

US EPA ARCHIVE DOCUMENT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

April 19, 2011

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

VIA E-MAIL AND FEDERAL EXPRESS

Mr. Ed M. Sullivan, Consulting Engineer
Duke Energy Corporation
526 South Church Street
Charlotte, North Carolina 28202

Dear Mr. Sullivan,

On June 22, 2010 the United States Environmental Protection Agency ("EPA") and its engineering contractors conducted a coal combustion residual (CCR) site assessment at the WS Lee facility. The purpose of this visit was to assess the structural stability of the impoundments or other similar management units that contain "wet" handled CCRs. We thank you and your staff for your cooperation during the site visit. Subsequent to the site visit, EPA sent you a copy of the draft report evaluating the structural stability of the units at the WS Lee facility and requested that you submit comments on the factual accuracy of the draft report to EPA. Your comments were considered in the preparation of the final report.

The final report for the WS Lee facility is enclosed. This report includes a specific rating for each CCR management unit and recommendations and actions that our engineering contractors believe should be undertaken to ensure the stability of the CCR impoundment(s) located at the WS Lee facility. These recommendations are listed in Enclosure 2.

Since these recommendations relate to actions which could affect the structural stability of the CCR management units and, therefore, protection of human health and the environment, EPA believes their implementation should receive the highest priority. Therefore, we request that you inform us on how you intend to address each of the recommendations found in the final report. Your response should include specific plans and schedules for implementing each of the recommendations. If you will not implement a recommendation, please explain why. Please provide a response to this request by May 19, 2011. Please send your response to:

Mr. Stephen Hoffman
US Environmental Protection Agency (5304P)
1200 Pennsylvania Avenue, NW
Washington, DC 20460

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If you are using overnight or hand delivery mail, please use the following address:

Mr. Stephen Hoffman
US Environmental Protection Agency
Two Potomac Yard
2733 S. Crystal Drive
5th Floor, N-237
Arlington, VA 22202-2733

You may also provide a response by e-mail to hoffman.stephen@epa.gov

This request has been approved by the Office of Management and Budget under EPA ICR Number 2350.01.

You may assert a business confidentiality claim covering all or part of the information requested, in the manner described by 40 C. F. R. Part 2, Subpart B. Information covered by such a claim will be disclosed by EPA only to the extent and only by means of the procedures set forth in 40 C.F.R. Part 2, Subpart B. If no such claim accompanies the information when EPA receives it, the information may be made available to the public by EPA without further notice to you. If you wish EPA to treat any of your response as “confidential” you must so advise EPA when you submit your response.

EPA will be closely monitoring your progress in implementing the recommendations from these reports and could decide to take additional action if the circumstances warrant.

You should be aware that EPA will be posting the report for this facility on the Agency website shortly.

Given that the site visit related solely to structural stability of the management units, this report and its conclusions in no way relate to compliance with RCRA, CWA, or any other environmental law and are not intended to convey any position related to statutory or regulatory compliance.

If you have any questions concerning this matter, please contact Mr. Hoffman in the Office of Resource Conservation and Recovery at (703) 308-8413. Thank you for your continued ongoing efforts to ensure protection of human health and the environment.

Sincerely,
/Suzanne Rudzinski/, Director
Office of Resource Conservation and Recovery

Enclosures

12.1 Corrective Measures and Analyses for the Structures

1. We recommend formal monitoring and analysis of the seepage area downstream of the right abutment of the Secondary Ash Basin in order to evaluate whether seepage could potentially compromise the stability of the dam. Monitoring should include installation of a weir and grading to direct seepage toward the weir. The weir should then be monitored monthly in order to establish a baseline measurement of seepage quantity. Continued monitoring will then show whether the seepage quantity changes with time. In addition, we recommend measuring turbidity in the seepage. A large amount of fines in the seepage could indicate piping of material through the dam.
2. We recommend updated stability analyses be performed for both dams and the divider dike. Stability analyses for the dams should include piezometric surfaces based on recent readings of the standpipe piezometers installed on the downstream face. A further evaluation of the upstream slope steady state seepage and rapid drawdown load cases should be performed. Stability analyses should include pseudo-static seismic analyses.
3. The liquefaction potential of the sandy silt comprising the embankment fill and the foundation should be evaluated.
4. The water level in piezometer L-9, near the toe of the Secondary Ash Basin dam, is about 10 feet higher than the water levels in the piezometers at the toe of the Primary Active Ash Pond dam, and is higher than the piezometric surface assumed at this location in the stability analyses performed in 1984. The elevated water level may be caused by the seepage downstream of the right abutment of the Secondary Ash Basin dam, and may indicate that the toe drain in this area is not functioning properly. Stability analyses should specifically investigate whether the elevated water level in this area could compromise the stability of the dam.
5. The water level in piezometer L-4 began rising in October 2009, and was elevated until April 2010. The cause of the elevated water level should be investigated and corrected if necessary, and analyses should be performed to evaluate whether an elevated water level in the vicinity of L-4 could potentially compromise the safety of the Primary Ash Pond Dam.
6. The inside and outside of the drop box downstream of the Secondary Ash Basin should be monitored for continued degradation, and repaired or replaced if necessary.

12.2 Corrective Measures Required for Instrumentation and Monitoring Procedures

1. A weir should be installed near the seepage area downstream of the Primary Active Ash Pond dam in order to monitor quantity and quality of the seepage.
2. The quantity of water flowing from the toe drains at the dam should be measured

regularly.

3. A staff gauge or other means of measuring the water level in the Primary Active Ash Pond so the water level in the pond can be recorded regularly. The flow from this pond into the Secondary Ash Basin should also be monitored.

12.3 Corrective Measures Required for Maintenance and Surveillance Procedures

None.

12.4 Corrective Measures Required for the Methods of Operation of the Project Works

None.