium (VI)	DNQ	0.581	µg/L					
Chromium (VI)	DNQ	0.626	µg/L					
Chromium (VI)	DNQ	0.494	µg/L					
Chromium (VI)	DNQ	0.455	µg/L					
Chromium (VI)	ND	1.5	µg/L					
Chromium (VI)		1.58	µg/L					
Chromium (VI)		1.47	µg/L					
Chromium (VI)		6.44	µg/L					
Chromium (VI)		1.89	µg/L					
Chromium (VI)		1.8	µg/L					
Chromium (VI)		1.67	µg/L					

Pollutant	Qualifier	Value	Unit	No. ND	MEC	Co	B	Endpoint
Copper		8.4	µg/L	0	3,630	3	2	1
Copper		58	µg/L					
Copper		12	µg/L					
Copper		16	µg/L					
Copper		6.89	µg/L					
Copper		361	µg/L					
Copper		17	µg/L					
Copper		37.5	µg/L					
Copper		18.6	µg/L					
Copper		42.3	µg/L					
Copper		23.5	µg/L					
Copper		803	µg/L					
Copper		16.7	µg/L					
Copper		98	µg/L					
Copper		14.2	µg/L					
Copper		45.7	µg/L					
Copper		11.6	µg/L					
Copper		48.9	µg/L					
Copper		13.4	µg/L					
Copper		508	µg/L					
Copper		18.5	µg/L					
Copper		163	µg/L					
Copper		18.3	µg/L					
Copper		155	µg/L					
Copper		75.7	µg/L					
Copper		432	µg/L					
Copper		20.1	µg/L					
Copper		3,630	µg/L					
Copper		30.9	µg/L					
Copper		273	µg/L					

Pollutant	Qualifier	Value	Unit	No. ND	MEC	Co	B	Endpoint
Copper		40.4	µg/L					
Copper		90.1	µg/L					
Copper		20.1	µg/L					
Copper		20.4	µg/L					
Copper		20	µg/L					
Copper		30.8	µg/L					
Copper		19	µg/L					
Copper		22.7	µg/L					
Copper		11.9	µg/L					
Copper		18.4	µg/L					
Copper		21.2	µg/L					
Copper		23.1	µg/L					
Copper		14.4	µg/L					
Copper		29.2	µg/L					
Copper		16.6	µg/L					
Copper		41.5	µg/L					
Copper		25.4	µg/L					
Copper		37.5	µg/L					
Copper		17.1	µg/L					
Copper		22.4	µg/L					
Copper		12.4	µg/L					
Copper		33.5	µg/L					
Copper		14.6	µg/L					
Copper		24.7	µg/L					
Copper		17.1	µg/L					
Copper		20.8	µg/L					
Copper		17.5	µg/L					
Copper		56.3	µg/L					
Copper		11.8	µg/L					
Copper		21.1	µg/L					

Pollutant	Qualifier	Value	Unit	No. ND	MEC	Co	B	Endpoint
Copper		11.5	µg/L					
Copper		24.3	µg/L					
Copper		10.8	µg/L					
Copper		20.7	µg/L					
Copper		12.1	µg/L					
Copper		25.9	µg/L					
Copper		19	µg/L					
Copper		22.8	µg/L					
Copper		9	µg/L					
Copper		10.5	µg/L					
Copper		20.5	µg/L					
Copper		25	µg/L					
Copper		28.4	µg/L					
Copper		1,430	µg/L					
Copper		19	µg/L					
Copper		30.8	µg/L					
Copper		14.7	µg/L					
Copper		14.2	µg/L					
Copper		14.9	µg/L					
Copper		10.6	µg/L					
Copper		11.2	µg/L					
Copper		8.32	µg/L					
Copper		12.6	µg/L					
Copper		9.75	µg/L					
Copper		20.9	µg/L					
Copper		6.42	µg/L					
Copper		8.32	µg/L					
Copper		7.17	µg/L					
Copper		7.68	µg/L					
Copper		13.9	µg/L					

Pollutant	Qualifier	Value	Unit	No. ND	MEC	Co	B	Endpoint
Copper		11.1	µg/L					
Copper		12.5	µg/L					
Copper		12.2	µg/L					
Copper		13.6	µg/L					
Copper		32.2	µg/L					
Copper		2,060	µg/L					
Copper		15.1	µg/L					
Copper		564	µg/L					
Copper		14.4	µg/L					
Copper		15.8	µg/L					
Copper		11.1	µg/L					
Copper		14.2	µg/L					
Lead	DNQ	0.11	µg/L	0	0.11	2	0	3
Mercury	ND	0.000321	µg/L	1	<0.000321	0.04	0.0005	3
Nickel		1.61	µg/L	0	1.61	5	0	3
Selenium	DNQ	0.233	µg/L	0	0.233	15	0	3
Silver	ND	0.111	µg/L	1	<0.111	0.7	0.16	3
Zinc		2.1	µg/L	0	1,890	20	8	1
Zinc		6.5	µg/L					
Zinc		8.87	µg/L					
Zinc		12	µg/L					
Zinc		17.7	µg/L					
Zinc		43.4	µg/L					
Zinc		16	µg/L					

Pollutant	Qualifier	Value	Unit	No. ND	MEC	Co	B	Endpoint
Zinc		19.4	µg/L					
Zinc		6.1	µg/L					
Zinc		60.4	µg/L					
Zinc		7.47	µg/L					
Zinc		5.9	µg/L					
Zinc		8.46	µg/L					
Zinc		1,890	µg/L					
Zinc		35.3	µg/L					
Zinc		19.6	µg/L					
Zinc		18.6	µg/L					
Zinc		5.34	µg/L					
Zinc		48.6	µg/L					
Zinc		21.4	µg/L					
Zinc		8.41	µg/L					
Zinc		11	µg/L					
Zinc		13	µg/L					
Zinc		10.4	µg/L					
Zinc		20.1	µg/L					
Zinc		17.4	µg/L					
Zinc		8.83	µg/L					
Zinc		6.02	µg/L					
Zinc		71.9	µg/L					
Zinc		15.2	µg/L					
Zinc		6.09	µg/L					
Zinc		30.3	µg/L					
Zinc		7.21	µg/L					
Zinc		6.95	µg/L					
Zinc		34	µg/L					
Zinc		17	µg/L					
Zinc		26.9	µg/L					

Pollutant	Qualifier	Value	Unit	No. ND	MEC	Co	B	Endpoint
Zinc		22	µg/L					
Zinc		16.5	µg/L					
Zinc		8.83	µg/L					
Zinc		15.2	µg/L					
Zinc		7.69	µg/L					
Zinc		16.5	µg/L					
Zinc		13.8	µg/L					
Zinc		39.9	µg/L					
Zinc	DNQ	4.73	µg/L					
Zinc		10.2	µg/L					
Zinc		4.78	µg/L					
Zinc		55.9	µg/L					
Zinc		8.61	µg/L					
Zinc		20	µg/L					
Zinc		13.6	µg/L					
Cyanide	ND	1.2	µg/L	1	<1.2	1	0	3
Total Chlorine Residual		0.4	µg/L	0	0.4	2	0	3
Ammonia Nitrogen, Total (as N)	DNQ	42	µg/L	0	42	600	0	3
Acute Toxicity ¹		0.41	TUa	0	0.41	1	0	3
Chronic Toxicity ²		114.9	TUc	0	114.9	1	0	2
Phenolic Compounds (non-chlorinated)	ND	0.74	µg/L	1	<0.74	30	0	3
Chlorinated phenolics	ND	0.5	µg/L	1	<0.5	1	0	3

Pollutant	Qualifier	Value	Unit	No. ND	MEC	Co	B	Endpoint
Endosulfan, Sum	ND	0.1	µg/L	1	<0.1	0.009	0	3
Endrin	ND	0.0019	µg/L	1	<0.0019	0.002	0	3
HCH, sum	ND	0.005	µg/L	1	<0.005	0.004	0	3
Acrolein	ND	0.71	µg/L	1	<0.71	220	0	3
Antimony	DNQ	0.527	µg/L	0	0.527	1,200	0	3
Bis(2-chloroethoxy)methane	ND	0.55	µg/L	1	<0.55	4.4	0	3
Bis(2-chloroisopropyl)ether	ND	0.5	µg/L	1	<0.5	1,200	0	3
Chlorobenzene	ND	0.2	µg/L	1	<0.2	570	0	3
Di-n-butyl phthalate	ND	0.73	µg/L	1	<0.73	3,500	0	3
Dichlorobenzenes, sum	ND	0.18	µg/L	1	<0.18	5,100	0	3
Diethyl Phthalate	ND	0.54	µg/L	1	<0.54	33,000	0	3
Dimethyl Phthalate	ND	1.1	µg/L	1	<1.1	820,000	0	3
4,6-Dinitro-2-methylphenol	ND	0.74	µg/L	1	<0.74	220	0	3
2,4-Dinitrophenol	ND	0.51	µg/L	1	<0.51	4	0	3
Ethylbenzene	ND	0.2	µg/L	1	<0.2	4,100	0	3

Pollutant	Qualifier	Value	Unit	No. ND	MEC	Co	B	Endpoint
Fluoranthene	ND	0.033	µg/L	1	<0.033	15	0	3
Hexachlorocyclopentadiene	ND	0.5	µg/L	1	<0.5	58	0	3
Nitrobenzene	ND	0.52	µg/L	1	<0.52	4.9	0	3
Thallium	ND	0.101	µg/L	1	<0.101	2	0	3
Toluene	ND	0.16	µg/L	1	<0.16	85,000	0	3
Tributyltin	ND	2.9	µg/L	1	<2.9	0.0014	0	3
1,1,1-Trichloroethane	ND	0.31	µg/L	1	<0.31	540,000	0	3
Acrylonitrile	ND	0.19	µg/L	1	<0.19	0.1	0	3
Aldrin	ND	0.0016	µg/L	1	<0.0016	0.000022	0	3
Benzene	ND	0.28	µg/L	1	<0.28	5.9	0	3
Benzidine	ND	0.5	µg/L	1	<0.5	0.000069	0	3
Beryllium	ND	0.29	µg/L	1	<0.29	0.033	0	3
Bis(2-chloroethyl)ether	ND	0.5	µg/L	1	<0.5	0.045	0	3
Bis(2-ethylhexyl) phthalate		14	µg/L	0	14	3.5	0	3
Carbon Tetrachloride	ND	0.44	µg/L	1	<0.44	0.9	0	3

Pollutant	Qualifier	Value	Unit	No. ND	MEC	Co	B	Endpoint
Chlordane	ND	0.034	µg/L	1	<0.034	0.000023	0	3
Chloroform		4	µg/L	0	4	130	0	3
DDT, Sum	ND	0.01	µg/L	1	<0.01	0.00017	0	3
Dibromochloromethane	DNQ	0.59	µg/L	0	0.59	8.6	0	3
1,4-Dichlorobenzene	ND	0.23	µg/L	1	<0.23	18	0	3
3,3'-Dichlorobenzidine	ND	0.5	µg/L	1	<0.5	0.0081	0	3
1,2-Dichloroethane	ND	0.32	µg/L	1	<0.32	28	0	3
1,1-Dichloroethylene	ND	0.33	µg/L	1	<0.33	0.9	0	3
Dichlorobromomethane		1.7	µg/L	0	1.7	6.2	0	3
Dichloromethane	ND	0.14	µg/L	1	<0.14	450	0	3
Dieldrin	ND	0.018	µg/L	1	<0.018	0.00004	0	3
2,4-Dinitrotoluene	ND	0.59	µg/L	1	<0.595	2.6	0	3
1,2-Diphenylhydrazine	ND	0.5	µg/L	1	<0.5	0.16	0	3
Halomethanes, sum	ND	0.15	µg/L	1	<0.15	130	0	3

Pollutant	Qualifier	Value	Unit	No. ND	MEC	Co	B	Endpoint
Heptachlor	ND	0.0018	µg/L	1	<0.0018	0.0005	0	3
Heptachlor epoxide	ND	0.0015	µg/L	1	<0.0015	0.00002	0	3
Hexachlorobenzene	ND	0.5	µg/L	1	<0.5	0.00021	0	3
Hexachlorobutadiene	ND	1	µg/L	1	<1	14	0	3
Hexachloroethane	ND	0.5	µg/L	1	<0.5	2.5	0	3
Isophorone	ND	0.55	µg/L	1	<0.55	730	0	3
N-Nitrosodimethylamine	ND	0.5	µg/L	1	<0.5	7.3	0	3
N-Nitrosodi-N-Propylamine	ND	0.5	µg/L	1	<0.5	0.38	0	3
N-Nitrosodiphenylamine	ND	0.71	µg/L	1	<0.71	2.5	0	3
PAHs, sum	ND	0.011	µg/L	1	<0.011	0.0088	0	3
PCBs, sum	ND	0.5	µg/L	1	<0.5	0.000019	0	3
TCDD Equivalents		8.42x10 ⁻⁶	µg/L	0	<8.42x10 ⁻⁶	3.9x10 ⁻⁹	0	3
1,1,2,2-Tetrachloroethane	ND	0.16	µg/L	1	<0.16	2.3	0	3
Tetrachloroethylene	ND	0.23	µg/L	1	<0.23	2	0	3
Toxaphene	ND	0.052	µg/L	1	<0.052	0.00021	0	3

Pollutant	Qualifier	Value	Unit	No. ND	MEC	Co	B	Endpoint
Trichloroethylene	ND	0.25	µg/L	1	<0.25	27	0	3
1,1,2-Trichloroethane	ND	0.21	µg/L	1	<0.21	9.4	0	3
2,4,6-Trichlorophenol	ND	0.71	µg/L	1	<0.71	0.29	0	3
Vinyl Chloride	ND	0.07	µg/L	1	<0.07	36	0	3

Table Notes:

1. Acute toxicity ranged from 0 TUa to 0.41 TUa in 7 acute toxicity tests conducted between October 2012 and June 2016. See section IV.C.5 of the Fact Sheet (Attachment F) for a full summary of the acute toxicity testing results and a discussion of the reasonable potential determination.
2. Chronic toxicity ranged from 29.4 TUC to 114.9 TUC in 25 chronic toxicity tests conducted between October 2012 and June 2016. See section IV.C.5 of the Fact Sheet (Attachment F) for a full summary of the chronic toxicity testing results and a discussion of the reasonable potential determination.