CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION
895 Aerovista Place , Suite 101
San Luis Obispo, California 93401-7906

DRAFT MONITORING AND REPORTING PROGRAM NO. R3-2004-104
FOR

DUKE ENERGY MOSS LANDING LLC
MOSS LANDING FOSSIL FUELED POWER PLANT

MONTEREY COUNTY

GENERAL

Duke Energy Moss Landing LLC (Discharger) shall monitor the three hazardous waste surface impoundments located at the Moss Landing Power Plant in accordance with the following.

A. GROUND WATER MONITORING

1. The Discharger shall conduct detection groundwater monitoring to detect waste constituents from the three surface impoundments. Groundwater shall be monitored at least quarterly.

   Groundwater monitoring procedures and protection standards specified by the current approved Hazardous Waste Facility Permit must be implemented. Those procedures and standards are subject to change as the Hazardous Waste Facility Permit is revised and/or renewed.

   The procedures and standards in effect at the time of adoption of this Monitoring and Reporting Program (MRP) are specified by the "Groundwater Monitoring Plan, Hazardous Waste Part B Permit Application…", July 2001, Revision 7 (Groundwater Monitoring Plan), which is incorporated into the August 5, 2002 Revision 3 of the Hazardous Waste Facility Permit.

   Evaluation and corrective action monitoring as defined by Title 23, Chapter 15 shall be conducted, if necessary.

2. Available monitoring data for each constituent in each well shall be graphically represented, concentration versus time, after each sampling event. An explanation of observed variations or trends over time shall be included in the monitoring report.

3. The Discharger shall install monitoring wells as outlined in the following well construction specifications:

   a. Monitoring wells shall be constructed in a manner that maintains the integrity of the drill hole, prevents cross-contamination of saturated zones, and produces representative ground water samples from discrete zones within the aquifer unit each well is intended to monitor.

   b. For any proposed wells, Discharger shall submit a proposal describing specific drilling techniques, monitoring well construction materials and dimensions, types of sealing materials and other technical

details for compliance review by the Executive Officer.

c. Monitoring wells shall be installed using approved drilling methods. The drill holes shall be logged during drilling under the direct supervision of a registered geologist or certified engineering geologist. Logs of monitoring wells shall be filed with the Department of Water Resources. All information used to construct the wells shall be submitted to the Regional Board.

B. SURFACE WATER MONITORING

Regular surface water monitoring is not required. However, if an uncontrolled release (spill, leak, overtopping or any other event) of waste occurs from the regulated surface impoundments, or related appurtenances, which could degrade surface water, subject surface water must be sampled for all parameters potentially present in the waste at time(s) and location(s) most likely to detect waste constituents in subject surface water. Surface water includes Elkhorn Slough, Monterey Bay, Moss Landing Harbor, all drainage ways leading to those waters, and any other surface water body accessible to humans, fish or wildlife.

C. UNSATURATED ZONE MONITORING

Unsaturated zone monitoring is not required because the vadose zone is thin and the bottom of the impoundment liner systems incorporates a groundwater removal layer. The impoundment liner system includes two Leachate Collection and Removal Systems and the Ground Water Detection, Collection and Removal System.

D. IMPOUNDMENT LINER MONITORING

1. The Discharger shall visually inspect each surface impoundment and primary (upper) liner daily. The Quarterly reports shall summarize the inspections and all repairs made to the liner or impoundment system.

2. The Discharger shall determine the integrity of the primary liners of the surface impoundments annually. The inspection/test method shall not damage the liner and shall be sensitive enough to detect problems. This annual inspection must include, at a minimum, removing sufficient wastewater and sludges for visually inspecting the integrity of the primary (upper) liner. The integrity of the liner systems shall be certified by a qualified professional engineer registered in California. Any damage observed during the inspection shall be repaired as soon as possible and prior to any subsequent discharge.

   A report shall be prepared each year documenting the annual inspection and maintenance for each surface impoundment. The report shall include a detailed description and map(s) illustrating the annual inspection and repair procedures, and shall be submitted within 90 days of the inspection.

E. LEACHATE COLLECTION AND REMOVAL SYSTEM, GROUND WATER DETECTION, COLLECTION AND REMOVAL SYSTEM MONITORING

The Discharger shall inspect daily the leachate collection and removal system (LCRS) and the ground water detection, collection and removal system (GDCRS). The results of the daily inspections shall be maintained in the "Operating Record" for the hazardous waste surface

impoundments. The Quarterly reports shall document the results of the inspections, which identify repairs that need to be made to the LCRS and GDCRS and the volumes pumped from the LCRS and GDCRS.

The Discharger shall implement the Response Action Plan (RAP) and the RAP Conditions as specified by Attachment 1 included as part of this Monitoring and Reporting Program.

Daily monitoring of the LCRS and GDCRS leachate systems is required as follows:

1. The liquid levels in standpipes 1, 2, and 3 must be measured and recorded. All pumpable liquids shall be pumped and the volume pumped shall be measured and recorded.

2. Records of liquid levels and volumes of liquid removed from the standpipes shall be reviewed daily and compared to the RAP (Attachment 1) and appropriate action taken. The Regional Board shall be notified within 48 hours of a determination of leakage of level 1B or greater from any liner system.

3. The rate of liner leakage shall be determined and recorded daily.

The liquid levels in standpipes 1, 2 and 3 must be checked once per eight or twelve hour shift if the volume of liquid removed from standpipe 1 exceeds 1/2 the capacity of the lateral pipe or if any liquid is detected in standpipes 2 or 3.

F. DISCHARGE MONITORING

Discharger shall continuously monitor the pH of the discharge into the surface impoundments when boiler chemical cleaning wastes are being discharged to the Ponds. Also, the Discharger shall obtain representative samples of boiler cleaning wastes discharged to the Ponds. The representative samples of a single boiler cleaning discharge event shall be comprised of at least one composite of samples collected continuously throughout the entire discharge. The samples of boiler cleaning wastes collected from the Ponds shall be analyzed for the following constituents for the determination if the wastes are Restricted Hazardous Wastes (Health and Safety Code Section 25122.7):

pH
Arsenic
Cadmium
Chromium (+6)
Lead
Mercury
Nickel
Selenium
Thallium

If the wastes discharged into the Ponds are restricted hazardous wastes, the Discharger shall submit documentation within 90 days that the restricted wastes were handled in accordance with this Order and the Health and Safety Code. The documentation shall include laboratory reports of chemical analyses and plant pH monitoring records.

G. REPORTING

The Discharger shall prepare and submit Quarterly Monitoring reports. The reports shall be submitted to the Board no later than 30 days after the end of the quarterly monitoring period. Quarterly monitoring periods end on the last days of March, June, September and December and the quarterly monitoring reports are due on the 30th days of April, July, October and January. The report shall include the following:

1. Monitoring results data arranged in tabular and graphical form so the date, constituents, concentrations, and ground water elevation are readily discernible. Groundwater chemical concentration trend graphs shall be submitted. The data shall be summarized in such a manner to illustrate clear compliance or noncompliance with waste discharge requirements.

2. Copies of water quality analysis data sheets from laboratory.

3. Copy of sampling log (record) for each well.

4. Groundwater contour map

5. Determinations of the velocity and direction of ground water flow beneath the three surface impoundments. Provide the velocity and direction of ground water flow during each sampling event. The quarterly report shall include a discussion of how observed ground water rate, flow and direction compare with those from previous determinations, the appearance of any trends, and any other items that may indicate a potential change in the hydrogeologic conditions beneath the site.

6. Statistical results of ground water monitoring data analysis.

7. Leachate monitoring data including dates, volume and analysis of liquids pumped from either or both leachate collection and removal system. The results shall be presented in tabular and graphical form.

8. Sludge handling data including date and volume of sludge removed from each surface impoundment and point of disposal.

9. Report of annual visual integrity inspection of liners and/or results of annual liner visual integrity inspection/testing.

10. Report of inspections of the leachate collection and removal system and the ground water detection, collection and removal system.

11. Report of ground water detection, collection and removal system monitoring data including identification of pond, dates and volumes of ground water pumped from the GDCRS. The data shall be presented in tabular form.

I, ROGER W. BRIGGS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Coast Region, on October 22, 2004.

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Executive Officer

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Date

ATTACHMENTS

1. Decision Matrix for Response Action Plan.

S/SLIC/Regulated Sites/Monterey Co./Moss Landing Power Plant/Duke/Hazardous Waste Ponds, WDR/MRP R3-2004-104 draft2