California Regional Water Quality Control Board
North Coast Region

ORDER NO. R1-2010-0010

REQUIRING TECHNICAL INFORMATION
PURSUANT TO WATER CODE SECTION 13267(b)

FOR

DG Fairhaven Power, LLC
Fairhaven Power Plant
WDID NO. 1B85026RHUM

Humboldt County

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

1. DG Fairhaven Power, LLC (hereinafter Discharger), submitted the following documents to the Regional Water Board on July 28, 2009 and September 10, 2009, respectively:

   a) SEP [Supplemental Environmental Project] Constructed Wetlands Report of Waste Discharge (SEP ROWD); and

   b) Processed Bottom Ash and Process Water Sampling Report of Investigation (Sampling Report).

2. The General Industrial Storm Water Permit, Order No. 97-03-DWQ, (Storm Water Permit) contains enforceable requirements intended to control the discharge of pollutants from industrial processes into storm water. The Discharger applied for coverage under the Storm Water Permit on April 1, 2005 and the permit became active on September 22, 2005.

3. The Discharger's National Pollutant Discharge Elimination System (NPDES) Permit, Order R1-2002-0076, has enforceable requirements intended to control the discharge of pollutants from industrial processes to waters of the United States. The Discharger currently discharges its noncontact cooling water blowdown, boiler blowdown, reverse osmosis concentrate, and demineralizer back-wash (Process Wastewater) to the Freshwater Pulp outfall in the Pacific Ocean. The Discharger has submitted two versions of a Report of Waste Discharge as an application to renew its NPDES Permit. The first Report of Waste Discharge, submitted on February 23, 2007, proposed to continue discharging through the current ocean outfall. The most recent version, the SEP ROWD, proposes to discharge all of its Process Wastewater to the onsite dunes East of the Fairhaven Power Plant (Facility) in order to enhance existing and create new freshwater wetlands.

4. The 2007 Report of Waste Discharge included a proposal to discharge wash water from a proposed bottom ash separator system (Wash Water), which would add a new waste stream to the effluent discharge. Without first notifying the Regional Water Board, the Discharger installed and began operation of a bottom ash separator system. The separator system washed the bottom ash with fresh water, separated the aggregate material from the metals, and discharged residual Wash Water into the gross effluent stream. On August 6, 2008, the Regional Water Board informed the Discharger that the discharge of Wash Water into the effluent stream was in violation of their NPDES Permit and on the same day the Discharger ceased discharging Wash Water. Upon request from the Regional Water Board for the details of the unpermitted discharge, such as the duration and total volumes discharged to the effluent stream, the Discharger responded that the discharge was "minimal residual water" and that the volume was "de minimus." This response is insufficient to determine compliance with Discharge Prohibition A.1 of the NPDES Permit, which prohibits "the discharge of any waste not specifically regulated by this Permit." The Regional Water Board requires in this 13267 Order, below, that the Discharger supply all information regarding this discharge. Currently, washed bottom ash is being stored onsite with insufficient storm water containment in violation of the Storm Water Permit and in violation of Discharge Prohibition A.1 of the NPDES Permit.

5. Waste bottom ash from the boiler is also currently being stored on site, and has not been properly characterized to determine compliance with the Storm Water Permit The storage of waste bottom ash at the Facility is a management practice with a long history of noncompliance with the NPDES Permit and Storm Water Permit. In response to unpermitted disposal of ash at the northwestern corner of the Facility, the Regional Water Board notified Fairhaven Power Company on July 26, 2001 that the ash disposal was in violation of the NPDES Permit. To comply, on August 15, 2002, the Discharger began transporting newly generated bottom ash to Redwood Landfill in Novato, California while existing bottom ash remained on site until early 2005 when the Discharger constructed a 2.66 acre asphalt cap to cover and contain in place approximately 6,000 cubic yards of bottom ash onsite. Without first notifying the Regional Water Board, DG Fairhaven stopped trucking bottom ash to the Redwood Landfill and began, once again, storing it onsite without proper containment. The bottom ash piles remain uncovered and unprotected from contact with storm water, with hay bales as the only best management practices implemented to prevent pollutant transport to the adjacent dunes.

6. In order to characterize the unwashed bottom ash, the bottom ash Wash Water, and the washed bottom ash to determine appropriate containment and disposal requirements, DG Fairhaven developed a workplan entitled *Revised Workplan for Sampling Processed Bottom Ash and Process Water* (Revised Workplan) on January 30, 2009. On September 10, 2009, the Regional Water Board received the results of the Revised Workplan in the Sampling Report. The

Sampling Report also contains a section entitled “Proposed Bottom Ash Processing Plan,” which proposes to contain all Wash Water in a closed loop system. The Regional Water Board approved verbally on September 16, 2009 and via email on October 5, 2009 the operation of the bottom ash washing system, which is not required to be covered by the NPDES Permit because, as described in the Sampling Report, the bottom ash washing system will now contain all Wash Water, eliminating any discharge to waters of the State.

7. Although the operation of the bottom ash separator system does not require an NPDES permit, it does need to be covered by the Storm Water Permit because the system and its associated wastes are not fully contained to prevent contact with stormwater. The Storm Water Permit requires that DG Fairhaven prepare a Storm Water Pollution Prevention Plan (SW3P) to reduce or prevent industrial pollutants from entering storm water. The Sampling Report identifies that accumulated sludge associated with the bottom ash separator system will be profiled and disposed of at a licensed disposal facility. However, the Sampling Report does not address bottom ash Wash Water disposal or stormwater best management practices associated with the bottom ash separator system, including filtrate containment prior to reprocessing. The Sampling Report needs to set out how the Wash Water will be properly disposed of when necessary, how wastewater in the secondary containment basin will be disposed, and how the filtered material will be stored and contained to prevent contact with storm water prior to reprocessing. The bottom ash stockpiles (washed and unwashed) currently have insufficient storm water containment and are in violation of the Storm Water Permit and NPDES Permit. This 13267 Order, below, requires an amendment to the SW3P that identifies how all bottom ash will be sufficiently contained from storm water.

8. The bottom ash separator system separates the reusable fuel from the bottom ash by spraying it with recycled Wash Water. By recycling all Wash Water, unfiltered aqueous pollutants will concentrate; the Sampling Report describes dissolved solids reaching saturation concentration and settling out. By washing the bottom ash with a concentrated solution, the resulting washed bottom ash may become a greater threat to water quality. Since the washed bottom ash samples analyzed in the Sampling Report were taken from bottom ash washed with clean nonrecycled water, the results do not represent the proposed and current processed product.

9. The SEP ROWD does not include any information regarding the land disposal of fly ash to farmland. As a waste containing pollutants that could be released to groundwater or surface water in concentrations exceeding water quality objectives, fly ash is a “Designated Waste” according to Water Code Section 13173. The SEP ROWD incompletely identifies the waste streams from the Facility by excluding fly ash disposal.

10. DG Fairhaven has proposed to sell the washed bottom ash for road base. In order to proceed with the permitting of the washed bottom ash as a reusable product for road base, DG Fairhaven will need to submit analytical results from samples of the washed bottom ash produced from the current closed loop process, analyzed for all constituents analyzed in the Sampling Report, including all congeners of chlorinated dibenzodioxins and dibenzofurans (hereinafter "Dioxin Congeners," see Attachment A).

    The SEP ROWD dated July 28, 2009, also contains data that improperly characterizes the effluent waste stream and groundwaters. The process wastewater effluent samples from May 27, 2009 and the processed bottom ash and Wash Water samples from March 12, 2009 were only analyzed for the specific congener of dioxin 2,3,7,8-TCDD, even though all Dioxin Congeners show similar toxicity and bioaccumulation characteristics and need to be analyzed in all waste streams.

11. According to the data submitted by SCS Engineers in the SEP ROWD, the groundwater beneath the facility exceeds chemical constituent water quality objectives (WQOs) for Aluminum, Arsenic, Barium, Chromium (III), Lead, Mercury, bis(2-ethylhexyl) phthalate, and Copper; however, the analyses of all metals sampled in the groundwaters represent total metals concentrations instead of the dissolved fraction. The WQOs for ground water concentrations of metals were developed based on dissolved concentrations, not total concentrations. The total metals concentrations include metals that are attached to sediments and should be filtered out in order to determine compliance with the WQOs. The metals concentrations provided may be artificially inflated to an extent that can only be determined with additional sampling. Furthermore, groundwater data were not collected for 1,2-cis-Dichloroethylene, 1,2-trans-Dichloroethylene, 1,3-Dichloropropylene, and Xylenes, which prevent any determination of compliance with WQOs for these constituents until samples are taken.

12. The following sections of the Porter-Cologne Water Quality Control Act authorize the Regional Water Board Executive Officer to make the following requirements for persons suspected of discharging waste that could affect the quality of waters within this region:

    - Section 13260 (a) – "*All of the following persons shall file with the appropriate regional board a report of the discharge, containing the information which may be required by the regional board: (1) Any person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system."*

    - Section 13267(a) - *"A regional board, in establishing or reviewing any water quality control plan or waste discharge requirements, or in connection with*

any action relating to any plan or requirement or authorized by this division, may investigate the quality of any waters of the state within its region."

- Section 13267(b) - *"In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or proposes to discharge waste within its region…that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires."*

- Section 13267(c) - *"In conducting an investigation pursuant to subdivision (a), the regional board may inspect the facilities of any person to ascertain whether the purposes of this division are being met and waste discharge requirements are being complied with. The inspection shall be made with the consent of the owner or possessor of the facilities or, if the consent is withheld, with a warrant duly issued pursuant to the procedure set forth in Title 13 (commencing with Section 1822.50) of Part 3 of the Code of Civil Procedure. However, in the event of an emergency affecting the public health or safety, an inspection may be performed without consent or the issuance of a warrant."*

13. All of the technical reports required by this Order are necessary to ensure that the prior harm and future threat to water quality created by the discharges described above are properly abated and controlled. More detailed information is available in the Regional Water Board's public file on this matter.

14. In light of the Discharger's unpermitted discharge described in finding 5 above, the application for renewal of its NPDES Permit, and the current violation of the Storm Water Permit, the burden, including costs, of the reports required by this Order bear a reasonable relationship to the need for the reports and the benefits to be obtained therefrom.

15. This enforcement action is being taken for the protection of the environment and, therefore, is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, section 21000 et seq.) in accordance with Section 15321, Chapter 3, title 14, California Code of Regulations.

16. Failure to comply with the terms of this Order may result in enforcement under the California Water Code. Any person failing to provide technical reports containing information required by this Order by the required date(s) or falsifying any information in the technical reports is, pursuant to Water Code Section 13268, guilty of a misdemeanor and may be subject to administrative civil liabilities of up to one thousand dollars ($1,000.00) for each day in which the violation occurs.

17. Any person affected by this action of the Regional Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with California Water Code section 13320 and title 23, California Code of Regulations, section 2050. The petition must be received by the State Water Board within 30 days of the date of this Order. Copies of the law and regulations applicable to filing petitions will be provided upon request. In addition to filing a petition with the State Board, any person affected by this Order may request the Regional Water Board to reconsider this Order. To be timely, any such request must be made within 30 days of the date of this Order. Note that even if reconsideration by the Regional Water Board is sought, filing a petition with the State Water Board within the 30-day period is necessary to preserve the petitioner's legal rights. If you choose to request reconsideration of this Order or file a petition with the State Water Board, be advised that you must comply with the Order while your request for reconsideration and/or petition is being considered.

THEREFORE, IT IS HEREBY ORDERED that, pursuant to California Water Code Section 13267(b) the Discharger shall:

Submit a technical report to the Regional Water Board concerning the above-described violations, incomplete reports, and ground water quality objective exceedances. The technical report shall be received by the Regional Water Board on or before **February 15, 2010,** and shall include, but not be limited to, the following technical information:

1. The start date, duration, total volume discharged and any other relevant details of the unpermitted discharge of bottom ash Wash Water to the effluent waste stream that ended on August 6, 2008 and was referred to as a "pilot study" in paragraph 3 of the Background Section of the *Workplan for Sampling Washed Bottom Ash and Wash Water,* dated October 2, 2008.

2. The date when DG Fairhaven stopped trucking bottom ash to Redwood Landfill and began storing it onsite again.

3. An updated SW3P, which contains best management practices (BMPs) that ensure that the bottom ash wash water and any other wastes from the new bottom ash washing system do not enter storm water, including:
   a) The following bottom ash separator process containment specifications:
      i. Methods to prevent storm water from comingling with the bottom ash piles (both washed and unwashed);
      ii. Wash Water disposal procedures;
      iii. Wash Water holding tank containment;
      iv. Filtration system specifications including:
      v. All details of the filtration system such as filter types, filter specifications (material type, screen size, pore size, etc.), maintenance and cleaning procedures, frequency etc;

vi. Filtered materials containment procedures that prevent storm water contact with filtered materials.

b) Analytical results of storm water runoff samples analyzed for all constituents that exceed WQOs for groundwater on site and for all Dioxin Congeners. If storm water runoff contains sources of those pollutants, DG Fairhaven shall update its SW3P, as necessary, to include revised BMPs that effectively prevent storm water and authorized non-storm water discharges from further impacting groundwater for those constituents.

4. An amended Report of Waste Discharge that includes:
   a. The current locations of all fly ash disposal, including maps of each location, property owner names, volumes disposed with each load, volumes disposed annually at each location, disposal frequencies and best management practices employed at each site;
   b. Analytical results from samples of the fly ash analyzed for total nitrogen, total phosphorous, potassium, pH, alkalinity, and all constituents that were analyzed in the Sampling Report including all Dioxin Congeners;
   c. Analytical results from samples of the washed bottom ash produced from the current closed loop process analyzed for all constituents that were analyzed in the Sampling Report including all Dioxin Congeners;
   d. Gross effluent stream sampling of the Process Wastewaters and analyses of all Dioxin Congeners;
   e. Analytical results of soil samples from at least 3 locations within the proposed wetland disposal site analyzed for all constituents that were analyzed in the Sampling Report including all Dioxin Congeners.

5. A ground water monitoring plan to fully characterize groundwater onsite, determine compliance with all WQOs, and to identify the source, fate and transport of groundwater pollution. Current data demonstrate that the groundwater beneath the facility exceeds chemical constituent WQOs for Aluminum, Arsenic, Barium, Chromium (III), Lead, Mercury, bis(2-ethylhexyl) phthalate, and Copper. At a minimum, the ground water monitoring plan shall include:
   a) Groundwater samples analyzed for dissolved concentrations of all metals that have WQOs and Chromium (VI) to determine the actual extent of the WQO exceedances and to characterize the proportions of Chromium ions in solution;
   b) Groundwater samples analyzed for 1,2-cis-Dichloroethylene, 1,2-trans-Dichloroethylene, 1,3-Dichloropropylene, and Xylenes;
   c) Groundwater samples shall be taken from monitoring wells closest to the proposed disposal wetlands (i.e. B-01 or B-02);
   d) Monitoring well information (depth, screen interval, etc.) for all monitoring wells on site;
   e) Sampling procedures, including purge logs for samples taken on April 6, 2009 and for all groundwater samples taken in the future, including those taken for compliance with this Order;

f) If DG Fairhaven Power believes that the bis(2-ethylhexyl) phthalate exceedance in the effluent and groundwater is due to leaching from the sample bottles, then to support this assertion new samples shall be taken with proper sampling techniques and sample bottles to avoid any potential leaching from equipment. Without such evidence that leaching occurred, data collected for bis(2-ethylhexyl) phthalate is valid and represents an exceedance of the WQO for groundwater.

All information provided in response to this Order must include the following signed certification statement:

> *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.*

The foregoing report is needed to address a historical release, an ongoing storm water quality threat and the potential surface water quality impacts of a new discharge location. The report required by this Order will allow Regional Water Board staff to determine if any impacts occurred from the unpermitted discharge, if the current storm water BMPs are sufficient for compliance with the Storm Water Permit, and to determine the appropriate requirements of a renewed NPDES Permit to protect water quality. In addition, the information within the required report may be used in further enforcement actions taken against DG Fairhaven.

Ordered by_____

Catherine Kuhlman
Executive Officer

January 13, 2010