

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 22, 2009 the United States Environmental Protection Agency ("EPA") and its engineering contractors conducted a coal combustion residual (CCR) site assessment at the Conesville 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 Conesville 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 Conesville 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 Conesville 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
Conesville Recommendations

4.2 Maintaining and Controlling Vegetation Growth

The grass cover on the Bottom Ash Pond embankment appeared to be reasonably maintained, with only isolated areas of mild cover loss. This practice should continue.

Standing water and wetlands growth was observed between the Northern Haul Road Dike and County Road 273. This growth appears to be the result of water backing up into the drainage ditch at the toe of the dike from a poorly drained, swampy area on the north side of County Road 273. As a result, flow through the culvert below County Road 273 is restricted and runoff cannot be effectively conveyed from the ditch. CHA recommends drainage in this area be corrected so water is not standing/saturating the toe of the dike and observations of seepage, if any, can be seen. Additionally, weed growth has obstructed flow through the measurement weir and corresponding observations. The growth obstructing the weir should be cleared.

Brush growth was observed on the downstream slope of the Coal Haul Road Dike adjacent to the Fly Ash Pond. The woody vegetation should be removed under the supervision of a Professional Engineer.

CHA recommends that vegetation be cut prior to each quarterly inspection performed by AEP representatives so that adequate visual inspections can be made.

4.3 General Crest Areas and Slopes

The crest of the Northern Haul Road and Coal Haul Road dikes had intermittent erosion rills and subsequent loss of grass cover resulting from water flow from storm events and dust control water spray. These erosion rills should be filled in with compacted material and otherwise stabilized. CHA recommends on-going maintenance and/or a change to the surface treatments to reduce erosion from run-off. The facility may consider adding curbing with roadside gutters to collect runoff and direct it toward designated concrete lined ditches or rock protected outfalls. The slump and scarp area located on the downstream slope of the Coal Haul Road dike should be stripped of vegetation, excavated, and subsequently repaired under the direction and observation of a Professional Engineer. It is currently not believed to be an immediate threat to the dike, and would affect the haul road well before endangering the Clearwater Pond area. If left unaddressed however, continued slope softening, deformation, and erosion will eventually cause a problem. Rodent borrows were observed on the upstream side of the Northern Haul Road and Coal Haul Road dikes. Rodent control measures should be implemented and the affected areas should be backfilled with compacted fill.

A haul road has been cut across the southwestern dike. A topographic survey should be made of this area to compare the available free board to the low point elevation and re-grading should be undertaken if needed to meet the freeboard requirements.

4.4 Outlet Structures

Vegetation had established itself at the outlet structure from the Clearwater Pond. Although it has not become a problem presently, removal is recommended to maintain this area before the vegetation obstructs the discharge flow. The access bridge to this outlet structure should also be repaired so that it does not present a hazard to personnel servicing the spillway riser. At the time of the site assessment, this bridge had partially collapsed, was sagging in the water, and did not appear to be passable.

Drop inlet structures conveying water from the Bottom Ash Pond and Fly Ash Pond to the

Clearwater Pond were in various stages of deterioration. These inlets, as well as the small access bridges to them should be maintained and repaired as needed to accommodate plant personnel access and insure continued function.

4.5 Instrumentation

Plant personnel take readings in the piezometers and pond levels on a quarterly basis. We recommend that values be established as part of the OM&I manual for changes in instrumentation readings that warrant a review of the stability and pond operation. Wetland vegetation has grown on the downstream side of the Northern Haul Road Dike obstructing operation and measurements at the monitoring weir. This vegetation should be cleared and routine measurements resumed.

4.6 Ash Complex Hydraulic Analysis

AEP was not able to provide CHA with a hydraulic analysis showing the ability of the Ash Complex 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 AEP perform a complete study to confirm this, and update the study if operating levels of the pond change in the future or the dike system is reclassified.

4.7 Additional Stability Analyses

Based on our review of available information for the Ash Complex 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.

Subsurface data from the 1983 Woodward-Clyde and 2009 borings advanced by BBCM were used to assess the soil strength parameters. We recommend that subsurface information from borings advanced by C&SO in 1974 and AEP in 1981 also be included in the assessment. In particular, review available subsurface data for presence of a soft silty clay or clayey silt layer below the embankments as noted by WCC in their 1983 inspection report.

We recommend that an investigation be performed in which the properties of the alluvium silt/clay layer can be investigated in more detail in order to determine the presence and thickness of the soft layer of material indicated in the boring CV-PZ-BAP-0903. This scope of work should include additional laboratory testing of samples retrieved from the alluvium layer.

Additional cross sections should be evaluated, as the geometry of the dikes is not consistent and the cross sections that have been evaluated may not be representative of critical areas.

CHA recommends stability analysis of a section through the northeastern portion of the Coal Haul Road where a secondary dike was not constructed.

CHA recommends stability analysis of a section through the southwestern dike.

CHA recommends stability analysis of Section B-B through the Secondary/Coal Haul Road Dike based upon the reported maximum operating pool at El. 764.

CHA recommends that a stability analysis model be developed for the maximum surcharge pool (flood) condition.

CHA recommends modeling the upstream slope stability for seismic and steady state seepage load cases.

CHA recommends that the rapid draw-down load case be evaluated for the Ash Pond Complex. While a rapid drawdown is not a scenario that has a high probability of occurrence, CHA recommends understanding the condition and meeting recommended stability factors of safety for the unlikely event that water must be evacuated rapidly via methods other than the existing outlet control structures such as pumping to prevent a

more catastrophic release should an emergency condition develop in the embankment.

We recommend that a liquefaction analysis be performed in light of some of the loose to very loose alluvial soils encountered during the subsurface investigation for the site.