

Executive Officer's Summary Report
8:30 a.m., April 26, 2012
Regional Water Quality Control Board
David C. Joseph Hearing Room
5550 Skylane Boulevard, Suite A
Santa Rosa, California

Item: 3

Subject: **Public Hearing** on Order No. R1-2012-0027, to consider adoption of Waste Discharge Requirements for **Fairhaven Power, LLC, Fairhaven Power Facility**, WDID No. 1B80020OHUM, NPDES Permit No. CA0005932 Humboldt County

DISCUSSION

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 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 will be necessary in order to permit discharges to a new location.

The proposed permit contains several noteworthy requirements including the following:

1. New mass-based effluent limitations for Copper.
2. New monitoring location requirements for low volume wastes and cooling tower blowdown. The previous permit inadequately implemented the technology based effluent limitations for these waste streams by allowing them to be sampled after commingling.
3. Eliminated effluent limitations for Lead and Zinc due to no reasonable potential.
4. Eliminated effluent limitations for acute toxicity to remedy a mistake made in the previous permit.
5. Increased monitoring frequencies for Copper, Chromium, Zinc, pH and Chronic Toxicity in the Gross Effluent.
6. Increased monitoring frequencies for Total Suspended Solids, Oil and Grease, and pH in the Low Volume Waste Stream.

7. Increased monitoring frequencies for Chlorine, Chromium and Zinc in the Cooling Tower Blowdown.

A copy of the draft permit and/or information to access the draft on the Regional Water Board website was mailed to the Discharger, interested agencies, and persons. This item was open for public comment from February 2, 2012, through March 9, 2012. The State Water Board submitted comments via email on February 29, 2012, US EPA submitted comments via email on March 7, 2012, and the Discharger submitted a comment letter on March 9, 2012. During the public comment period, Regional Water Board staff also identified some changes that are needed to provide clarity, correct typographical errors, and to provide consistency between language in the permit, monitoring and reporting program and Fact Sheet. This permit package includes a Response to Comments document that provides responses to all comments and identifies changes made to the draft Order No. R1-2012-0027 in response to the Discharger's comments.

Preliminary Staff
Recommendation:

Adopt Order No. R1-2012-0027, as proposed.