ORDER NO. R1-2012-0027
NPDES NO. CA0024571
WDID NO. 1B85026RHUM

WASTE DISCHARGE REQUIREMENTS
FOR DG FAIRHAVEN POWER, LLC
FAIRHAVEN POWER FACILITY
HUMBOLDT COUNTY

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

Table 1. Discharger Information

Discharger	DG Fairhaven Power, LLC
Name of Facility	Fairhaven Power Facility
Facility Address	97 Bay Street
	Samoa, CA 95564
	Humboldt County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a minor discharge	

The discharge by Fairhaven Power, LLC to the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	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).	40° 49' 10" N	124° 13' 32" W	Pacific Ocean

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
010	Low volume wastewater (screw and bearing cooling process water, boiler blowdown, demineralizer back flush, and reverse osmosis concentrate) prior to commingling with cooling tower blowdown.	40° 47' 57.2" N	124° 12' 10.9" W	Pacific Ocean
020	Cooling tower blowdown process wastewater prior to commingling with low volume wastewaters.	40° 47' 57.3" N	124° 12' 11.5" W	Pacific Ocean

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	**April 26, 2012**
This Order shall become effective on:	**July 1, 2012**
This Order shall expire on:	**June 30, 2017**
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	**June 30, 2016**

IT IS HEREBY ORDERED, that Order No. R1-2002-0076 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

I, Catherine Kuhlman, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, North Coast Region, on April 26, 2012.

_____

Catherine Kuhlman, Executive Officer

Table of Contents

List of Tables

List of Attachments

I. FACILITY INFORMATION

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

Table 4. Facility Information

Discharger	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
Mailing Address	Same as facility address
Type of Facility	Electrical Services (SIC Code 4911)
Facility Maximum Anticipated Discharge Flow	0.350 million gallons per day (MGD)
Facility Median Discharge Flow	0.146 million gallons per day (MGD)

II. FINDINGS

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

A. Background. DG Fairhaven Power, LLC (hereinafter Discharger) is the owner and operator of the Fairhaven Power Facility (hereinafter Facility) and is currently discharging pursuant to Order No. R1-2002-0076, Monitoring and Reporting Program (MRP) No. R1-2002-0076, and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0024571, which was adopted on August 22, 2002. The terms and conditions of the current Order have been automatically continued and remain in effect until a new Waste Discharge Requirements (WDRs) and NPDES permit is adopted pursuant to this Order.

The Discharger submitted a Report of Waste Discharge, dated March 17, 2010, and applied for an NPDES permit renewal to discharge process water from the 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 Discharger herein.

On September 22, 2005, the State Water Resources Control Board (State Water Board) approved the Discharger's Notice of Intent to Comply with the terms of the *General Permit to Discharge Storm Water Associated with Industrial Activity Excluding Construction Activity* (WQ Order No. 97-03-DWQ, hereinafter the General Industrial Storm Water Permit). All storm water discharges and associated monitoring will occur under the General Industrial Storm Water Permit

B. Facility Description. The Discharger 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. The Facility combusts wood waste to produce electricity using a steam-turbine power generation process. The Facility's power generation uses approximately 500,000 gallons of potable water per day sourced from the Humboldt Bay Municipal Water District. A large fraction of this water is lost to the atmosphere as steam and the remaining wastewater, approximately 145,000 gallons per day of process water, is discharged as effluent to the Pacific Ocean, a water of the United States.

Process water discharged under this Order consists of cooling tower blowdown, low volume wastes (including boiler water blowdown, screw and bearing cooling water, reverse osmosis concentrate, and demineralizer back-wash), and cooling tower cleaning wastes, an intermittent waste stream.

The process water is treated at various points in the power generation cycle before being discharged as effluent. A reverse osmosis unit and a demineralizer are used to reduce the total dissolved solids content in the boiler water. The demineralizer back-wash, boiler blowdown, and reverse osmosis permeate 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 prior to passing through an oil/water separator and being discharged. A schematic of the process water flows is provided in Attachment C to this Order.

The process water is discharged to the Pacific Ocean via the Freshwater Tissue outfall (Discharge Point 001). The outfall is a 48-inch diameter pipeline that terminates approximately 1.5 miles off-shore.

Other process wastes that are not discharged to the Ocean under this permit include bottom ash wash water, and metal and chemical metal cleaning wastes. Bottom ash is a by-product of the combustion process that is produced at an approximate rate of 151 tons per month. Bottom ash contains uncombusted wood chips, rocks, metals, ash, and other debris. To reduce the volume of bottom ash for disposal, the Discharger has proposed to process the bottom ash by utilizing a separator system that includes a screw conveyor submerged in a

hopper half-full of bottom ash and half-full of water, a magnetic conveyor, reclaimed wood skimmer, and separated product containers. By submerging the bottom ash in water within the hopper, the organics will float, allowing for easy separation. The Discharger has proposed to apply this bottom ash wash water to the incoming fuel immediately prior to combustion. Metal and chemical metal cleaning wastes are produced intermittently during boiler cleaning operations, but they have not been characterized and are also proposed to be applied to the incoming fuel immediately prior to combustion. These two waste streams are regulated under the Facility General Industrial Storm Water Permit.

In 2009, the Regional Water Board issued ACL No. R1-2009-0042 that formalized an agreement between the Regional Water Board and the Discharger regarding the creation and rehabilitation of an area of freshwater wetlands located in close proximity to the Facility. A feasibility study is still being performed on this project in the context of various other alternatives. If this project or an alternative is deemed feasible, a new report of waste discharge application will be necessary in order to permit discharges to a new location.

C. Legal Authorities. This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) for discharges to land.

D. Background and Rationale for Requirements. The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information, legal authorities and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E are also incorporated into this Order.

E. California Environmental Quality Act (CEQA). Under Water Code Section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177.

F. Technology-based Effluent Limitations. Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations, 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. As described in section IV.B.2 of the Fact Sheet, based on BPJ, the discharge authorized by this

Order must meet minimum federal technology-based requirements based on Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards for the Steam Electric Power Generating Point Source Category in 40 CFR Part 423 (ELGs). The Regional Water Board has considered the factors listed in the California Water Code (CWC) sections 13241 and 13263 in establishing these requirements. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

G. Water Quality-Based Effluent Limitations. Section 301(b) of the CWA and 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) mandates 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, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

H. Water Quality Control Plans. The Regional Water Board adopted a *Water Quality Control Plan for the North Coast Region* (hereinafter the 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. Beneficial uses applicable to the Pacific Ocean and freshwater wetlands are described in Table 5, below.

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	Existing: • Navigation (NAV) • Water Contact Recreation (REC1) • Non-Contact Water Recreation (REC2) • Commercial and Sport Fishing (COMM) • Marine Habitat (MAR) • Wildlife Habitat (WILD) • Preservation of Rare, Threatened, or Endangered Species (RARE) • Migration of Aquatic Organisms (MIGR) • Spawning, Reproduction, and/or Early Development (SPWN) • Shellfish Harvesting (SHELL) • Aquaculture (AQUA) Potential: • Industrial Service Supply (IND) • Industrial Process Supply (PRO) • Preservation of Areas of Special Biological Significance (ASBS)

Requirements of this Order implement the Basin Plan.

The State Water Board adopted the *Water Quality Control Plan for control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for coastal waters. Requirements of this Order implement the Thermal Plan.

I. **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, and 2009. The State Water Board adopted the latest amendment on September 15, 2009 and it became effective on March 10, 2010. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the State to be protected as summarized below.

Table 6. Ocean Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	Existing: • 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

Requirements of this Order implement the Ocean Plan.

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

K. 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 total suspended solids, oil and grease, polychlorinated biphenyls (PCBs), free available chlorine, total recoverable zinc and the remaining priority pollutants. Restrictions on these pollutants are discussed in section IV.B.2 of the Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual WQBELs for

priority pollutants discharged to the freshwater wetland are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. Most beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1). To the extent that toxic pollutant WQBELs were derived from Table B of the Ocean Plan, the Ocean Plan is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual WQBELs for Table B parameters discharged to the Pacific Ocean are based on the Ocean Plan, which was approved by USEPA on October 8, 2010. Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

L. Antidegradation Policy. 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 quality of waters 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. As discussed in detail in the Fact Sheet the permitted discharge is consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.

M. Anti-Backsliding Requirements. Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR § 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as the effluent limitations in Order No. R1-2002-0076.

N. Endangered Species Act. This Order does not authorize any 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 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limitations, receiving water limits, and other requirements to protect the beneficial uses of waters of the State. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

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

P. Standard and Special Provisions. Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.

Q. Provisions and Requirements Implementing State Law. The provisions/requirements in section V.C of this Order 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.

R. Notification of Interested Parties. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.

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

III. DISCHARGE PROHIBITIONS

A. The discharge of any waste not disclosed by the Discharger 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 a 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 at any point not described in Finding II.B. or authorized by any State Water Board or other Regional Water Board permit is prohibited.

F. The discharge of waste to land that is not owned by, or under agreement to use by, the Discharger 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 noncontact 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. Discharge of any radiological, chemical, or biological warfare agent, or high-level radioactive wastewater into the ocean is prohibited.

J. Discharge of sludge directly into the ocean or into a waste stream that discharges to the ocean is prohibited.

K. Discharge 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. Final Effluent Limitations

1. Final Effluent Limitations – Discharge Point 001

a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location M-001 as described in the Monitoring and Reporting Program (Attachment E):

Table 7. Effluent Limitations at Discharge Point 001 (Gross Effluent Monitoring Location M-001)

Parameters	Units	Effluent Limitations			
		6-Month Median[1]	Daily Maximum[2]	Instantaneous Minimum	Instantaneous Maximum[3]
Copper, Total Recoverable	µg/L	118	1162	--	3200
Copper, Total Recoverable	lb/day	0.172	1.698	--	4.749
pH	s.u.	--	--	6.0	9.0
Acute Toxicity	TU_a	--	3.75	--	--
Chronic Toxicity	TU_c	--	116	--	--

2. Final Effluent Limitations – Discharge Point 010

a. The Discharger shall maintain compliance with the following effluent limitations for low volume wastes, with compliance measured at Monitoring Locations M-010, as described in the Monitoring and Reporting Program (Attachment E):

Table 8. Effluent Limitations at Discharge Point 010 (Low Volume Waste Streams)

Parameter	Units	Effluent Limitations				
		6-Month Median	30-Day Average	Daily Maximum	Instantaneous Minimum	Instantaneous Maximum
Total Suspended Solids (TSS)	mg/L	--	30	100	--	--
Oil and Grease	mg/L	--	15	20	--	--

[1] This six-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.

[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.

Parameter	Units	Effluent Limitations				
		6-Month Median	30-Day Average	Daily Maximum	Instantaneous Minimum	Instantaneous Maximum
pH	s.u.				6.0	9.0

3. Final Effluent Limitations – Discharge Point 020

a. The discharge of recirculated cooling water blowdown as defined by 40 CFR § 423.13 shall comply with the following effluent limitations at Discharge Point 020. Compliance shall be measured at Monitoring Location M-020 as described in the Monitoring and Reporting Program (Attachment E):

Table 9. Effluent Limitations at Discharge Point 020 (Cooling Tower Blowdown)

Parameters	Units	Effluent Limitations					
		30-Day Average	Maximum Daily	Average[4]	Maximum[5]	Instantaneous Minimum	Instantaneous Maximum
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[6]	mg/L	No detectable amount	No detectable amount	--	--	--	--
pH	s.u.	--	--	--	--	6.0	9.0

B. Interim Effluent Limitations

This section of the standardized permit form is not applicable.

---

[4] The term "average concentration", as it relates to chlorine discharge under ELGs at 40 CFR 423, means the average of analyses made over a single period of chlorine release which does not exceed two hours (See Attachment A).

[5] The term "maximum concentration", as it relates to chlorine discharge under ELGs at 40 CFR 423, means the maximum of analyses made over a single period of chlorine release which does not exceed two hours (See Attachment A).

[6] 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 contained in section IX.A of the MRP.

C. Land Discharge Specifications

This section of the standardized permit form is not applicable.

D. Reclamation Specifications

This section of the standardized permit form is not applicable.

E. Other Requirements

This section of the standardized permit form is not applicable.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations – Pacific Ocean (Discharge Point 001)

The following receiving water conditions are based on water quality objectives established by the Ocean Plan and are a required part of this Order. The discharge of waste shall not cause the following water quality objectives to be violated upon completion of final dilution.

1. Bacterial Characteristics

a. Body 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 used for water contact sports, as determined by the Regional Water Board (i.e., waters designated as REC-1), but including all kelp beds, the following bacteriological objectives shall be maintained throughout the water column:

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:

i. Total coliform density shall not exceed 1,000 per 100 mL;

ii. Fecal coliform density shall not exceed 200 per 100 mL; and

iii. Enterococcus density shall not exceed 35 per 100 mL.

Single Sample Maximum:

i. Total coliform density shall not exceed 10,000 per 100 mL;

ii. Fecal coliform density shall not exceed 400 per 100 mL;

iii. Enterococcus density shall not exceed 104 per 100 mL; and

iv. Total coliform density shall not exceed 1,000 per 100 mL when the fecal coliform to total coliform ratio exceeds 0.1

b. Shellfish Harvesting Standards

At all areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the following bacteriological objectives shall be maintained throughout the water column:

i. The median total coliform density shall not exceed 70 organisms per 100 mL, and in not more than 10 percent of samples shall coliform density exceed 230 organisms per 100 mL.

2. Physical Characteristics

a. Floating particulates and grease and oil 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.

3. Chemical Characteristics

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

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 IV, Table B of the Ocean Plan in marine sediments shall not be increased to levels that 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 levels 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 Table B of the Ocean Plan.

h. Discharge of radioactive waste shall not degrade marine life.

4. 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.

5. 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 Clean Water Act and regulations adopted thereunder.

b. The discharge shall be essentially free of:

i. Material that is floatable or will become floatable upon discharge.

ii. Settleable material or substances that may form sediments that will degrade benthic communities or other aquatic life.

iii. Substances that will accumulate to toxic levels in marine waters, sediments or biota.

iv. Substances that significantly decrease natural light to benthic communities and other marine life.

v. Material that results in aesthetically undesirable discoloration of the ocean surface.

c. Waste effluent shall be discharged in a manner that provides sufficient initial dilution to minimize the concentrations of substances not removed in the treatment.

d. Location of waste discharges must be determined after a detailed assessment of the oceanographic characteristics and current patterns to assure that:

i. 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.

ii. Natural water quality conditions are not altered in areas designated as being of special biological significance.

iii. Maximum protection is provided to the marine environment.

iv. The discharge does not adversely affect recreational beneficial uses such as surfing and beach walking.

B. Groundwater Limitations

This section is not applicable.

VI. PROVISIONS

A. Standard Provisions

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

2. **Regional Water Board Standard Provisions.** The Discharger shall comply with the following provisions:

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 Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

b. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, interim or final effluent limitation, land discharge specification, reclamation specification, receiving water

limitation, or provision of this Order that may result in a significant threat to human health or the environment, such as inundation of treatment components, breach of pond containment, sanitary sewer overflow, irrigation runoff, etc., and/or that results in a discharge to a drainage channel or a surface water, the Discharger shall report orally and in writing to the Regional Water Board staff all unauthorized spills. Spill notification and reporting shall be conducted in accordance with section X.E. of the Monitoring and Reporting Program (Attachment E).

c. Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. (Water Code § 1211)

B. Monitoring and Reporting Program (MRP)

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order.

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 (WET).** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a limitation for a specific toxic pollutant identified by a TRE.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Toxicity Reduction Requirements

i. Whole Effluent Toxicity. The MRP of this Order requires routine monitoring for whole effluent toxicity of Discharge Point 001 at Monitoring Location M-001 as described in section V of the MRP, to determine compliance with the Ocean Plan's water quality objective for chronic toxicity, implemented as an effluent limitation in Section IV, above. As established by the MRP, if chronic toxicity is measured in the effluent above 115 TUc, the Discharger shall conduct accelerated toxicity monitoring as specified in Section V of the MRP.

Results of accelerated toxicity monitoring will indicate a need to conduct a Toxicity Reduction Evaluation (TRE) if toxicity persists; or it will indicate that a return to routine toxicity monitoring is justified because persistent toxicity has not been identified by accelerated monitoring. TREs shall be conducted in accordance with the TRE Workplan prepared by the Discharger pursuant to section VI.C.2.a.ii. of this Order and section V.B.1 of the MRP.

ii. Toxicity Reduction Evaluations (TRE) Workplan. The Discharger shall prepare and submit to the Regional Water Board Executive Officer a TRE Workplan within 90 days of the effective date of this Order, by **July 30, 2012**. This plan shall be reviewed and updated as necessary in order to remain current and applicable to the discharge and discharge facilities. The TRE Workplan shall describe the steps the Discharger intends to follow if toxicity is detected above the effluent limitation, 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 and good housekeeping practices.

(c) If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIE (i.e., an in-house expert or an outside contractor).

iii. Toxicity Reduction Evaluation. The TRE shall be conducted in accordance with the following:

(a) The TRE shall be initiated within 30 days of the date of completion of the accelerated monitoring test, required by section V of the MRP, if that test result exceeds the whole effluent toxicity limitation or trigger.

(b) The TRE shall be conducted in accordance with the Discharger's workplan.

(c) The TRE shall be in accordance with current technical guidance and reference material including, at a minimum, USEPA manual EPA/833B-99/002 or EPA/600/2-88/070.

(d) The TRE may end at any stage if, through monitoring results, it is determined that there is no longer consistent toxicity.

(e) The Discharger may initiate a TIE as part of the TRE process to identify the cause(s) of toxicity. As guidance, the Discharger shall use the USEPA chronic manual, EPA/600/6-91/005F (Phase I), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III).

(f) As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the source(s) 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 acute or chronic toxicity parameters.

(g) Many recommended TRE elements may be implemented in tandem with required efforts of source control, pollution prevention, and storm water control programs. TRE efforts should be coordinated with such efforts. To prevent duplication of efforts, evidence of complying with requirements of recommendations of such programs may be acceptable to comply with requirements of the TRE.

(h) The Regional Water Board recognizes that toxicity may be episodic and identification of a reduction of sources of toxicity may not be successful in all cases. Consideration of enforcement action by the Regional Water Board will be based in part on the Discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.

3. Best Management Practices and Pollution Prevention

a. Pollutant Minimization Program (PMP)

The Discharger 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, not quantified (DNQ) when the effluent limitation is less than the minimum 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:

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

ii. A sample result is reported as ND and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in MRP section XI.B.4.

b. The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

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

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

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

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

v. An annual status report that shall be submitted on March 1st to the Regional Water Board and shall include:

(a) All PMP monitoring results for the previous year;

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

(c) A summary of all actions undertaken pursuant to the control strategy; and

(d) A description of actions to be taken in the following year.

4. Construction, Operation and Maintenance Specifications

a. The Discharger shall 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 Discharger to achieve compliance with this Order. Proper operation and maintenance includes adequate laboratory quality control and appropriate quality assurance of procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by the Discharger only when necessary to achieve compliance with the conditions of this Order. (40 CFR § 122.41(e).)

b. The Discharger shall maintain an updated Operation and Maintenance (O&M) Manual for the Facility. The Discharger shall update the O&M Manual, as necessary, to conform to changes in operation and maintenance of the Facility. The O&M Manual shall be readily available to operating personnel onsite for review by state or federal inspectors. The O&M Manual shall include the following:

i. Description of the treatment facility, table of organization 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 treatment 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. Process and equipment inspection and maintenance schedules.

v. Description of safeguards to assure that, should there be reduction, loss, or failure of electric power, the Discharger 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)

This section is not applicable.

6. Other Special Provisions

a. Storm Water

For the control of storm water discharge from the Facility, the Discharger shall seek authorization to discharge under and meet the requirements of the State Water Board's Water Quality Order No. 97-03-DWQ, NPDES General Permit No. CAS000001, *Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities* (or subsequent renewed versions of the General Permit).

b. Solids Disposal and Handling Requirements.

i. By July 1, 2013, Bottom and Fly Ash generated at the Facility shall be stored in a Title 27 compliant area or in a manner approved by the Executive Officer, until it can be either disposed at a solid waste facility for which waste discharge requirements have been prescribed by a Regional Water Board, or disposed of or reused in a manner approved by the Regional Water Board.

ii. This Order does not authorize waste discharge to land except for the discharge of domestic wastes to an on-site sewage disposal system, which meets the limitations contained in the Basin Plan. Collected screenings, sludges, and other solids (including residual solids that collect in storage tanks) shall be disposed of at a legal solid waste disposal facility. Solid waste disposal sites used in California shall be regulated by waste discharge requirements prescribed by the Regional Water Board.

7. Compliance Schedules

This section is not applicable.

VII. COMPLIANCE DETERMINATION

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

A. General

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

B. Multiple Sample Data

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

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

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

C. Average Monthly Effluent Limitation (AMEL)

If the average (or when applicable, the median determined by subsection B 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 Discharger 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 Discharger will be

considered out of compliance for that calendar month. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

D. Average Weekly Effluent Limitation (AWEL)

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar week exceeds the AWEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of non-compliance. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Discharger will be considered out of compliance for that calendar week. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

E. Maximum Daily Effluent Limitation (MDEL)

If a daily discharge (or when applicable, the median determined by subsection B, above, for multiple sample data of a daily discharge) exceeds the MDEL for a given parameter, the Discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

F. 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 Discharger 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).

G. Mass Emission Limitation Calculation

Calculation of the mass emission rates in lbs/day shall be performed using the appropriate resulting concentration from either a grab sample or a flow weighted 24-hour composite sample multiplied by the respective instantaneous or 24-hour average combined low volume waste flow measured at M-010.

H. 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 Discharger 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).

ATTACHMENT A – DEFINITIONS

Acute Toxicity: This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response.

a. Acute Toxicity

Expressed in Toxic Units Acute (TUa)

$$TUa = \frac{100}{\text{96-hr LC 50\%}}$$

b. Lethal Concentration 50% (LC 50)

LC 50 (percent waste giving 50% survival of test organisms) shall be determined by static or continuous flow bioassay techniques using standard marine test species as specified in Appendix III, Chapter II of the Ocean Plan. If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the marin environment, but not as a result of dilution, the LC 50 may be determined after the test samples are adjusted to remove the influence of those substances.

When it is not possible to measure the 96-hour LC 50 due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$TUa = \frac{\log (100-S)}{1.7}$$

where:

S = percentage survival in 100% waste. If S>99, TUa shall be reported as zero.

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

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

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

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

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

BMPs: means "best management practices." Best management practices means 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 that drops out of the furnace gas stream in the furnace and in the economizer sections. Economizer ash is included when it is collected with bottom ash.

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

Chemical Metal Cleaning Waste: any wastewater resulting from the cleaning of any metal process equipment with chemical compounds, including, but not limited to, boiler tube cleaning.

Chronic Toxicity: This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response.

a. Chronic Toxicity (TUc)

Expressed as Toxic Units Chronic (TUc)

$$TUc = \frac{100}{NOEL}$$

b. No Observed Effect Level (NOEL)

The NOEL is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test listed in Ocean Plan Appendix III, Table III-1.

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

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

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

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

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

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.

Effective Concentration (EC): a point estimate of the toxicant concentration that would cause an adverse effect on a quantal, "all or nothing," response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Karber. EC25 is the concentration of toxicant (in percent effluent) that causes a response in 25 percent of the test organisms.

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

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

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

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

First runoff-producing storm event: The term "first runoff-producing storm event" means the first precipitation sequence following any log deck sprinkler use meeting all of the following criteria:

1. The precipitation causes overflow from the detention basin to Hensley Creek.
2. Required weekly and monthly analyses are reported for a sample of that overflow.

Fly Ash: the ash that is carried out of the furnace by the gas stream and collected by mechanical precipitators, electrostatic precipitators, and /or fabric filters. Economizer ash is included 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, (13^{th} edition).

Inhibition Concentration (IC): The IC25 is typically calculated as a percentage of effluent. It is the level at which the organisms exhibit 25 percent reduction in biological measurement such as reproduction or growth. It is calculated statistically and used in chronic toxicity testing.

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).

Low Volume Wastes: The term low volume waste sources means, taken collectively as if from one source, wastewater from all sources except those for which specific limitations are otherwise established in 40 CFR 423. Low volume wastes sources include, but are not limited to: wastewaters from wet scrubber air pollution control systems, ion exchange water treatment systems, water treatment evaporator blowdown, laboratory and sampling streams, boiler blowdown, floor drains, cooling tower basin cleaning wastes, and recirculating house service water systems. Sanitary and air conditioning wastes are not included.

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 fire side 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 title 40 of the Code of Federal Regulations, 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.

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. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

Persistent Pollutants: substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP): waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence

that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention: 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.

Priority Pollutants: Those pollutants identified by the California Toxics Rule (CTR) at section 131.38.

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

Satellite Collection System: 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.

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:

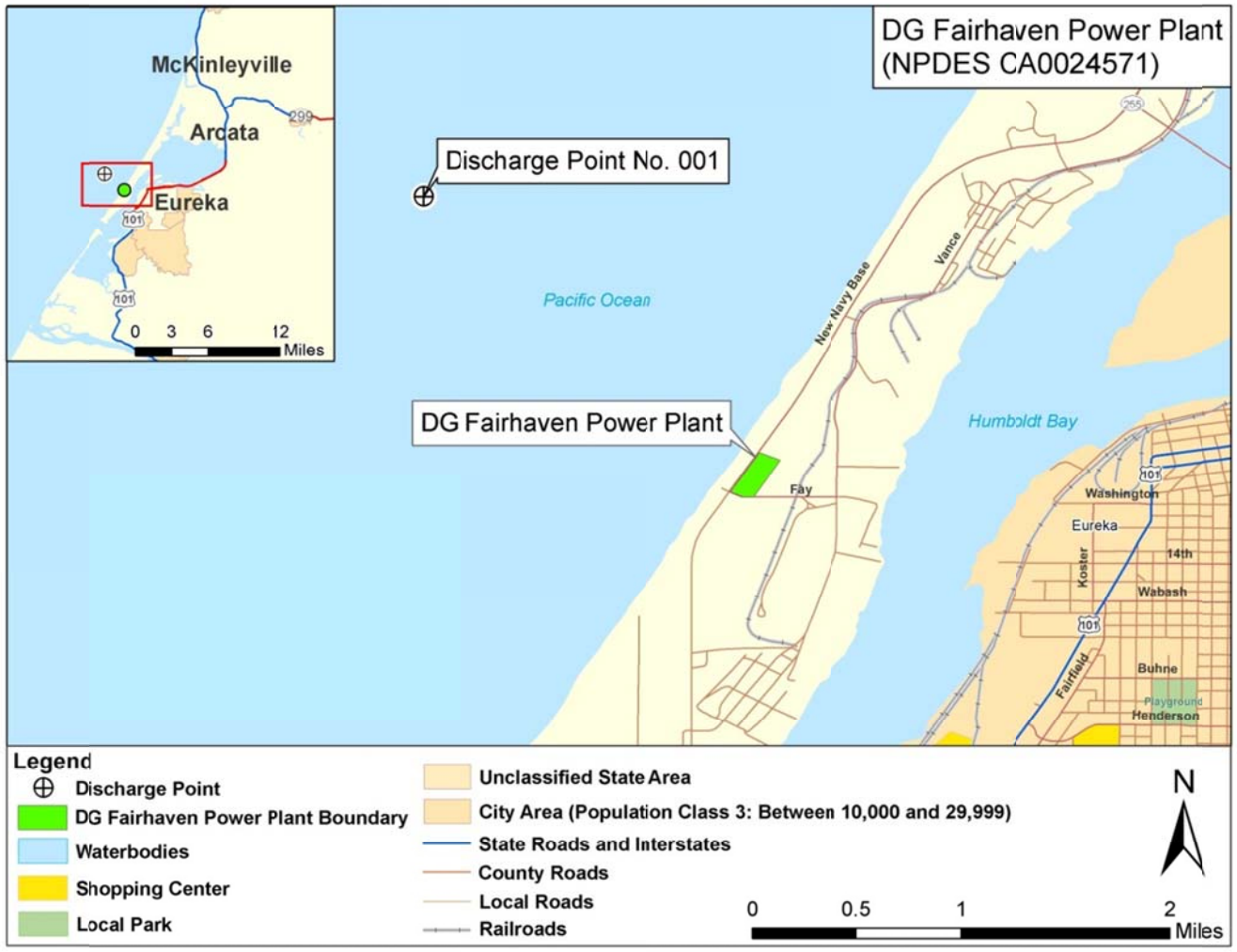
$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:

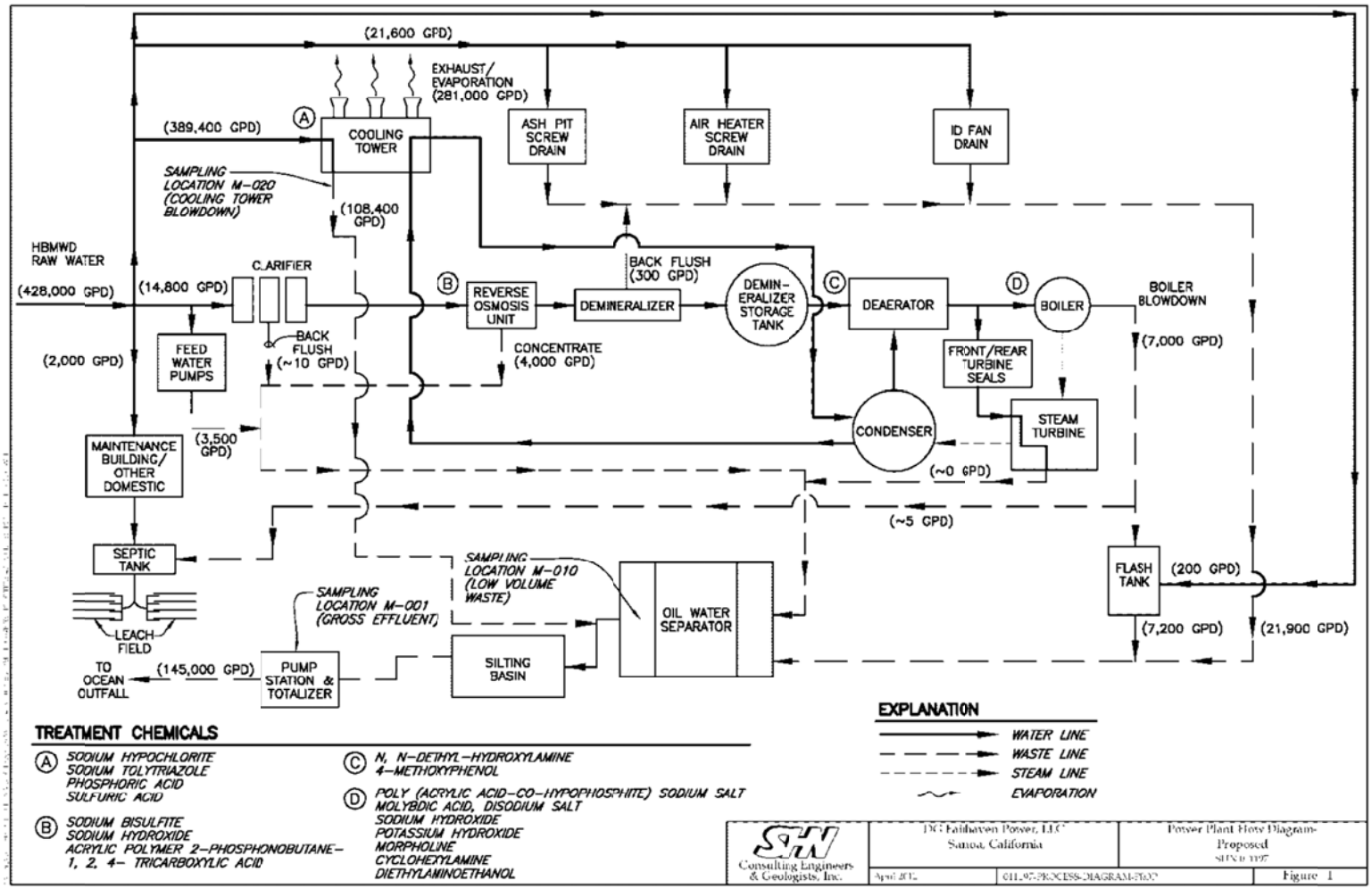
x is the observed value;
μ is the arithmetic mean of the observed values; and
n is the number of samples.

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.)

ATTACHMENT B – MAP



ATTACHMENT C – FLOW SCHEMATIC



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

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

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

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

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

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 C.F.R. § 122.41(i); Wat. Code, § 13383):

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

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

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

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

G. Bypass

1. Definitions

   a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)

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

2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)

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

a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));

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

c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.6 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)

4. Burden of Proof. In any enforcement proceeding, the Discharger 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 Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)

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

H. Upset

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

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

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

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

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

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

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

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

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

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

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)

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

IV. STANDARD PROVISIONS – RECORDS

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

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));

1. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));

2. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));

3. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));

4. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and

5. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

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

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and

2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

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

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)

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

3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));

b. 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 CFR 122.22(a)(1).)

c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

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

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.22(l)(4).)

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

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

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

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i)

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):

a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).

b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B)

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

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

F. Planned Changes

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

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

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

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

G. Anticipated Noncompliance

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

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

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

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The Regional Water Board is authorized to enforce the terms of this 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 CFR 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 CFR 122.42(a)(1)):

a. 100 micrograms per liter (µg/L) (40 CFR 122.42(a)(1)(i));

b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 CFR 122.42(a)(1)(ii));

c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 CFR 122.42(a)(1)(iii)); or

d. The level established by the Regional Water Board in accordance with 40 CFR 122.44(f). (40 CFR 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 CFR 122.42(a)(2)):

a. 500 micrograms per liter (µg/L) (40 CFR 122.42(a)(2)(i));

b. 1 milligram per liter (mg/L) for antimony (40 CFR 122.42(a)(2)(ii));

c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 CFR 122.42(a)(2)(iii)); or

d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 CFR 122.42(a)(2)(iv).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Table of Contents

List of Tables

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

Title 40 of the Code of Federal Regulations section 122.48 (section 122.48) requires that all National Pollutant Discharge Elimination System (NPDES) permits specify monitoring and reporting requirements. California Water Code (Water Code) Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. 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. If the Discharger monitors any pollutant more frequently than required by this Order, using test procedures approved by 40 CFR Part 136, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the monthly and annual discharger monitoring reports.

C. Laboratories analyzing monitoring samples shall be certified by the California Department of Public Health (DPH; formerly the Department of Health Services), in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports.

D. The Discharger shall develop, maintain and adhere to a standard operating procedure that follows the appropriate Standard Method for any sampling analysis performed by the Discharger for compliance with this order or MRP. Common examples of such analyses include flow, pH, chlorine residual and dissolved oxygen because the holding times for these analyses are sufficiently short that Dischargers often perform the analyses on-site or in the field. Any standard operating procedure kept for such analyses shall include, at a minimum:

1. Instrument calibration protocols and a log of such calibrations;

2. Staff training procedures and a log of such trainings; and

3. A procedure for taking multiple readings of the same sample for data quality assurance.

E. Compliance and reasonable potential monitoring analyses shall be conducted using commercially available and reasonably achievable detection limits that are lower than the applicable effluent limitation. If no minimum level (ML) value is

below the effluent limitation, the lowest ML shall be selected as the reporting level (RL).

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
001	M-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	M-010	Combined low volume wastewaters (screw and bearing cooling process water, 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 streams or as a combined low volume waste stream. If measured as separate waste streams, a flow weighted aliquate, consisting of all low volume waste stream contributions, shall be used to determine compliance with applicable effluent limitations.
020	M-020	Cooling tower blowdown process wastewater prior to commingling with low volume wastewaters.
--	M-030	Internal monitoring point for metal cleaning wastes
--	M-040	Internal monitoring point for bottom ash wash water

III. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location M-001

The Discharger shall monitor at Monitoring Location M-001 as follows when process water is being discharged to the Pacific Ocean:

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

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1,2]
Flow (Instantaneous)	MGD	Meter	Monthly[3]	--
Flow (24-hour average)	MGD	Meter	Continuous	--
Flow (Monthly Average)	MGD	Meter	Continuous	--
Copper, Total Recoverable	µg/L	Flow weighted 24-hour Composite	Monthly	40 CFR Part 136
	µg/L	Grab	Monthly	Part 136
	lbs/day	Calculation[4]	Monthly	Calculation
	lbs/day	Calculation[5]	Monthly	Calculation
Chromium, Total Recoverable	µg/L	Grab	Monthly[6]	Part 136
Zinc, Total Recoverable	µg/L	Grab	Monthly[6]	Part 136
pH	std units	Grab	Monthly	Part 136
All Table B Pollutants[7]	µg/L	Grab	Once every five years	Std Methods
Acute Toxicity	TUa	Grab	Semi-annually	See Acute Toxicity Monitoring Requirements Section IV.
Chronic Toxicity	TUc	Grab	Quarterly[8]	See Chronic Toxicity

1 Minimum levels and monitoring procedures shall comply with Appendix II and Appendix III of the California Ocean Plan. Detection limits shall enable compliance determination with the respective effluent limitation or, if this is unachievable, the lowest minimum level in Appendix II of the California Ocean Plan shall be used.

2 In accordance with the current edition of *Standard Methods (std method) for the Examination of Water and Wastewater* (American Public Health Administration) or current test procedures specified in section Part 136.

3 The time of the reported instantaneous flow shall coincide with the grab sample time of the Total Recoverable Copper at M-001.

4 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 M-001.

5 Calculation of the mass emission rates in lbs/day shall be performed using the resulting concentration from a flow weighted 24-hour composite sample multiplied by the 24-hour average flow at M-001.

6 The minimum sampling frequency for this constituent may be reduced to quarterly upon six consecutive monitoring results in compliance with the respective effluent limitation, however, if at any time monitoring results in an exceedance of the respective effluent limitation, the minimum sampling frequency shall be reduced to monthly.

7 Pollutants specified in Table B of Section II.D.7 of the California Ocean Plan.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1,2]
				Monitoring Requirements Section IV.

B. Monitoring Location M-010

The Discharger shall monitor process water at all low volume waste streams as follows:

Table E-3. Low Volume Waste Monitoring – Location M-010

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1,2]
Flow (Instantaneous)	MGD	Meter	Monthly[9]	--
Flow (24-hour average)	MGD	Meter	Continuous	--
Flow (Monthly Average)	MGD	Meter	Continuous	--
Total Suspended Solids	mg/L	Grab	Monthly[6]	Std Method 2540D
Oil and Grease	mg/L	Grab	Monthly[6]	Std Method 5520
pH	s.u.	Grab	Monthly	40 CFR Part 136

Table E-4. Cooling Tower Blowdown Monitoring – Location M-020

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1,2]
Flow (Mean)[4]	MGD	Meter	Continuous	--
Free Available Chlorine	mg/L	Grab	Monthly	Std Method 4500-Cl D.
Total Residual Chlorine	mg/L	Grab	Monthly	Std Method 4500-Cl D.
Chromium, Total Recoverable	mg/L	Grab	Monthly[6]	40 CFR Part 136
Zinc, Total Recoverable	mg/L	Grab	Monthly[6]	40 CFR Part 136

---

[8] The Discharger may reduce the monitoring frequency for chronic toxicity from quarterly to semi-annually after six consecutive quarterly monitoring results demonstrating compliance with the chronic toxicity effluent limitation. If an exceedance of the chronic toxicity effluent limitation is detected, monitoring shall return to quarterly for the remainder of the permit term.

[9] The time of the instantaneous flow shall coincide with the grab sample time of the Total Recoverable Copper at M-010.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1,2]
Flow (Mean)[4]	MGD	Meter	Continuous	--
Priority Pollutants[10]	µg/L	Grab	Semi-Annually[11]	Std Methods
pH	s.u.	Grab	Monthly	40 CFR Part 136

IV. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity Testing

The Discharger shall conduct acute whole effluent toxicity (WET) testing to determine compliance with the effluent limitation for acute toxicity established by section IV.A.1.a of the Order.

1. **Test Frequency**. The Discharger shall conduct acute WET testing in accordance with the schedule established by this MRP, as summarized in Table E-2, above, when discharging to the Pacific Ocean.

2. **Sample Type**. For 96-hour static renewal or 96-hour static non-renewal testing, the effluent samples shall be 24-hour composite samples representative of the volume and quality of the discharge from the Facility, collected at Monitoring Location M-001. For toxicity tests requiring renewals, 24-hour composite samples collected on consecutive days are required.

3. **Test Species**. Test species for acute WET testing shall be conducted using an approved test, and test species, as described by Table III-1 of the Ocean Plan and presented below in Table E-5. Initial testing for the first suite of tests, shall be conducted with a vertebrate, an invertebrate, and a plant species, and thereafter, monitoring can be reduced to the most sensitive species. At least once every 5 years, the Discharger shall re-screen with the two species described above and continue routine monitoring with the most sensitive species.

B. Chronic Toxicity Testing

The Discharger shall conduct quarterly chronic toxicity testing to demonstrate compliance with the chronic toxicity effluent limitation contained in the Order for Discharge Point 001, with compliance determined at Monitoring Location

[10] 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 contained in section IX.A of the MRP.

[11] Increased monitoring frequency will apply if chemicals used in process make-up water change between scheduled sampling periods

M-001. The monitoring frequency may be reduced to semiannually following 3 years of consecutive quarterly monitoring, demonstrating compliance with the applicable effluent limitation. However, if chronic toxicity is detected within the effluent exceeding the applicable effluent limitation, the monitoring frequency shall return to quarterly for the duration of the permit term. The Discharger shall meet the following chronic toxicity testing requirements:

1. **Test Frequency.** The Discharger shall conduct chronic WET testing in accordance with the schedule established by this MRP, as summarized in Table E-2, above, when discharging to the Pacific Ocean.

2. **Sample Type.** Effluent samples from Monitoring Locations M-001 shall be grab samples that are representative of the volume and quality of the discharge from the Facility. For toxicity tests conducted on-site and requiring renewals, grab samples collected on consecutive days are required. When tests are conducted off-site, a minimum of three samples shall be collected, in accordance with USEPA test methods.

3. **Test Species.** Critical life stage bioassay testing shall be conducted using an approved test, and test species, as described by Table III-1 of the Ocean Plan and presented below. Initial testing for the first suite of tests, shall be conducted with a vertebrate, an invertebrate, and a plant species, and thereafter, monitoring can be reduced to the most sensitive species. At least once every five years, the Discharger shall rescreen once with the three species listed above, and continue to monitor with the most sensitive species.

Table E-5. Approved Tests – Chronic Toxicity

Species	Test	Tier [1]	Reference [2]
Giant kelp, *Macrocystis pyrifera*	percent germination; germ tube length	1	a, c
Red abalone, *Haliotis rufescens*	abnormal shell development	1	a, c
Oyster, *Crassostrea gigas*; mussels, *Mytilus spp*.	abnormal shell development; percent survival	1	a, c
Urchin, *Strongylocentrotus purpuratus*; sand dollar, *Dendraster excentricus*	percent normal development	1	a, c
Urchin, *Strongylocentrotus purpuratus*; sand dollar, *Dendraster excentricus*	percent fertilization	1	a, c
Shrimp, *Homesimysis costata*	percent survival; growth	1	a, c
Shrimp, *Mysidopsis bahia*	percent survival; fecundity	2	b, d
Topsmelt, *Atherinops affinis*	larval growth rate; percent survival	1	a, c
Silverside, *Menidia beryllina*	larval growth rate; percent survival	2	b, d

[1] First tier methods are preferred for compliance monitoring. If first tier organisms are not available, the Discharger can use a second tier test method following approval by the Regional Water Board.

[2] Protocol References:

a. Chapman, G.A., D.L. Denton, and J.M. Lazorchak. 1995. *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms*. U.S. EPA Report No. EPA/600/R-95/136.

b. Klemm, D.J., G.E. Morrison, T.J. Norberg-King, W.J. Peltier, and M.A. Heber. 1994. *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Marine and Estuarine Organisms*. U.S. EPA Report No. EPA-600-4-91-003.

c. SWRCB 1996. *Procedures Manual for Conducting Toxicity Tests Developed by the Marine Bioassay Project*. 96-1WQ.

d. Weber, C.I., W.B. Horning, I.I., D.J. Klemm, T.W. Nieheisel, P.A. Lewis, E.L. Robinson, J. Menkedick and F. Kessler (eds). 1998. *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*. EPA/600/4-87/028. National Information Service, Springfield, VA.

4. **Test Methods.** The presence of chronic toxicity shall be estimated as specified in USEPA's Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to West Coast Marine and Estuarine Organisms (USEPA Report No. EPA/600/R-95/136, or subsequent editions), Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Marine and Estuarine Organisms (USEPA Report No. EPA-821-R-02-014 or subsequent editions), or other methods approved by the Executive Officer.

5. **Test Dilutions.** For this discharge, a mixing zone or dilution allowance is authorized. The series shall consist of the following dilution series: 3.4, 1.75, 0.87, 0.45, and 0.25 percent, and a control. Control and dilution water shall be receiving water collected at an appropriate location beyond the influence of the discharge. Laboratory water may be substituted for receiving water, as described in the USEPA test methods manual, upon approval by the Executive Officer. If the dilution water used is different from the culture water, a second control using culture water shall be used.

6. **Reference Toxicant.** If organisms are not cultured in-house, concurrent testing with a reference toxicant shall be conducted. Where organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicant tests also shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc).

7. **Test Failure.** If either the reference toxicant test or the chronic toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger shall re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.

8. **Notification.** The Discharger shall notify the Regional Water Board in writing 14 days after the receipt of test results, which indicate the exceedance of the water quality objective for chronic toxicity. The notification will describe actions the Discharger has taken or will take to investigate and correct the cause(s) of toxicity. It may also include a status report on any actions required by this Order, with a schedule for actions not yet completed. If no actions have been taken, the reasons shall be provided.

9. **Accelerated Monitoring Requirements.** If the result of any chronic toxicity test exceeds the effluent limitation of 115 TUc, and the testing meets all test acceptability criteria, the Discharger shall initiate accelerated monitoring. Accelerated monitoring shall consist of four additional samples, with one test conducted approximately every week over a 4 week period. Testing shall commence within 14 days of receipt of initial sample results which indicated an exceedance of the chronic toxicity limitations (115 TUc). If the discharge will cease before the additional samples can be collected, the Discharger shall contact the Executive Officer within 21 days with a plan to address elevated levels of chronic toxicity in effluent and/or receiving water. The following protocol, which shall be incorporated into the TRE Workplan by the Discharger, shall be used for accelerated monitoring and TRE implementation:

    a. If the results of four consecutive accelerated monitoring tests do not exceed the chronic toxicity effluent limitation, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring. However, if there is adequate evidence of a pattern of effluent toxicity, the Regional Water Board's Executive Officer may require that the Discharger initiate a TRE.

    b. If the source(s) of the toxicity is easily identified (i.e., improper BMP implementation), the Discharger shall make necessary corrections to the Facility and shall continue accelerated monitoring until four consecutive accelerated tests do not exceed the effluent limitation. Upon confirmation that the chronic toxicity has been removed, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring.

    c. If the result of any accelerated toxicity test exceeds the effluent limitation, the Discharger shall cease accelerated monitoring and initiate a TRE to investigate the cause(s) and identify corrective actions to reduce or eliminate the chronic toxicity.

10. Chronic Toxicity Reporting

a. Routine Reporting. All toxicity test reports shall include the contracting laboratory's complete report provided to the Discharger and shall be in accordance with the appropriate "Report Preparation and Test Review" sections of the method manuals.

The WET test report shall contain a narrative report that includes details about WET test procedures and results, including the following:

i. Test Procedures.

(a) Receipt and handling of the effluent sample that includes a tabular summary of initial water quality characteristics;

(b) The source and make-up of the lab control/diluents water used for the test;

(c) Any manipulations done to lab control/diluents 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 NOEC, TU_c, and IC_{25};

(f) Identification of any anomalies or nuances in the test procedures or results; and

(g) Summary and Conclusions section.

ii. Test Results. Test results shall include at a minimum, for each test:

(a) Sample date(s);

(b) Test initiation date;

(c) Test species;

(d) End point values for each dilution (e.g., number of young, growth rate, percent survival);

(e) NOEC value(s) in percent effluent;

(f) IC_{15}. IC_{25}, IC_{40}, and IC_{50} values (or EC_{15}, EC_{25}…etc.) in percent effluent;

(g) TU_c values (100/NOEC);

(h) Mean percent mortality (± s.d.) after 96 hours in 100 percent effluent (if applicable);

(i) NOEC and LOEC values for reference toxicant test(s);

(j) IC50 or EC50 values(s) for reference toxicant test(s);

(k) Available water quality measurements for each test (e.g., pH, DO, temperature, conductivity, hardness, salinity, ammonia);

(l) Statistical methods used to calculate endpoints;

(m) The statistical output page, which includes the calculation of percent minimum significant difference (PMSD); and

(n) Results of applicable reference toxicant data with the statistical output page giving the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD and dates tested; the reference toxicant control charts for each endpoint, which 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.

b. Quality Assurance Reporting. Because the permit requires sublethal hypothesis testing endpoints from methods 1006.0 and 1007.0 in the test methods manual titled Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms (EPA-821-R-02-014, 2002), with-in test variability must be reviewed for acceptability and variability criteria (upper and lower PMSD bounds) must be applied, as directed under section 10.2.8 – Test Variability of the test methods manual. Under section 10.2.8, the calculated PMSD for both reference toxicant test and effluent toxicity test results must be compared with the upper and lower PMSD bounds variability criteria specified in Table 6 – Variability Criteria (Upper and Lower PMSD Bounds) for Sublethal Hypothesis Testing Endpoints Submitted Under NPDES Permits, following the review criteria in paragraphs 10.2.8.2.4.1 through 10.2.8.2.4.5 of the test methods manual. Based on this review, only accepted effluent toxicity test results shall be reported.

c. **Compliance Summary.** The results of the chronic toxicity testing shall be provided in the most recent self-monitoring report and shall include a summary table organized by test species, type of test (survival, growth or reproduction) and monitoring frequency (routine, accelerated or TRE) of toxicity data from at least three of the most recent samples. The final report shall clearly demonstrate that the Discharger is in compliance with water quality objectives and other permit requirements.

V. LAND DISCHARGE MONITORING REQUIREMENTS

This section is not applicable.

VI. RECLAMATION MONITORING REQUIREMENTS

This section is not applicable.

VII. RECEIVING WATER MONITORING REQUIREMENTS

No receiving water monitoring is required as part of this permit.

VIII. OTHER MONITORING REQUIREMENTS

A. Cooling Tower Maintenance Chemicals

The Discharger 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 CFR 423, Appendix A. As discussed in section IV 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 Discharger shall submit a summary list of added chemicals in their monthly SMRs and indicate which chemicals contain priority pollutants.

IX. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

2. Schedules of Compliance. If applicable, the Discharger shall submit all reports and documentation required by compliance schedules that are established by this Order. Such reports and documentation shall be submitted to the Regional Water Board on or before each compliance date established by this Order. If noncompliance is reported, the Discharger shall

describe the reasons for noncompliance and a specific date when compliance will be achieved. The Discharger shall notify the Regional Water Board when it returns to compliance with applicable compliance dates established by schedules of compliance.

B. Self Monitoring Reports (SMRs)

1. The Discharger shall submit electronic Self-Monitoring Reports (SMRs) 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 provides additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit monthly SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

3. 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 month of sampling
Daily	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	First day of second calendar month following month of sampling
Weekly	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	First day of second calendar month following month of sampling
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 month of sampling

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January through March April through June July through September October through December	First day of second calendar month following end of quarter
Annually	January 1 following (or on) permit effective date	January 1 through December 31	March 1, each year

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

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

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

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

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

d. Dischargers are 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 Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5. The Discharger shall submit SMRs in accordance with the following requirements:

a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the Facility is operating in compliance with interim and/or final effluent limitations. The reported data shall include calculation of all effluent limitations that require averaging, taking of a median, or other computation. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify:

i. Facility name and address;

ii. WDID number;

iii. Applicable period of monitoring and reporting;

iv. Violations of the WDRs (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 address listed below:

Regional Water Quality Control Board
North Coast Region
5550 Skylane Blvd., Suite A
Santa Rosa, CA 95403

C. Other Reports

1. Special Studies and Technical Report Submittals. The Discharger shall report the results of any special studies, acute and chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions – VI.C.2 and 3 of this Order. The Discharger shall submit reports with the first monthly SMR scheduled to be submitted on or immediately following the

report due date in compliance with SMR reporting requirements described in subsection X.B.5 above.

2. **Annual Report.** The Discharger shall submit an Annual Report to the Regional Water Board for each calendar year. The report shall be submitted by March 1st of the following year. The report shall, at a minimum, include the following:

   a. **Monitoring Data Summaries.** Both tabular and, where appropriate, graphical summaries of the monitoring data and disposal records from the previous year. If the Discharger monitors any pollutant more frequently than required by this Order, using test procedures approved under title 40, section 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. **Compliance Reporting.** 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. **Solids Handling and Disposal Activity Reporting.** The Dischargers shall both submit, as part of the annual report to the Regional Water Board, a description of the Dischargers' solids handling, disposal, and reuse activities over the previous calendar year. At a minimum, the report shall contain:

      i. Annual fly ash production, in dry tons.

      ii. Annual bottom ash production, in dry tons.

      iii. A schematic diagram showing all ash handling facilities, if any, and an ash flow diagram.

      iv. Methods of final disposal of fly and bottom ash.

D. Spills and Overflows Notification

1. All spills equal to or in excess of 1,000 gallons or any size spill that results in a discharge to a drainage channel or a surface water:

   a. As soon as possible, but not later than 2 hours after becoming aware of the discharge, the Discharger shall notify the State Office of Emergency Services (OES), the local health officer or directors of environmental

health with jurisdiction over affected water bodies or land areas, and the Regional Water Board[12].

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

i. Name and contact information of caller;
ii. Date, time and location of spill occurrence;
iii. Estimates of spill volume, rate of flow, and spill duration;
iv. Surface water bodies impacted, if any;
v. Cause of spill;
vi. Cleanup actions taken or repairs made; and
vii. Responding agencies.

b. As soon as possible, but not later than 24 hours after becoming aware of a discharge, the Discharger shall submit to the Regional Water Board a certification that the State Office of Emergency Services and the local health officer or directors of environmental health with jurisdiction over affected water bodies or land areas have been notified of the discharge. For the purpose of this requirement, "certification" means an OES certification number and, for the local health department, name of local health staff, department name, phone number and date and time contacted.

c. **Within five (5) business days**, the Discharger shall submit a written report to the Regional Water Board office. The report must include all available details related to the cause of the spill and corrective action taken or planned to be taken, as well as copies of reports submitted to other agencies.

Information to be provided in writing includes:

i. Information provided in verbal notification;
ii. Other agencies notified by phone;
iii. Detailed description of cleanup actions and repairs taken; and
iv. Description of actions that will be taken to minimize or prevent future spills.

d. In the cover letter of the monthly monitoring report, the Discharger shall include a brief written summary of the event and any additional details

[12] The contact number for spill reporting for the Office of Emergency Services is (800) 852-7550. The contact number of the Regional Water Board during normal business hours is (707) 576-2220. After normal business hours, spill reporting to OES will satisfy the 2 hour notification requirement for the Regional Water Board.

related to the cause or resolution of the event, including, but not limited to results of any water quality monitoring conducted.

2. Discharges less than 1,000 gallons that do not reach a drainage channel or a surface water:

a. As soon as possible, but not later than 24 hours after becoming aware of the discharge, the Discharger shall notify the Regional Water Board and provide the applicable information specified in requirement X.E1.A of this MRP.

b. In the cover letter of the monthly monitoring report, the Discharger shall include a written description of the event.

E. Discharge Monitoring Reports (DMRs)

This section is not applicable.

.

ATTACHMENT F – FACT SHEET

Table of Contents

List of Tables

ATTACHMENT F – FACT SHEET

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

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

WDID	1B85026RHUM
Discharger	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
Mailing Address	97 Bay Street
	Samoa, CA 95564
	Humboldt County
Billing Address	Same as Mailing 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
Reclamation Requirements	Not Applicable
Facility Maximum Anticipated Discharge Flow	0.350 million gallons per day (MGD)
Facility Median Flow	0.146 MGD
Watershed	Eureka Plain

Receiving Water	Pacific Ocean
Receiving Water Type	Ocean

A. DG Fairhaven Power, LLC (hereinafter Discharger) is the owner and operator of the Fairhaven Power Facility (hereinafter 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 Discharger herein.

B. The Facility discharges process water to the Pacific Ocean a waters of the United States. The Facility is currently regulated by Order No. R1-2002-0076 which was adopted on August 22, 2002. The terms and conditions of the current Order have been automatically continued and remain in effect until new Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit are adopted pursuant to this Order.

C. The Discharger filed a Report of Waste Discharge and submitted an application for renewal of its WDRs and NPDES permit on March 17, 2010.

II. FACILITY DESCRIPTION

The Discharger 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.

The Facility combusts wood waste to produce electricity using a steam-turbine power generation process. Power generation uses approximately 145,000 gallons of process water per day from the Humboldt Bay Municipal Water District as a source water.

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 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, screw and bearing cooling water, reverse osmosis concentrate, and demineralizer back-wash),

and intermittent wastes (including: cooling tower cleaning wastes). 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.

A. Description of Wastewater Treatment or Controls

Process water is treated at various points in the power generation cycle before being discharged as effluent. The reverse osmosis (RO) 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 RO 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.

The Discharger currently stores filtered bottom ash and associated wash water (FBAWW) in an on-site containment unit that does not produce a discharge. The Discharger plans to develop a closed-loop treatment system to handle the FBAWW waste which will not commingle with existing process waters or discharge to a water of the United States.

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 to the Pacific Ocean via the Freshwater Tissue outfall (Discharge Point 001). The outfall is a 48-inch diameter pipeline that terminates approximately 1.5 miles off-shore.

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

1. Effluent limitations contained in Order No. R1-2002-0076 for discharges from Discharge Point 001 (Monitoring Location M-001) and internal outfalls with representative monitoring data from the term of Order No. R1-2002-0076 are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data for Boiler and Cooling Tower Blowdown

Parameter	Units	Effluent Limitations		Monitoring Data (from Nov 2002 to Sept 2010)	
		Daily Max	30-Day Average	Highest Daily Max	Highest 30-Day Average
Free Available Chlorine	mg/L	0.5	0.2	0.2	0.2
Total Chromium	mg/L	0.2	0.2	<0.05	<0.05
Zinc	mg/L	1.0	1.0	0.18	0.18
pH	s.u.	6.0 – 9.0		9	

Table F-3. Historical Effluent Limitations and Monitoring Data for Low Volume Wastes

Parameter	Units	Effluent Limitations		Monitoring Data (from March 2003 to Sept 2010)	
		Daily Max	30-Day Average	Highest Daily Max	Highest 30-Day Average
Total Suspended Solids	mg/L	100	30	16	16
Grease and Oil	mg/L	20	15	7.6	7.6
pH	s.u.	6.0 – 9.0		7.3 – 8.7	

Table F-4. Historical Effluent Limitations and Monitoring Data for Gross Effluent

Parameter	Units	Effluent Limitations			Monitoring Data (from Nov 2002 to Sept 2010)		
		6-Month Median	Daily Max	Instantaneous Max	Highest 6-Month Median	Highest Daily Max	Highest Instantaneous Max
Copper	mg/L	0.12	1.2	3.2	0.82	0.99	0.99
Lead	mg/L	0.23	0.93	2.3	0.05	0.05	0.05
Zinc	mg/L	1.4	8.4	22.3	0.51	0.72	0.72
Acute Toxicity	TUa	---	---	---	---	---	---
Chronic Toxicity	TUc	115	---	---	1	---	---

D. Planned Changes

In May 2009, Freshwater Tissue shut down and disconnected its water supply, which eliminated the pulp mill contribution of 2.85 MGD of effluent discharged through the shared outfall. Since then, the Facility's discharge of 145,000 gallons per day has been the only effluent discharging through the outfall. This reduced discharge volume increases the probability of a

silt blockage of the outfall which could render effluent disposal through Discharge Point 001 infeasible.

In 2009, the Regional Water Board issued ACL Order No. R1-2009-0042 which formalized an agreement between the Regional Water Board and the Discharger regarding the creation and enhancement of an area of freshwater wetlands located in close proximity to the Facility. Due to comments received from the Coastal Commission during the California Environmental Quality Act (CEQA) process and water quality concerns from the Regional Water Board, the Discharger is performing a feasibility study to analyze the viability of this project relative to various alternatives. Upon completion of the feasibility study, and receipt of a new report of waste discharge (ROWD), this permit may be reopened to permit a new discharge location.

Further, the Discharger is investigating the use of a closed loop system to wash bottom ash and recycle the wash water onto incoming fuel just prior to incineration. The Discharger currently has approximately 7,500 tons of Bottom Ash stored onsite, but has been trucking it offsite to Anderson Landfill as of July, 2011. Since November 2011, the Discharge has been trucking Bottom Ash to Anderson Landfill at a rate of two truckloads of 25 tons each per week. The Discharger has requested authorization to use washed Bottom Ash as roadbase. Fly Ash is currently disposed of to land in accordance with a diversion program administered by SHN Consulting Engineers & Geologists, Inc. This Permit requires that any Fly Ash disposal program be concurred by the Executive Officer. Regional Water Board staff is currently reviewing all available Bottom Ash analytical data to determine a region-wide permitting mechanism for disposal of Bottom and Fly Ash. Bottom and Fly Ash disposal must comply with Section VI.C.6.a.i of this Permit.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed Order are based on the requirements and authorities described in this section. This section provides supplemental information, where appropriate, for the plans, policies, and regulations relevant to the discharge.

A. Legal Authorities

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES

permit for point source discharges from this Facility to surface waters. 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 CEQA, Public Resources Code sections 21100 through 21177.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** 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 Resources Control Board (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. Beneficial uses applicable to the Pacific Ocean and freshwater wetlands are summarized in Table F-5, below:

Table F-5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	Existing: • Navigation (NAV) • Water Contact Recreation (REC1) • Non-Contact Water Recreation (REC2) • Commercial and Sport Fishing (COMM) • Marine Habitat (MAR) • Wildlife Habitat (WILD) • Preservation of Rare, Threatened, or Endangered Species (RARE) • Migration of Aquatic Organisms (MIGR) • Spawning, Reproduction, and/or Early Development (SPWN) • Shellfish Harvesting (SHELL) • Aquaculture (AQUA) Potential: • Industrial Service Supply (IND) • Industrial Process Supply (PRO) • Preservation of Areas of Special Biological Significance (ASBS)

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 Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for coastal waters. Requirements of this Order implement the Thermal Plan.

3. **California Ocean Plan.** The State Water Board adopted the Ocean Plan in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, 2005, and 2009. The State Water Board adopted the latest amendment on September 15, 2009 and it became effective on March 10, 2010. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies 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	Existing: • 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

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

5. **Technology Based Effluent Limitations.** Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations, 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. As described in section IV.B.2 of the Fact Sheet, based on BPJ, the discharge authorized by this Order must meet minimum federal technology-based requirements based on Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards for the Steam Electric Power Generating Point Source Category in 40 CFR Part 423 (ELGs). The Regional Water Board has considered the factors listed in the California Water Code (CWC) sections 13241 and 13263 in establishing these requirements. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

6. **Water Quality-Based Effluent Limitations.** Section 301(b) of the CWA and 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) mandates 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, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

7. **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 SIP. This Policy became effective on August 27, 2008. This Order does not include compliance schedules or interim effluent limitations.

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

9. **Antidegradation Policy.** Section 131.12, title 40 of the Code of Federal Regulations (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 section 131.12 and State Water Board Resolution No. 68-16. Section IV.D.2 of this Fact Sheet discusses how the requirements of this Order satisfy the Antidegradation Policy.

10. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations[1] section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. Section IV.D.1 of this Fact Sheet provides a detailed discussion of how the requirements of this Order satisfy anti-backsliding requirements.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants 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: Section 122.44(a) requires that permits include applicable technology-based limitations and standards; and Section 122.44(d) requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where the discharge has the reasonable potential to cause or contribute to an excursion above a narrative criterion, but numeric water quality objectives have not been established, WQBELs may be established using one or more of three methods described at section 122.44(d)(vi). First, WQBELs may be established using a calculated water quality criterion, such as a proposed State criterion or an explicit State policy or regulation interpreting its narrative criterion. Second, WQBELs may be established on a case-by-case basis using USEPA criteria guidance published under CWA section 304(a). Third, WQBELs may be established using an indicator parameter for the pollutant of concern.

[1] All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

A. Discharge Prohibitions

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

   This prohibition is based on the Basin Plan and State Water Board Order WQO No. 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 Discharger, or are not reasonably anticipated to be present in the discharge but have not been disclosed by the Discharger. 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 Ordering 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 Discharger is liable for the discharge of pollutants "*not within the reasonable contemplation of the permitting authority …<u>.whether spills or otherwise</u>…*" [*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 Discharger and (2) can be reasonably contemplated by the Regional Water Board.

   Whether or not the Discharger reasonably contemplates the discharge of a constituent is not relevant. What matters is whether the Discharger disclosed the constituent to the Regional Water Board or whether the presence of the pollutant in the discharge can otherwise be reasonably contemplated by the Regional Water Board at the time of Order adoption

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

   This prohibition is retained from Order No. R1-2002-0076.

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

   This prohibition is based on Section 13050 of the Water Code, and has been retained from Order No. R1-2002-0076.

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

   This prohibition is based on the Basin Plan policy on the control of water quality with respect to on-site waste treatment and disposal practices, and has been retained from Order No. R1-2002-0076.

5. **Discharge Prohibition III.E**. The discharge of waste at any point not described in Finding II.B. or authorized by any State Water Board or other Regional Water Board permit is prohibited

   This is a general prohibition that allows the Discharger to discharge waste only in accordance with waste discharge requirements. It is based on Sections 301 and 402 of the federal CWA and CWC Section 13263. This prohibition replaces Discharge Prohibition A.2 of Order No. R1-2002-0076 which prohibited discharges from the Facility to Humboldt Bay.

6. **Discharge Prohibition III.F**. The discharge of waste to land that is not owned by, or under agreement to use by, the Discharger is prohibited.

   This prohibition is retained from Order No. R1-2002-0076. Land used for the application of wastewater must be owned by the Discharger or be under control of the Discharger by contract so that the Discharger maintains a means for ultimate disposal of treated wastewater.

7. **Discharger 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 noncontact cooling water is not subject to this prohibition.

   This prohibition is retained from Order No. R1-2002-0076 and is necessary to ensure that the Discharger's treatment system is demonstrating adequate treatment performance necessary to prevent an exceedance of receiving water quality standards or objectives.

8. **Discharge 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. R1-2002-0076 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 either Discharge Points 001 or 002 is neither anticipated nor permitted.

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

   This prohibition is established by this Order and is based on the discharge prohibitions contained in the Ocean Plan.

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

    This prohibition is established by this Order and is based on the discharge prohibitions contained in the Ocean Plan.

11. **Discharge Prohibition III.K.** Discharge of metal cleaning wastes directly into the ocean or into a waste stream that discharges to the ocean is prohibited.

    This prohibition is established by this Order to ensure compliance with 40 CFR 423.12 (b) (5), which contains technology-based effluent limitations for metal cleaning wastes. Since this waste stream exists, but it has not been monitored and is not anticipated for discharge into the ocean, this prohibition is a substitute for the otherwise requisite effluent limitations.

B. Technology-Based Effluent Limitations

1. Scope and Authority

CWA Section 301(b) and 40 CFR 122.44(a) require that permits include applicable technology-based limitations and standards. 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 performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.

b. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.

c. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including five-day biochemical oxygen demand (BOD), total suspended solids (TSS), fecal coliform, pH, and oil and grease. The BCT standard is established after considering the "cost reasonableness" of the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result, and also the cost effectiveness of additional industrial treatment beyond BPT.

d. New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires USEPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and Section 125.3 of the Code of Federal Regulations authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the permit writer must consider specific factors outlined in Section 125.3.

2. Applicable Technology-Based Effluent Limitations

Pursuant to CWA Section 306(b)(1)(B), USEPA has established standards of performance (technology-based limitations and standards) for steam electric power plants at 40 CFR 423, Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards for the Steam Electric Power Generating Point Source Category. The requirements of 40 CFR 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 CFR 423 for facilities utilizing fossil-type fuels. Because operations and wastes generated at the Facility are similar to those addressed in 40 CFR 423, the previous Order established effluent limitations and permit conditions for the Discharger similar to those contained in 40 CFR 423. Consistent with the previous Order, this Order applies the requirements of 40 CFR 423 to the Facility based on BPJ.

When establishing permit requirements based on BPJ, 40 CFR 125.3(c)(2) requires the consideration of appropriate factors listed in 40 CFR 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 CFR 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 CFR 423 have been applied in the previous Order, the available technology, process wastewaters, and engineering are sufficient to meet the requirements established in 40 CFR 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.

Table A of the Ocean Plan contains technology-based effluent limitations for discharges to the Ocean. Effluent limitations based on Table A of the Ocean Plan are not applicable to the Discharger's process wastewater because effluent guidelines have been established.

a. Effluent Limitation Guidelines Based on 40 CFR 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 CFR 423.12(b)(1)].

(b) There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid. [40 CFR 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 CFR 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 CFR 423 (i.e. all process streams other than cooling tower blowdown). This includes, but is not limited to, boiler blowdown, screw and bearing cooling water, 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. [40 CFR 423.12(b)(7)].

Table F-8. Cooling Tower Blowdown BPT ELGs

Parameter	Units	Average Concentration[2]	Maximum Concentration[3]
Free Available Chlorine	mg/L	0.2	0.5

(e) Neither free available chlorine nor total residual chlorine may be discharged from any one unit for more than two hours in any one day and not more than one unit in any plant may

[2] The term “average concentration”, as it relates to chlorine discharge under ELGs at 40 CFR 423, means the average of analyses made over a single period of chlorine release which does not exceed two hours.

[3] The term “maximum concentration”, as it relates to chlorine discharge under ELGs at 40 CFR 423, means the maximum of analyses made over a single period of chlorine release which does not exceed two hours.

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 polychlorinated biphenyl compounds such as those commonly used for transformer fluid. [40 CFR 423.13(a)]

(b) Total residual chlorine may not be discharged from any single generating unit for more than two hours per day unless the Discharger demonstrates to the permitting authority that discharges for more than two hours is required for macroinvertebrate control. Simultaneous multi-unit chlorination is permitted. [40 CFR 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 concentrations listed in Table F-9, below. [40 CFR 423.13(d)(1)]

Table F-9. Cooling Water Blowdown BAT ELGs

Parameter	Units	30-day Average Concentration	Daily Maximum Concentration	Average Concentration[2]	Maximum Concentration[3]
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	[4]	[4]	--	--

3. Summary of Technology-Based Effluent Limitations

The Facility discharges process waters to the receiving waters via Discharge Points 001, 010, and 020. The total flow volume to the

[4] No detectable amount of the 126 priority pollutants contained in chemicals added for cooling tower maintenance, as defined in 40 CFR 423, may be discharged from the cooling tower blowdown except for total chromium and total zinc.

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 CFR 423. 40 CFR 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 CFR 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 CFR 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 IVB.2.a.ii.(a) of this Fact Sheet, 40 CFR 423 establishes ELGs for the discharge of PCBs. However, the Discharger 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 not because the Facility is 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 B pollutants, as established in section IV of the MRP.

Effluent limitations in 40 CFR 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 the previous Order, technology-based effluent limitations in this Order are expressed as concentration-based limitations.

This Order establishes the following technology-based effluent limitations at the low volume waste sources discharge point (Monitoring Location M-010) and at the cooling water blowdown discharge point (M-020).

Table F-10. TBELs at Monitoring Locations M-010

Parameter	Units	Effluent Limitations			
		30-Day Average	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
TSS	mg/L	30	100	--	--
Oil and Grease	mg/L	15	20	--	--
pH	s.u.	--	--	6.0	9.0

Table F-11. TBELs at Monitoring Location M-020

Parameter	Units	Effluent Limitations					
		30-Day Average	Maximum Daily	Average[2]	Maximum[3]	Instantaneous Minimum	Instantaneous Maximum
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	[4]	[4]	--	--	--	--
pH	s.u.	--	--	--	--	6.0	9.0

Table F-12. TBELs at Monitoring Locations M-001

Parameter	Units	Effluent Limitations	
		Instantaneous Minimum	Instantaneous Maximum
pH	s.u.	6.0	9.0

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and 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. This Order contains requirements that are necessary to meet applicable water quality standards.

Section 122.44(d)(1)(i) mandates 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.

As discussed in section II.B of the Fact Sheet, the Facility may discharge at Discharge Point 001 to the Pacific Ocean. A reasonable potential analysis (RPA) was conducted for discharges to the Pacific Ocean according to procedures in the Ocean Plan.

Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) USEPA criteria guidance under CWA Section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric 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 Ocean Plan and the Basin 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 CTR and NTR.

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 Finding II.H of the Order and sections III.C.1 and III.C.2 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 into the Order. Table B 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 CFR 122.44(d)(1), and in accordance with procedures established by the Ocean Plan, the Regional Water Board has performed an Ocean Plan RPA to determine the need for effluent limitations for the Table B toxic pollutants.

c. Basin Plan Water Quality Objectives. In addition to the water quality objectives indicated above, the Basin Plan contains narrative objectives for color, tastes and odors, floating material, suspended material, settleable material, oil and grease, biostimulatory substances, sediment, turbidity, pH, dissolved oxygen, bacteria, temperature, toxicity, pesticides, chemical constituents, and radioactivity that apply to inland surface waters, enclosed bays, and estuaries. For waters designated for use as domestic or municipal supply (MUN), the Basin Plan establishes as applicable water quality criteria the Maximum Contaminant Levels (MCLs) established by the California Department of Public Health for the protection of public water supplies at Title 22 of the California Code of Regulations Section 64431 (Inorganic Chemicals) and Section 64444 (Organic Chemicals).

3. Determining the Need for WQBELs

NPDES regulations at 40 CFR 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 RPA

i. Determining Reasonable Potential

Procedures for performing a 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 B 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 http://www.waterboards.ca.gov/plnspols/docs/oplans/rpcalc.zip. The calculator (RPcalc 2.0) was used in conducting the RPA and considers several pathways in the determination of reasonable potential.

(a) 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.

(b) 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.

(c) 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.

(d) 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.

(1) 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.

(2) 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.)

(e) Fifth Path

A non-parametric RPA is conducted when the effluent data set contains less than 3 detected and quantified values, or when the effluent data set contains 3 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.

ii. Reasonable Potential Determination

The following table presents results of the RPA, performed in accordance with procedures described by the Ocean Plan and summarized above. The RPA was conducted using effluent monitoring data generated during monitoring events between November 2002 and September 2010. Consistent with Order No. R-2010-0033 for the Freshwater Tissue Company's Samoa Pulp Mill, which shares the ocean outfall at Discharge Point 001, the Regional Water Board has granted a dilution ratio of 115:1 at Discharge Point 001, thus a dilution ratio of 115:1 was considered during the RPA.

The RPA endpoint for each Table B pollutant is identified. As shown in the following table, the RPA commonly leads to Endpoint 3, meaning that the RPA is inconclusive, 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 pollutants during the term of the reissued permit.

The RPA showed "reasonable potential" for total recoverable copper; and therefore an effluent limitation for total recoverable copper is required for discharges to the Pacific Ocean at Discharge Point 001.

Table F-13.Ocean RPA Summary Results

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L)	RPA Result, Comment
Objectives for Protection of Marine Aquatic Life					
Arsenic	8	2	2	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Cadmium	1	2	2	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L)	RPA Result, Comment
					greater than 80% ND.
Chlorinated Phenolics[5]	1	2	2	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chromium (VI)	2	20	20	ND	Endpoint 2- An effluent limitation is not required for this pollutant. Monitoring may be required as appropriate.
Copper	**3**	**33**	**18**	**8.61**	**Endpoint 1- An effluent limitation must be developed for this pollutant. Monitoring is required.**
Cyanide	1	2	2	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Total Chlorine Residual[6]	2	30	27	1.74	Endpoint 2- An effluent limitation is not required for this pollutant. Monitoring may be required as appropriate.
Acute Toxicity	0.3 (TUa)	1	0	0.08	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chronic Toxicity	1 (TUc)	4	0	0.43	**Endpoint 1- An effluent limitation must be developed for this pollutant. Monitoring is required.**
Ammonia (as N)	600	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.

[5] Chlorinated phenolics shall mean the sum of 4-chloro-3-methylphenol, 2-chlorophenol, pentachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol.

[6] RPA conducted using Free Chlorine Residual data because previous permit did not require Total Chlorine Residual monitoring.

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L)	RPA Result, Comment
Endosulfan[7]	0.009	3	3	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Endrin	0.002	3	3	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
HCH[8]	0.004	3	3	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Lead	2	33	31	0.43	Endpoint 2- An effluent limitation is not required for this pollutant. Monitoring may be required as appropriate.
Mercury	0.04	3	3	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Nickel	5	2	1	0.13	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Non-chlorinated Phenolics[9]	30	4	4	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Selenium	15	2	2	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Silver	0.7	2	2	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.

[7] Endosulfan shall mean the sum of endosulfan-alpha and –beta and endosulfan sulfate.

[8] HCH shall mean the sum of the alpha, beta, gamma (lindane) and delta isomers of hexachlorocyclohexane.

[9] Non-chlorinated phenolics shall mean the sum of 2,4-dimethylphenol, 4,6-dinitro-2-methylphenol, 2,4-dinitrophenol, 2-methylphenol, 4-methylphenol, 2-nitrophenol, 4-nitrophenol, and phenol.

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L)	RPA Result, Comment
Zinc	20	32	23	6.26	Endpoint 2- An effluent limitation is not required for this pollutant. Monitoring may be required as appropriate.
Objectives for Protection of Human Health – Noncarcinogens					
1,1,1-Trichloroethane	540,000	2	2	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
2,4-Dinitrophenol	4	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
2-Methyl-4,6-Dinitrophenol	220	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Acrolein	220	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Antimony	1,200	2	2	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Bis(2-Chloroethoxy) Methane	4.4	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Bis(2-Chloroisopropyl)Ether	1,200	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chlorobenzene	570	2	2	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chromium (III)	190,000	2	2	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Dichlorobenzenes[10]	5,100	4	4	ND	Endpoint 3- RPA is

[10] Dichlorobenzenes shall mean the sum of 1,2- and 1,3-dichlorobenzene.

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L)	RPA Result, Comment
					inconclusive. Less than 3 detects or greater than 80% ND.
Diethyl Phthalate	33,000	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Dimethyl Phthalate	820,000	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Di-n-Butyl Phthalate	3,500	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Ethylbenzene	4,100	2	2	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Fluoranthene	15	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Hexachlorocyclopentadiene	58	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Nitrobenzene	4.9	1	1	0.0083	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Thallium	2	3	3	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Toluene	85,000	2	2	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Tributyltin	0.0014	NA	NA	NA	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Objectives for Protection of Human Health – Carcinogens					
1,1,2,2-Tetrachloroethane	2.3	2	2	ND	Endpoint 3- RPA is inconclusive. Less

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L)	RPA Result, Comment
					than 3 detects or greater than 80% ND.
1,1,2-Trichloroethane	9.4	2	2	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
1,1-Dichloroethylene	0.9	2	2	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
1,2-Dichloroethane	28	2	2	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
1,2-Diphenylhydrazine	0.16	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
1,3-Dichloropropylene	8.9	2	2	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
1,4 Dichlorobenzene	18	2	2	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
TCDD Equivalents[11]	3.9×10^{-9}	2	1	1.2×10^{-10}	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
2,4,6-Trichlorophenol	0.29	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
2,4-Dinitrotoluene	2.6	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
3,3'-Dichlorobenzidine	0.0081	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.

[11] TCDD equivalents shall mean 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.

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L)	RPA Result, Comment
Acrylonitrile	0.1	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Aldrin	0.000022	3	3	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Benzene	5.9	2	2	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Benzidine	0.000069	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Beryllium	0.033	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Bis(2-Chloroethyl)Ether	0.045	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Bis(2-Ethylhexyl)Phthalate	3.5	2	1	0.16	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Carbon Tetrachloride	0.9	2	2	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chlordane[12]	0.000023	3	3	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chlorodibromomethane	8.6	2	1	0.0035	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chloroform	130	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or

[12] Chlordane shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L)	RPA Result, Comment
					greater than 80% ND.
DDT[13]	0.00017	9	9	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Dichlorobromomethane	6.5	2	1	0.011	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Dieldrin	0.00004	3	3	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Halomethanes[14]	130	3	3	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Heptachlor	0.00005	3	3	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Heptachlor Epoxide	0.00002	3	3	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Hexachlorobenzene	0.00021	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Hexachlorobutadiene	14	2	2	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Hexachloroethane	2.5	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Isophorone	730	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Methylene Chloride	450	2	2	ND	Endpoint 3- RPA is

[13] DDT shall mean the sum of 4,4'DDT, 2,4'DDT, 4,4'DDE, 2,4'DDE, 4,4'DDD, and 2,4'DDD.

[14] Halomethanes shall mean the sum of bromoform, bromomethane (methyl bromide) and chloromethane (methyl chloride).

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L)	RPA Result, Comment
					inconclusive. Less than 3 detects or greater than 80% ND.
N-Nitrosodimethylamine	7.3	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
N-Nitrosodi-n-Propylamine	0.38	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
N-Nitrosodiphenylamine	2.5	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
PAHs[15]	0.0088	11	11	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
PCBs[16]	0.000019	3	3	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Tetrachloroethylene	2	2	2	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Toxaphene	0.00021	3	3	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Trichloroethylene	27	2	2	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Vinyl Chloride	36	1	1	ND	Endpoint 3- RPA is inconclusive. Less than 3 detects or

[15] PAHs (polynuclear aromatic hydrocarbons) shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo(k)fluoranthene, 1,12-benzoperylene, benzo(a)pyrene, chrysene, dibenzo(a,h)anthracene, fluorene, indeno(1,2,3-cd)pyrene, phenanthrene and pyrene.

[16] PCBs (polychlorinated biphenyls) shall mean 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.

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L)	RPA Result, Comment
					greater than 80% ND.

Notes to Table F-12:
ND indicates that the pollutant was not detected.
NA indicates that data was not available.
Minimum probable initial dilution for this discharger is 115:1.
The Maximum Effluent Concentration is the expected concentration after complete mixing, in accordance with reasonable potential procedure in Appendix VI of the Ocean Plan.

iii. 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 a WQBEL for total recoverable copper and chronic toxicity for the wastewater discharged through Discharge Point 001. Further, because ELGs have been established for total recoverable chromium, total recoverable zinc, and total chromium, WQBELs for these parameters must be calculated to ensure the technology-based effluent limitations do not allow for exceedances of water quality objectives.

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

$$Ce = Co + Dm (Co – Cs)$$

Where

Ce = the effluent limitation (µg/L)

Co = the concentration (the water quality objective) to be met at the completion of initial dilution (µg/L)

Cs = background seawater concentration (µg/L), with all metals expressed as total recoverable concentrations

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

For the Discharger, the calculated minimum probable initial dilution is unchanged from the previous Order (R1-2002-0076). Initial dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge. As site-specific water quality data is not available, in accordance with Table B implementing procedures, Cs equals zero for all pollutants, except the following:

Table F-14. Background Seawater Concentration – Ocean Plan

Parameter	Background Seawater Concentration (µg/L)
Arsenic	3
Copper	2
Mercury	0.0005
Silver	0.16
Zinc	8
Chronic Toxicity	0

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

Table F-15. Table B Water Quality Objectives

Parameter	Units	6-Month Median	30-Day Average	Daily Maximum	Instantaneous Maximum
Copper, Total Recoverable	µg/L	3	--	12	30
Chromium, Total Recoverable	µg/L	2	--	8	20
Lead	µg/L	2	--	8	20
Zinc, Total Recoverable	µg/L	20	--	80	200
Chronic Toxicity	TUc	--	--	1	--

Using the equation, Ce = Co + Dm (Co – Cs), concentration based effluent limitations are calculated as follows:

Copper

Ce = 3 + 115 (3 – 2) = 118 µg/L (6-Month Median)

Ce = 12 + 115 (12 – 2) = 1,162 µg/L (Daily Maximum)
Ce = 30 + 115 (30 – 2) = 3,250 µg/L (Instantaneous Maximum)

Technology-based effluent limitations prohibit the discharge of priority pollutants contained in chemicals added for cooling tower maintenance with the exception of chromium, and zinc. If copper is used as a chemical for cooling tower maintenance, the technology-based effluent limitation of no discharge of detectable priority pollutants shall be applicable to cooling tower blowdown.

Chromium

Ce = 2 + 115 (2 – 0) = 232 µg/L (6-Month Median)
Ce = 8 + 115 (8 – 0) = 928 µg/L (Daily Maximum)
Ce = 20 + 115 (20 – 0) = 2,320 µg/L (Instantaneous Maximum)

Technology-based effluent limitations of 200 µg/L as a 30-day average and a daily maximum are applicable and are more stringent than the Ocean Plan-based WQBELs.

Lead

Ce = 2 + 115 (2 – 0) = 232 µg/L (6-Month Median)
Ce = 8 + 115 (8 – 0) = 928 µg/L (Daily Maximum)
Ce = 20 + 115 (20 – 0) = 2,320 µg/L (Instantaneous Maximum)

Zinc

Ce = 20 + 115 (20 – 8) = 1,400 µg/L (6-Month Median)
Ce = 80 + 115 (80 – 8) = 8,360 µg/L (Daily Maximum)
Ce = 200 + 115 (200 – 8) = 22,280 µg/L (Instantaneous Maximum)

Technology-based effluent limitations of 1,000 µg/L as a 30-day average and a daily maximum are applicable and are more stringent than the Ocean Plan-based WQBELs.

Chronic Toxicity

Ce = 1 + 115 (1 - 0) = 116 TUc (Daily Maximum)

The technology-based effluent limitations described in section IV.B of this Fact Sheet are more stringent than the respective Ocean Plan WQBELs for those parameters. Thus, technology-based effluent limitations have been established for those parameters.

However, the Ocean Plan requires development of concentration and mass-based WQBEL because there is reasonable potential for Copper. As described in Section III.C of the Ocean Plan, mass-based effluent limitations are calculated as follows:

Mass-Based Effluent Limit (lbs/day) = 0.00834 x Ce x Q

Where,

Ce = the effluent limitation (µg/L)

Q = flow rate in million gallons per day (MGD)

0.00834 = conversion factor (8.34 if Ce is in mg/L)

Mass-based limitations are established using the facility highest six month median flow of 0.146 MGD. Mass-based limitations for total recoverable copper are summarized below.

Table F-16. Table B Mass-based Effluent Limitations

Parameter	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
Copper, Total Recoverable	lbs/day	0.172	1.698	4.749

As such, flow weighted mass-based effluent limitations for total recoverable copper of 0.172 lbs/day, 1.698 lbs/day, and 4.749 lbs/day are applied to the gross effluent waste stream as a 6-month median, a daily maximum, and an instantaneous maximum respectively, at Monitoring Location M-010. An instantaneous maximum effluent limitation of 3200 µg/L is applied to the combined final effluent at Monitoring Location M-001. By not including mass emission limits, the previous permit incorrectly implemented provision III.C of the Ocean Plan. This permit correctly implements provision III.C of the Ocean Plan by including mass emission limits. Replacement of the previous concentration limits with mass limits does not constitute

backsliding because the mass limits are more restrictive under all historic and foreseeable flows.

WQBELs established by the Order are summarized below. Note that the limitations have been rounded to two significant digits from the calculations above.

Summary of Ocean Plan Water Quality-based Effluent Limitations Discharge Point 001

Table F-17. Final WQBELs for Ocean Plan Table B Pollutants for Gross Effluent Waste (Monitoring Location M-001)

Parameter	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
Copper, Total Recoverable	µg/L	118	1162	3200[17]
	lbs/day	0.172	1.698	4.749
Chronic Toxicity	TUc	---	116	--

4. Whole Effluent Toxicity (WET)

Effluent limitations for whole effluent acute and 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.

a. Discharges to the Pacific Ocean (Discharge Point 001)

The Ocean Plan contains numeric water quality objectives for acute and chronic toxicity established in Table B. A RPA for whole effluent chronic toxicity was conducted in accordance with Appendix VI of the Ocean Plan using effluent monitoring data collected during monitoring events in December 2008 and in April 2009 for the wastewater discharged through Discharge Point 001. The test species were *Mytilus sp.* (mussel), *Selanastrum capricornutum* (freshwater algae), *Pimephales promelas* (fathead minnow),and

[17] The previous permit contained a limit of 3200 µg/L, which is retained here because the calculated WQBEL of 3250 µg/L would have required an antidegradation analysis to support a finding for backsliding. Since no analysis was performed, the existing limitation is retained.

Ceriodaphnia dubia (daphnid). A maximum effluent concentration of 1 TUc was observed. The calculator (RPcalc 2.0) was used in conducting the RPA. The results for the RPA indicate that the analysis was inconclusive (Endpoint 3), thus the effluent limitation for chronic toxicity has been carried over for wastewater discharged through Discharge Point 001.

Consistent with the requirements of the Ocean plan, this Order establishes chronic monitoring requirements for effluent at Discharge Point 001. If the result of any chronic toxicity test exceeds the water quality objective, the Discharger must initiate accelerated monitoring as described in section V of the MRP. After accelerated monitoring, if conditions of chronic toxicity are found to persist, the Discharger will be required to conduct a Toxicity Reduction Evaluation (TRE), as described by the MRP. Accelerated toxicity testing and TRE/TIE requirements in the Order are consistent with the previous permit.

Further, this Order establishes a requirement for the Discharger 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.

This Order also establishes a new dilution series for WET testing 3.4, 1.75, 0.87, 0.45, and 0.25 because the instream waste concentration (IWC) is approximately 0.87% wastewater and this dilution series brackets the IWC better than the existing Order, which will provide more accurate wet tests. This is consistent with US EPA Regions 9 and 10 Guidance For Implementing Whole Effluent Toxicity Testing Programs, which states in Appendix D "A series of at least five effluent dilutions and a control shall be tested. At minimum, the dilution series shall include and bracket the IWCs." (Emphasis original).

D. Final Effluent Limitations

1. Satisfaction of Anti-Backsliding Requirements

This Order contains restrictions on individual pollutants that are no more stringent than required by the federal CWA. Individual pollutant restrictions consist of technology-based restrictions and water quality-based effluent limitations. The technology-based effluent limitations consist of restrictions on certain pollutants as specified in federal

regulations. The permit's technology-based pollutant restrictions are no more stringent than required by the CWA. Water quality-based effluent limitations (WQBELs) have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. The scientific procedures for calculating the individual water quality-based effluent limitations are based on the Ocean Plan, which was approved by USEPA on September 15, 2009. All beneficial uses and water quality objectives contained in the Ocean Plan were approved under state law and submitted to and approved by USEPA prior to October 8, 2010. Any water quality objectives and beneficial uses submitted to USEPA prior to October 10, 2010, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to Section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the CWA and the applicable water quality standards for purposes of the CWA.

This Order correctly implements provision III.C of the Ocean Plan by including mass emission limits on the gross effluent discharge, which are new and more stringent than the previous permit. The instantaneous maximum concentration for copper has been retained at 3200 µg/L from the previous permit in order to satisfy antibacksliding rather than modify the limit to 3250 µg/L as determined in the reasonable potential analysis.

The previous permit contained effluent limitations for lead and zinc which were based on the CTR criteria for the protection of marine and aquatic life. Following the protocol in the Ocean Plan, the most stringent effluent concentration limits for lead and zinc would be the 6-Month Median values of 232 and 1400 µg/L, respectively. The MECs for lead and zinc were 50 and 720 µg/L, respectively, based on 34 samples collected between November, 2002, and September, 2011. The lack of reasonable potential for lead and zinc constitutes new information, which permits the removal of effluent limitations consistent with CWA section 402(o)(2)(B). As a result of the RPA, effluent limitations for lead and zinc are not included in the proposed Order and anti-backsliding requirements are satisfied.

The previous permit contained effluent limitations for acute toxicity of aquatic organisms in a format inconsistent with the applicable Ocean Plan procedure for developing such limitations. The previous permit did

not contain monitoring requirements for acute toxicity and the one sample that the Discharger took in 2011 is insufficient to justify removal of the limitation. Instead, this Order correctly implements the Ocean Plan procedure for calculation of effluent limitations in terms of acute toxicity units (TUa) and this Order replaces the previous limitation with 3.75 TUa and anti-backsliding requirements are satisfied.

The effluent limitation for Chronic Toxicity in the previous permit was the result of a miscalculation and represented the 115:1 dilution factor directly as a limit of 115 TUc. This Order correctly calculates the Chronic Toxicity limitation using the Ocean Plan procedure, which results in an effluent limitation of 116 TUc. This minor change to the limitation does not affect the determination of reasonable potential and therefore satisfies antibacksliding requirements.

2. Satisfaction of Antidegradation Policy

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 the previous Order.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The terms of this Order meet the minimum federal technology-based effluent limitations for the Steam Electric Power Generating Point Source Category at 40 CFR 423. The technology-based effluent limitations consist of restrictions on free available chlorine, total recoverable chromium, and total recoverable zinc, total suspended solids, oil and grease, and the remaining priority pollutants as defined in 40 CFR 423. Restrictions on these pollutants are discussed in section IV.B in this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses associated with the Pacific Ocean at Discharge Point 001. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. The scientific procedures for calculating the individual WQBELs are based on the Ocean Plan, which was approved by USEPA on October 8, 2010. Most beneficial uses

and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 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.

In addition, 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.

Summary of Final Effluent Limitations

Discharge Point 001 (while discharging to Pacific Ocean)

Table F-18. Summary of Final Effluent Limitations at Discharge Point 001 (Monitoring Location M-001)

Parameters	Units	Effluent Limitations				Basis
		6-Month Median	Daily Maximum	Instantaneous Minimum	Instantaneous Maximum	
Copper, Total Recoverable	µg/L	118	1162	--	3200	OP
	lb/day	0.172	1.698	--	4.749	
pH	s.u.	--	--	6.0	9.0	ELG, BPJ
Acute Toxicity	TU_a	--	3.75	--	--	OP, PO
Chronic Toxicity	TU_c	--	115	--	--	OP

Table F-19 Summary of Final Effluent Limitations at Discharge Point 010 (Monitoring Locations M-010)

Parameter	Units	Effluent Limitations					Basis
		6-Month Median	30-Day Average	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Total Suspended Solids (TSS)	mg/L	--	30	100	--	--	ELG
Oil and Grease	mg/L	--	15	20	--	--	ELG
pH	s.u.				6.0	9.0	ELG

Discharge Point 020 (while discharging to Pacific Ocean)

Table F-20. Summary of Final Effluent Limitations at Discharge Point 020

Parameters	Units	Effluent Limitations						Basis
		30-Day Average	Maximum Daily	Average [18]	Maximum [19]	Instantaneous Minimum	Instantaneous Maximum	
Free Available Chlorine	mg/L	--	--	0.2	0.5	--	--	ELG
Chromium, Total Recoverable	mg/L	0.2	0.2	--	--	--	--	ELG
Zinc, Total Recoverable	mg/L	1.0	1.0	--	--	--	--	ELG
Priority Pollutants[20]	mg/L	No detectable amount	No detectable amount	--	--	--	--	ELG
pH	s.u.	--	--	--	--	6.0	9.0	ELG

E. Interim Effluent Limitations

This section is not applicable.

F. Land Discharge Specifications

This section is not applicable.

G. Reclamation Specifications

This section is not applicable.

[18] The term "average concentration", as it relates to chlorine discharge under ELGs at 40 CFR 423, means the average of analyses made over a single period of chlorine release which does not exceed two hours (See Attachment A).

[19] The term "maximum concentration", as it relates to chlorine discharge under ELGs at 40 CFR 423, means the maximum of analyses made over a single period of chlorine release which does not exceed two hours (See Attachment A).

[20] 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 contained in section IX.A of the MRP.

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 Regional Water Board adopted water quality criteria as water quality objectives in the Basin Plan and in the Ocean Plan. The Basin Plan states that "[t]*he numerical and narrative water quality objectives define the least stringent standards that the Regional* [Water] *Board will apply to regional waters in order to protect the beneficial uses*."

The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This Order contains receiving water limitations for discharges to the freshwater wetland based on the Basin Plan numerical and narrative water quality objectives for biostimulatory substances, bacteria, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, specific conductance, total dissolved solids, and turbidity.

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 dissolved oxygen, floating particulates, oil and grease, pH, discoloration, natural lighting, deposition of solids, dissolved sulfides, organic materials, and nutrient materials.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this Facility.

A. Influent Monitoring

This section is not applicable.

B. Effluent Monitoring

Pursuant to the requirements of 40 CFR 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. In addition, routine monitoring of the effluent and the receiving water for priority pollutants is required to periodically assess the reasonable potential of the discharge to cause or contribute to an exceedance of water quality objectives.

Gross effluent monitoring requirements from Order No. R1-2002-0076 for discharges to the Pacific Ocean at Monitoring Location M-001 are retained for total recoverable copper, total recoverable chromium, total recoverable zinc, pH, Table B Pollutants, and acute and chronic toxicity. Routine effluent monitoring has been eliminated for total recoverable lead based on the results of the RPA, which indicated no reasonable potential for lead. Additional monitoring of flow is required on a continuous basis.

This Order requires that the Discharger establish new discharge monitoring locations to determine compliance with effluent limitations for low volume wastes and cooling tower blowdown at Monitoring Locations M-010 and M-020, respectively. Monitoring at these locations is necessary in order to demonstrate compliance with the TBELs established under 40 CFR 423. This MRP establishes new monitoring requirements for Priority Pollutants contained in cooling tower maintenance chemicals at M-020 in order to demonstrate compliance with TBELs contained in this Order.

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order: M-010 and M-020.

The following describes changes to the effluent monitoring requirements from Order No. R1-2002-0076 established by this Order.

1. Monitoring of the combined low volume waste sources is required in this permit to comply with the TBELs contained in 40 CFR 423 and to assess compliance with the new individual discharge point established by this Order.

2. Flow monitoring has been included to enable calculation of mass emission rates and to track the quantity of wastewater being discharged.

3. Annual monitoring for acute toxicity is included to collect data to support a RPA in future permit renewals.

4. The Gross effluent monitoring frequency for Chronic Toxicity has been increased from annually to quarterly because deficient monitoring for this parameter during the previous permit term resulted in insufficient data to support a reasonable potential analysis.

5. Monitoring for Hexavalent Chromium has been eliminated due to a lack of reasonable potential and no TBELs for this constituent.

6. In accordance with the Ocean Plan, periodic monitoring is required for Table B parameters for which criteria or objectives apply and for which no effluent limitations have been established. In order to provide sufficient monitoring to characterize the effluent and conduct a meaningful RPA during the next permit renewal, this Order establishes one full set of sampling for parameters contained in Table B of the Ocean Plan during the permit term.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) limitations and monitoring requirements 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. This Order includes an effluent limitation and monitoring requirements for chronic toxicity in discharges to the ocean via Discharge Point 001. The effluent limitation has been carried forward from the existing permit because the available data, when input into the RPA, resulted in Endpoint 3, which is inconclusive. The Discharger did not adequately comply with the monitoring requirements for toxicity in the previous permit resulting in insufficient data for a conclusive RPA. The monitoring frequency has been increased in part to collect more data to support a conclusive RPA and in part as a surrogate to understand potential receiving water impacts of the discharge.

D. Land Discharge Monitoring Requirements

This section is not applicable.

E. Receiving Water Monitoring

This section is not applicable.

F. Other Monitoring Requirements

1. Cooling Tower Maintenance Chemicals

Monitoring for priority pollutants present in cooling tower maintenance chemicals has been established and is required in order to determine compliance with effluent limitations contained in this Order.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

Section 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with section 123.25, this Order omits federal conditions that address enforcement authority specified in 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).

B. Regional Water Board Standard Provisions

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

1. 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 CFR sections 122.41(j)(5) and (k)(2)].

2. Order Provision VI.A.2.b requires the Discharger to notify Regional Water Board staff, orally and in writing, in the event that the Discharger does not comply or will be unable to comply with any Order

requirement. This provision requires the Discharger to make direct contact with a Regional Water Board staff person.

3. Order Provision VI.A.2.c requires the Discharger to file a petition with, and receive approval from, the State Water Board Division of Water Rights prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse. This requirement is mandated by Water Code section 1211.

C. Special Provisions

1. Reopener Provisions

a. Standard Revisions (Special Provisions VI.C.1.a). Conditions that necessitate a major modification of a permit are described in 40 CFR 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 Provisions 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 Discharger 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 the receiving waters.

c. Whole Effluent Toxicity (Special Provisions VI.C.1.c). This Order requires the Discharger 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 new or revised numeric chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE.

Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Quality Board, this Order may be reopened to include a numeric chronic toxicity limitation based on that objective.

2. Special Studies and Additional Monitoring Requirements

a. Toxicity Reduction Requirements (Special Provision VI.C.2.a). In addition to routine toxicity monitoring, this Order requires the Discharger to submit to the Regional Water Board an Initial Investigative TRE Workplan within 3 months of the effective date of this Order for approval by the Executive Officer, to ensure the Discharger has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered. 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.

The Discharger is required to prepare a TRE Workplan in accordance with appropriate USEPA guidance. Numerous guidance documents are available, as identified below.

i. Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants, (EPA/833B-99/002), August 1999.

ii. Generalized Methodology for Conducting Industrial TREs, (EPA/600/2-88/070), April 1989.

iii. Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures, Second Edition, (EPA 600/6-91/005F), February 1991.

iv. Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I, (EPA 600/6-91/005F), May 1992.

v. Methods for Aquatic Toxicity Identification Evaluations; Phase II Toxicity Identification Procedures for Samples Exhibiting acute and Chronic Toxicity, Second Edition, (EPA 600/R-92/080), September 1993.

vi. Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity, Second Edition, (EPA 600/R-92/081), September 1993.

vii. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, (EPA 821/R-02/012), October 2002.

viii. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, (EPA 821/R-02/013), October 2002.

ix. Technical Support Document for Water Quality-based Toxics Control, (EPA 505/2-90/001), March 1991.

3. Best Management Practices and Pollution Prevention

a. Pollutant Minimization Plan (Special Provisions VI.C.3.a). Section VI.C.3.a is included in this Order as required by section 2.4.5 of the SIP. 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 Provisions VI.C.4.a and VI.C.4.b). Section 122.41(e) of 40 CFR 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 the Order, is an integral part of a well-operated and maintained facility.

5. Special for Municipal Facilities (POTWs Only)

This section is not applicable.

6. Other Special Provisions

a. Solids Disposal and Handling Requirements (Special Provisions VI.C.6.a). This Order establishes solids disposal and handling requirements to ensure that solids are properly contained prior to disposal that that they are disposed at a solid waste facility for which WDRs have been prescribed by the Regional Water Board or in a manner approved by the Executive Officer.

7. Compliance Schedules

This section is not applicable.

VIII. PUBLIC PARTICIPATION

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

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the following posting on the Regional Water Board's Internet site at: http://www.waterboards.ca.gov/northcoast/public_notices/public_hearings/npdes_permits_and_wdrs.shtml and through publication in the Times Standard on.

B. Written Comments

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

To be fully responded to by staff and considered by the Regional Water Board, written comments must be received at the Regional Water Board offices by 5:00 p.m. on **March 9, 2012.**

C. Public Hearing

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

Date:	April 26, 2012
Time:	8:30 a.m.
Location:	Regional Water Board Office, Board Hearing Room 5550 Skylane Boulevard, Suite A Santa Rosa, CA 95403

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

Please be aware that dates and venues may change. Our Web address is http://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 Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

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

E. Information and Copying

The Report of Waste Discharge (ROWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:00 a.m. and 5:00 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 Kason Grady at kgrady@waterboards.ca.gov or (707) 576-2682.