



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

January 12, 2012

OFFICE OF  
SOLID WASTE AND  
EMERGENCY RESPONSE

VIA E-MAIL

Mr. Alan Wood  
American Electric Power  
1 Riverside Plaza,  
Columbus, Ohio 43215-2373

Re: Request for Action Plan regarding Appalachian Power Co - Glen Lyn Power Station

Dear Mr. Wood,

On February 16, 2011 the United States Environmental Protection Agency ("EPA") and its engineering contractors conducted a coal combustion residual (CCR) site assessment at the Appalachian Power Co - Glen Lyn 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 Appalachian Power Co - Glen Lyn 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 Appalachian Power Co - Glen Lyn 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 Appalachian Power Co - Glen Lyn 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 of hand delivery mail, please use the following address:

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

You may also provide a response by e-mail to [hoffman.stephen@epa.gov](mailto:hoffman.stephen@epa.gov), [kohler.james@epa.gov](mailto:kohler.james@epa.gov), and [englander.jana@epa.gov](mailto: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

**Appalachian Power Co - Glen Lyn 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 16, 2011, and review of technical documentation provided by the Owner, which is provided in Appendix A of the final report.

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

The Fly Ash Pond and Bottom Ash Pond did not show any areas of significant structural concern during the one-day site visit.

**Fly Ash Pond**

The stability analysis report for the Fly Ash Pond was prepared by GAI engineers but did not draw specific conclusions regarding the structural soundness of the perimeter dike though factors of safety were provided for static and seismic loading conditions assuming the facility serves as a landfill in the future. Under these conditions, the minimum factors of safety calculated for static and seismic loading are 1.29 and 1.01, respectively. The GAI report submitted was part of a larger design document that was signed and sealed. Currently, the Fly Ash Pond is not in service and contains no or minimal volumes of CCR. However, if it is ever put back into service, it is recommended that a stability analysis be performed that evaluates factors of safety for the perimeter dikes under a loading condition that assumes a water-surface elevation in the pond equal to the crest elevation of the pond spillway.

The Virginia DCR in its letter concerning the Flyash Pond indicated multiple rodent burrows and the poor condition of outlet structures leads to concerns about adequate structural stability (see appendix A – Document 7 of the final report)

**Bottom Ash Pond**

The stability analysis report for the Bottom Ash Pond was prepared, signed and sealed by the Owner's engineers and indicates that the main perimeter dike for the Bottom Ash Pond is performing as intended. The minimum factors of safety calculated for static and seismic loading conditions are 1.60 and 1.08, respectively.

The Virginia DCR in its letter concerning the Bottom Ash Pond indicated the state has concerns about offsite drainage filling the pond such that there are concerns about adequate structural stability (see appendix A – Document 8 of the final report).

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

Hydrologic/Hydraulic calculations were not provided for either pond; therefore, conclusions regarding the Hydrologic/Hydraulic Safety of the ponds cannot be made at this time. The Virginia DCR agreed and indicated it will ask the utility to perform inflow and outflow hydrologic analyses on both ponds in 2012.

**1.1.3 Conclusions Regarding the Adequacy of Supporting Technical Documentation**

The supporting technical documentation provided is adequate for preparation of this report. Documentation reviewed did not contain hydrologic/hydraulic calculations. A discussion on liquefaction at either pond was not provided. Technical documentation reviewed in preparation of this report is provided in Appendix A of the final report.

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

The description of the Fly Ash Pond and Bottom Ash Pond provided by the Owner was an accurate representation of what Dewberry observed in the field. Note that the Fly Ash Pond appears to contain no CCR at this time.

#### **1.1.5 Conclusions Regarding the Field Observations**

Dewberry staff was provided adequate access to the Fly Ash Pond and Bottom Ash Pond to complete the field assessment. The visual assessment of the perimeter dikes for both ponds showed no significant signs of erosion, settlement or instability. Embankments appeared to be structurally sound. No indications of unsafe conditions or conditions needing immediate remedial action were noted during the one-day site visit.

#### **1.1.6 Conclusions Regarding the Adequacy of Maintenance and Methods of Operation**

Current operation and maintenance procedures appear adequate for the Fly Ash Pond and Bottom Ash Pond. The Virginia DCR is concerned about excessive rodent burrowing on the Fly Ash Pond dam.

#### **1.1.7 Conclusions Regarding the Adequacy of the Surveillance and Monitoring Program**

Current surveillance and monitoring program procedures appear adequate for the Fly Ash Pond and Bottom Ash Pond. Both facilities are regulated and periodically inspected by Virginia Department of Conservation of Recreation (VA DCR), Division of Dam Safety.

#### **1.1.8 Classification Regarding Suitability for Continued Safe and Reliable Operation**

**The Fly Ash Pond is rated FAIR because additional technical analyses and documentation are needed, despite the minimal volumes of CCR or water. The Bottom Ash Pond is rated FAIR with acceptable performance expected under static and seismic loading conditions in accordance with applicable safety regulatory criteria. A hydrologic and hydraulic analysis is required for both facilities to demonstrate adequate hydrologic loading conditions. The Fair classification is based on the one-day visual assessment performed by Dewberry and supporting technical documentation provided in Appendix A of this report.**

### **1.2 RECOMMENDATIONS**

#### **1.2.1 Recommendations Regarding the Structural Stability**

Maintain the on-going inspection program for the Fly Ash Pond and Bottom Ash Pond. Perform a stability analysis of the Fly Ash Pond assuming it behaves as a surface impoundment. Alternatively propose breaching the perimeter dike of the Fly Ash Pond in accordance with appropriate regulations and requirements so that it does not impound water. Address the potential for liquefaction at the Fly Ash Pond and Bottom Ash Pond. The Virginia DCR has indicated it will request new structural stability calculations in 2012 based on a full pond.

#### **1.2.2 Recommendations Regarding the Hydrologic/Hydraulic Safety**

It is recommended that the Owner perform hydrologic and hydraulic analyses to evaluate the safety of the Fly Ash Pond and Bottom Ash Pond in accordance with VA DCR DSFM requirements.

#### **1.2.3 Recommendations Regarding the Supporting Technical Documentation**

It is recommended that technical documentation be prepared and submitted that addresses the potential for liquefaction at the Fly Ash Pond and Bottom Ash Pond.

#### **1.2.4 Recommendations Regarding the Maintenance and Methods of Operation**

It is recommended that all underbrush and trees be removed from the Fly Ash Pond and Bottom Ash Pond in accordance with VA DCR DSFM requirements. This includes all woody vegetation at and beyond the toe of the Fly Ash Pond perimeter dike as well as the embankment and toe of the Bottom Ash Pond adjacent to East River.

It is recommended that any animal burrows located along the perimeter dike of the Fly Ash Pond and Bottom Ash Pond be backfilled in accordance with standard geotechnical engineering practices for dams, and monitored for future reoccurrence.

It is recommended that the Owner perform an interior inspection of the outlet pipe for the Bottom Ash Pond. Interior inspection should focus on the structural integrity of the pipe, seepage, and debris accumulation. The inspection report should summarize all findings and remedial action required, if any. An interior inspection of the outlet pipe for the Fly Ash Pond doesn't appear warranted at this time as the facility is currently inactive; however, if it becomes active then an interior pipe inspection should be performed as well.