

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

Dear Mr. Wood,

On October 29, 2009 the United States Environmental Protection Agency ("EPA") and its engineering contractors conducted a coal combustion residual (CCR) site assessment at the Big Sandy 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 Big Sandy 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 Big Sandy 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 Big Sandy 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 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,
/Matt Hale/, Director
Office of Resource Conservation and Recovery

Enclosures

Enclosure 2
Big Sandy Recommendations

4.2 General Condition Monitoring and Maintenance

The following recommendations are based upon observations and review of data provided to CHA. Recommendations provided by the state, utility company, and other consultants should also be implemented.

4.2.1 Saddle Dam and Horseford Creek Dam

Visually, the upstream and downstream slopes of the Saddle and Horseford Creek Dams were found to be in satisfactory condition. A few areas were observed that warrant monitoring on a routine basis to confirm that changes are not occurring or if periodic maintenance is required.

These areas are as follows:

An area of irregular grading was observed on the south end of the upstream slope. This area should be monitored to ensure that the irregularity is not the result of slope movement.

Brush and trees have grown in the abutment area of the Saddle Dam and near the water's edge on the Horseford Creek Dam. Per the recommendation of KY Dam Safety, these trees should be cut. The resulting stumps should be monitored for decay.

Vegetation should be kept clear from the toe drain outlets to permit observation of the flow.

CHA recommends that the Horseford Creek Dam toe drains be located and cleared to facilitate monitoring for changed conditions.

4.2.2 Bottom Ash Complex Dikes

The slope of Bottom Ash Complex dikes were found to be in satisfactory condition. A few areas were observed that warrant monitoring on a routine basis to confirm that changes are not occurring or if periodic maintenance is required. These areas are as follows:

Portions of the SBAP have recently be regraded and covered with grouted rip rap. We understand that this treatment is currently planned to extend to around the NBAP.

Cut larger brush from the embankment where mowers cannot access the area.

4.3 Toe Drain Cleaning

The end of one underdrain pipe at the toe of the Horseford Creek Dam was observed to be partially blocked by gravel and cobbles and we understand that other pipes may be similarly blocked. CHA recommends that the pipes be located and cleared so that the discharge can be observed and monitored.

4.4 Bottom Ash Complex Standing Water

Standing water was observed along the crest of the splitter dikes in the Bottom Ash Complex. Long term standing water can contribute to softening of the embankment toe and foundation soils. CHA recommends improving the drainage in this area to provide positive drainage of stormwater from the dike crests.

4.5 Seepage at the Fly Ash Pond

Calcium deposits were observed at the seepage drain pipe outlet within the old emergency spillway. Plant personnel indicated that deposit is likely from the limestone sand used in the drainage blanket and that the size of the deposit has stabilized since the end of construction.

CHA recommends that the collected calcium deposit be removed and the discharge monitored for additional deposits. If the calcium continues to collect, an engineer should review the discharge conditions.

Seepage from the east abutment of the Horseford Creek Dam is milky from calcium deposits in the water from the limestone formation. CHA recommends that an engineer make an assessment of the impact of the deposits on the limestone underlying the dam.

4.6 Instrumentation

We understand that AEP reviews the instrumentation data from the Fly Ash Pond approximately every six months. However, the most recent survey data provided for the survey monitoring points is from October 21, 2008. CHA recommends that survey data be collected every 6 months to be consistent with the AEP data review. CHA noted significant scatter in the survey data and potential heave at the toe of the Horseford Creek Dam. CHA therefore recommends a review of the survey methods and evaluation of this data given the history of past movement at this dam.

4.7 Rapid Drawdown Stability Analysis

A rapid drawdown analysis has not been performed for the Fly Ash Pond. Although the potential for this type of loading condition is low, it is standard dam safety practice to evaluate the condition for full understanding of the behavior of the upstream embankment should water need to be evacuated from the reservoir rapidly. There have also been documented case histories where other types of failure (such as a gate failure) have resulted in rapid drawdown conditions developing which have led to a domino effect and made the situation worse. Therefore, CHA recommends that a rapid drawdown analysis be performed for the Horseford Creek Dam and Saddle Dam.

4.8 Analysis for Bottom Ash Complex

We understand that geotechnical exploration program and analysis are being conducted for the Bottom Ash Complex. The report should include slope stability analysis for the load cases described herein and a hydraulic and hydrologic evaluation.