

US EPA ARCHIVE DOCUMENT



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

January 12, 2012

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

VIA E-MAIL

Mr. Fred Holt
Progress Energy Carolinas
P.O. Box 1551
Raleigh, North Carolina 27602

Re: Request for Action Plan regarding Progress Energy Carolinas Inc - Lee Power Station

Dear Mr. Holt,

On February 18, 2011 the United States Environmental Protection Agency ("EPA") and its engineering contractors conducted a coal combustion residual (CCR) site assessment at the Progress Energy Carolinas Inc - Lee Power Station 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 Progress Energy Carolinas Inc - Lee Power Station 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 Progress Energy Carolinas Inc - Lee Power Station facility is enclosed. This report includes a specific condition 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 Progress Energy Carolinas Inc - Lee Power Station facility. These recommendations are listed in Enclosure 2.

Since these recommendations relate to actions which could affect the structural stability of the CCR management unit(s) 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 provide a rationale. Please provide a response to this request by February 13, 2012. Please send your response to:

Mr. Stephen Hoffman
U.S. Environmental Protection Agency (5304P)
1200 Pennsylvania Avenue, NW

Washington, DC 20460

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

Mr. Stephen Hoffman
U.S. Environmental Protection Agency
Two Potomac Yard
2733 S. Crystal Drive
5th Floor, N-5838
Arlington, VA 22202-2733

You may also provide a response by e-mail to hoffman.stephen@epa.gov, kohler.james@epa.gov, and englander.jana@epa.gov.

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.

Please be advised that providing false, fictitious, or fraudulent statements of representation may subject you to criminal penalties under 18 U.S.C. § 1001.

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 efforts to ensure protection of human health and the environment.

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

Enclosure

Progress Energy Carolinas Inc - Lee Power Station Recommendations (from the final assessment report)

1.0 CONCLUSIONS AND RECOMMENDATIONS**1.1 CONCLUSIONS**

Conclusions are based on visual observations from a one-day site visit, February 18, 2011, and review of technical documentation provided by Progress Energy.

1.1.1 Conclusions Regarding the Structural Soundness of the Management Unit(s)

The dike embankments and spillway on the Active Ash Pond appear to be structurally sound based on a review of the engineering data provided by the owner's technical staff and Dewberry engineers' observations during the site visit. It is noted that, one section of the embankment (AB-1) did not meet the minimum required standards for factors of safety. This embankment has cohesionless soils that will lead to surficial failures, but not deep-seated failures that could produce a dike breach.

Also, Pond 2 of the three inactive Ash Ponds was observed to have a significant area of scarp at the toe of the downstream embankment caused by erosion from the adjacent creek. Stabilization and protection against future erosion is recommended.

1.1.2 Conclusions Regarding the Hydrologic/Hydraulic Safety of the Management Unit(s)

Adequate capacity & freeboard exists to safely pass the design storm.

1.1.3 Conclusions Regarding the Adequacy of Supporting Technical Documentation

The slope stability analysis provided adequate results for factors of safety for static and seismic loading conditions. All additional technical documentation appeared to be adequate. Engineering documentation reviewed is referenced in Appendix A of the final report.

1.1.4 Conclusions Regarding the Description of the Management Unit(s)

The description of the management unit provided by the owner was an accurate representation of what Dewberry observed in the field.

1.1.5 Conclusions Regarding the Field Observations

The overall assessment of the ash pond embankment system was that it was in fair condition; however, on the Active Ash Pond the discharge showed a slight grey color against the silty orange flow in the river which Progress Energy Carolinas Inc. (PEC) stated they were monitoring and meeting discharge criteria. Embankments appear structurally sound.

1.1.6 Conclusions Regarding the Adequacy of Maintenance and Methods of Operation

The current maintenance and methods of operation appear to be adequate for the active fly ash management unit. However, there were areas of seepage evident at the time of assessment along the eastern embankment of the active ash pond. According to documentation provided by the owner this seepage was repaired in 2009 by placement of geosynthetic liner and riprap on the face of the slope. The repair was expanded to adjacent areas in 2010. A plan to expand the repair again to adjacent side slopes was approved by North Carolina Department of Environment and Natural Resources (NCDENR) Dam Safety Division in March 2011. Repairs were made in May 2011.

1.1.7 Conclusions Regarding the Adequacy of the Surveillance and Monitoring Program

The surveillance program appears to be adequate. The management unit dikes are instrumented. Six piezometers were installed in December 2007 for measuring ground water levels along the active ash pond.

1.1.8 Classification Regarding Suitability for Continued Safe and Reliable Operation

Ash Pond 1 (inactive) and Ash Pond 3 (inactive) are **SATISFACTORY**; the Active Ash Pond and Ash Pond 2 (inactive) are **FAIR for continued safe and reliable operation due to marginally sufficient safety data**.

The classification of FAIR means minor deficiencies may exist that require remedial action and/or secondary studies or investigations. Implementation of the following recommendations would help improve the rating. It is anticipated that the Active Ash Pond and Ash Pond 2 (inactive) would be considered satisfactory for continued safe and reliable operation upon two actions. One is remediation of the severe undercutting on Inactive Ash Pond 2. The second is periodic monitoring and testing to confirm stability of the Active Ash Pond embankment, and developing an action plan to buttress the AB-1 embankment to increase surficial factors of safety to meet all applicable standards and requirements. At the time of the site visit, repairs were planned to address seepage along the downstream slope of the Active Ash Pond. Since the visit, those repairs have been made and NCDENR has provided an Approval to Impound (Appendix A of the final report, Doc 11: Approval to Impound and Doc 12: Seepage Repair As-builts).

1.2 RECOMMENDATIONS

1.2.1 Recommendations Regarding the Structural Stability

Periodic monitoring and testing consistent with the 2010 Limited Field Inspection, Lee Plant, dated 12/3/2010 (Appendix A of the final report, Doc 04: 2010 Inspection Report) is recommended for the Active Ash Pond. The proposed expanded seepage stabilization measures have been completed.

After the initial site visit, an as-built drawing and NCDENR approval have been provided by PEC (Appendix A of the final report, Doc 11: Approval to Impound and Doc 12: Seepage Repair As-built). Stabilization and protection against future erosion is recommended for Ash Pond 2 (inactive). No recommendations appear warranted at this time for Ash Pond 1 (inactive) and Ash Pond 3 (inactive).

1.2.2 Recommendations Regarding the Hydrologic/Hydraulic Safety

No recommendations appear warranted at this time.

1.2.3 Recommendations Regarding the Supporting Technical Documentation

Provide analysis of potential for liquefaction in Active Ash Pond embankment.

1.2.4 Recommendations Regarding the Description of the Management Unit(s)

No recommendations appear warranted at this time.

1.2.5 Recommendations Regarding the Field Observations

The following issues need to be addressed with routine maintenance:

Remove woody vegetation along downstream slope of the Active Ash Pond;

Properly fill one bore hole along crest;

Repair, stabilize and protect from future erosion undercutting (scarp) along downstream slope of Ash Pond 2 (inactive);

1.2.6 Recommendations Regarding the Maintenance and Methods of Operation

No recommendations appear warranted at this time.

1.2.7 Recommendations Regarding the Surveillance and Monitoring Program

No recommendations appear warranted at this time.

1.2.8 Recommendations Regarding Continued Safe and Reliable Operation

Analysis for potential of liquefaction should be performed. Develop an action plan to increase the factors of safety for the ash pond embankments at all locations to meet or exceed the minimum requirements for factors of safety for steady state (normal) and seismic loading conditions.