

US EPA ARCHIVE DOCUMENT



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

March 8, 2010

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

VIA E-MAIL AND FEDERAL EXPRESS

Mr. Ed M. Sullivan
Duke Energy
526 South Church Street
Charlotte, NC 28202

Dear Mr. Sullivan,

On October 6-7, 2009 the United States Environmental Protection Agency ("EPA") and its engineering contractors conducted a coal combustion residual (CCR) site assessment at the Miami Fort 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 Miami Fort 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 Miami Fort 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 Miami Fort 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 April 12, 2010. Please send your response to:

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

If you are using overnight of 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,
/Matt Hale/, Director
Office of Resource Conservation and Recovery

Enclosures

Enclosure 2
Miami Fort Recommendations

In addition to the items outlined below, CHA recommends that the required remedial measures outlined in the ODNR 2009 Dam Safety Inspection Reports for Ash Pond A and Ash Pond B be implemented.

4.2 Topographic Survey

An updated topographic survey of the Ash Pond A and Ash Pond B area should be completed to serve as the basis for future engineering evaluations and design. It should incorporate all surface features, drainage courses and identified seepage areas to allow for a full evaluation of the facility.

4.3 Maintaining and Controlling Vegetation Growth

The grass cover on Ash Pond A and Ash Pond B appears to be reasonably maintained with only isolated areas of mild cover loss. This practice should continue. Previous recommendations from the ODNR recommended that heavier vegetation be removed and that herbicide treatments be employed to control weeds and woody growth particularly in Ash Pond A rip rap areas. CHA recommends that vegetation be cut prior to each quarterly inspection performed by Duke representatives so that adequate visual inspections can be made.

4.4 General Crest Areas and Slopes

These areas typically had intermittent erosion rills, likely exacerbated when grading activities pushed loose material to the crest edge and sheet flow became concentrated during rain events. In addition, several erosion features were noted to be covered with grass. These erosion rills should be filled in with compacted material and otherwise stabilized. When grading activities push material to the crest edge, a concerted attempt should be made to compact these areas prior to the next rain event.

Several surface sloughs were noted in over-steepened areas. These areas should be re-graded to a flatter slope where possible and reseeded or armored with a stone material. Monitoring of these areas should be conducted to check for any continued movement.

4.5 Ash Pond Spillway

Vegetation had started to establish itself in the skimmer for Ash Pond A. Although it has not become a problem presently as this outfall is not currently used, removal is recommended to maintain this area before the vegetation fouls the tower outfall or prevents the skimmer from working effectively. The ODNR has recommended that the outfall be inspected for structural integrity using video cameras. This would be preferable under a low flow or no flow condition.

4.6 Ash Pond A and Ash Pond B South Dike

Normal pool of the Ohio River is at about Elev. 455 feet as shown in the D'Appalonia design Report. These drawings also indicate a design level at about Elev. 460 feet and a staged construction considering a water level at Elev. 492 feet suggesting that routine high water levels are likely to submerge the downstream toe. During the site visit, slope protection such as rip rap was not observed on Ash Pond B and was only partially evident in this area on Ash Pond A. CHA recommends an analysis of the flood level water velocities in the area of the downstream slope to determine if rip rap or some similar slope protection is warranted.

4.7 Ash Pond Hydraulic Analysis

Duke was not able to provide CHA with a hydraulic analysis showing the ash pond's ability to safely pass the 50% PMP event. However, preliminary analyses performed by CHA suggest

there is enough storage capacity at the current operating pool to safely withstand this rainfall event. We recommend Duke perform a complete study to confirm this, and update the study if operating levels of the pond change in the future.

4.8 Additional Stability Analyses

Based on our review of available information for the ash ponds we recommend that the following tasks be performed to confirm that the embankments are indeed stable under the various loading conditions outlined in Section 3.3.

Verifying that the present steady state factor of safety for the downstream slope was calculated at the maximum storage pool elevation and determining the factor of safety under of the upstream slope for this load case.

- Determining steady state factors of safety on the upstream and downstream slopes at the maximum flood elevation.
- Determining seismic factors of safety on the upstream and downstream slopes at the maximum storage pool.
- A liquefaction analysis should be performed considering the underlying soil strata.
- Determine the appropriate material properties for use in the analysis and complete an investigation to determine the phreatic surface within the embankment.
- CHA recommends a rapid drawdown analysis be performed for the current conditions.