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. Thomas Shaw
Big Rivers Electric Cooperative
145 N. Main Street
P.O. Box 1518
Henderson, KY 42419-1518

Dear Mr. Shaw,

On November 17, 2009 the United States Environmental Protection Agency ("EPA") and its engineering contractors conducted a coal combustion residual (CCR) site assessment at the Coleman 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 Coleman 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 Coleman 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 Coleman 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

4.2 Ash Pond A and Ash Pond C- Stability Analyses
Presently there is no quantitative measurement of the dike stability. Therefore CHA recommends that detailed stability analyses be performed for the Ash Ponds. CHA was not provided with information regarding stability analyses performed prior to or following construction of the ponds nor was information regarding properties of the embankment and foundation soils provided.

The stability analyses for each pond should include a subsurface investigation to determine existing soil parameters in the embankments and foundation soils and the installation of piezometers to determine the current pheratic surface. Loading conditions that should be modeled should include those listed in Table 2 in Section 3.3.

4.3 Ash Pond A and Ash Pond C- Hydrologic and Hydraulic Analysis
Ash Pond A is classified as a Moderate (Class B) hazard structure according to Kentucky regulations. BREC has not provided CHA with a hydraulic analysis showing the ability of Ash Pond A to safely store or pass a flow equivalent to the P_{100} plus 40 percent of the difference between the PMP and the P_{100} storms [P100 + 0.40(PMP-P100)] as established in the Kentucky regulations. CHA recommends that evaluations be prepared for the pond to determine the ability of the Ash Pond A to safely store or pass the design storm event. Though Kentucky does not actively regulate Ash Pond C and has not established standards for unregulated dams, a similar analysis should be prepared for Ash Pond C to determine that it does not overtop in the event of a probable heavy storm event.

4.4 Ash Pond A – Freeboard
Kentucky regulations presently do not have a minimum freeboard requirement; only that the impoundment contain or safely pass the design event without overtopping. The available freeboard on the dikes at this pond appeared to vary from approximately 1.5 to 3 feet. This would seem to allow little room to account for wave action during a strong storm event. CHA recommends that the crest areas be graded and the pond level established so the freeboard is consistent around the pond on the dikes. Consideration should also be given to lowering the pond level to allow for a margin of error for wave run-up should the design storm event occur. Wave action on the dikes can of particular concern in light of the potential for erosion on some areas of the dike crests.

4.5 Ash Pond A – Crest Area and Inboard Slope Maintenance
Intermittent erosion rills and beaching erosion was observed on the dikes adjacent to the open water pond areas. This should not cause an immediate safety concern as long as a sufficient freeboard and dike crest width is maintained. Based upon the conditions encountered, this erosion is most likely due to poorly compacted material pushed to the edge of the dike on the inboard side. At present the most probable concerns is incremental loss of capacity over time as the erosion rills transport material into the pond area. CHA recommends that the crest and slope areas be dressed to remove loose materials and appropriately compacted to increase their erosion resistance. An alternative may be to place heavier crushed rock and stone on the crest and inboard slope. These steps can also be taken to repair softened areas and depressions or ruts holding water in the crest access road, such as those noted along the south dike.

4.6 Ash Pond A – Instrumentation and Monitoring
Presently the dikes do not have instrumentation that permits tracking of embankment performance such as seepage weirs, piezometers, deformation monuments, or inclinometers.

Such instrumentation and routine measurements obtained from these devices permit the monitoring of water levels, volumetric flow, and deformations over time that are not readily observable and aid in assessing the embankment. Once a trend has been established for the embankment, abrupt changes in these measurements can be used to guide a course of action and ideally stop a failure or breach before it occurs. CHA recommends that some manner of monitoring the dike performance be installed and that at a minimum it include piezometers at the crest and toe of the dike.

4.7 Ash Pond A and Ash Pond C- Grass Slope Maintenance

In general, a good, stable grass cover was observed on the outboard slope areas. Routine mowing and reseeding should continue as needed. In some areas, surficial slope deformation (rutting) due to these mowing activities were observed. It is likely that this rutting is the result of repeated passes of large riding equipment in these areas or attempting to mow too soon after a rain event. CHA recommends that mowing activities not commence on the slopes until the areas are fairly dry and the surface soils have stiffened.

A related grass slope maintenance item is erosion. Erosion rills, most of them grass and weed covered, occurring along the embankment slopes should be filled with compacted soil and seeded to stabilize the repaired area. This should also help with reducing the slope softening and subsequent mower rutting that can occur in these areas.

4.8 Ash Pond C – Heavy Vegetation and Tree Control on the South Dike

The heavy vegetation and trees established along the south dike adjacent to the drainage feature need to be removed. This should be done at least to the toe of the constructed dike and to the eastern extent of the dike where it ties in to the natural grade at the incised portion of the pond. According to an excerpt from the meeting minutes of a meeting held November 9, 2009, this tree removal activity was on an action item list, so it appears if this was recommended previously. To aid in determining the extent of tree removal, it is also suggested that a detailed survey be obtained in the area so that vegetation along the natural swale can be retained.

4.9 Ash Pond A – Rodent Control

Isolated rodent burrows were observed along the outboard slopes of Ash Pond A. At one location a trap was observed indicating that BREC is actively moving to control these animals. This rodent control measure and others should continue to be utilized as needed.

4.10 Ash Pond A and Ash Pond C – Rock Armament Vegetation Control

Ash Pond A has rock toe and rock slope protection on its east dike facing the Ohio River and Ash Pond C has rock outlet protection for its spillway. Woody and weedy vegetation should not be allowed to establish itself in this armament. Hand removal or a herbicide (applied in accordance with applicable laws/rules) can be employed to control this growth.