

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. John Voyles, Jr., Vice President, Transmission and Generation Services  
E.ON/Kentucky Utilities  
220 West Main Street,  
P.O. box 32020  
Louisville, Kentucky 40232

Dear Mr. Voyles,

On October 7-8, 2009 the United States Environmental Protection Agency ("EPA") and its engineering contractors conducted a coal combustion residual (CCR) site assessment at the Ghent 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 Ghent 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 Ghent 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 Ghent 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  
5<sup>th</sup> Floor, N-237  
Arlington, VA 22202-2733

You may also provide a response by e-mail to [hoffman.stephen@epa.gov](mailto: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  
Ghent Recommendations

CHA's assessment of the ATB #1, ATB #2, and Gypsum Stacking Facility dikes indicate that they are in satisfactory condition. Kentucky Utilities provided CHA with descriptions of a proactive maintenance and monitoring program at these facilities. These efforts should be continued.

CHA presents the following recommendations for maintenance and updating of analyses for more complete record keeping.

#### **4.2 ATB #1 General Condition Monitoring and Maintenance**

The downstream slope of ATB #1 was 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 periodic maintenance. These areas are as follows:

- Steep areas near the top of the downstream slope where grading of the dam crest resulted in over steepened slopes should be monitored to ensure that slope movements do not develop in these steep areas. Tire ruts from mowing operations should be monitored to ensure they are not worsening or resulting in localized surficial sloughing or erosion. Periodic maintenance may be warranted.
- Fill the depression and shallow erosion rills on the bench at the northeast corner of the impoundment. These areas should be identified after filling for further monitoring to ensure that this depression is not a continuing condition indicative of embankment stability concerns.
- Remove debris and vegetation from the ATB #1 skimmer at the decant structure to discourage further vegetation growth.

#### **4.3 ATB #2 General Condition Monitoring and Maintenance**

The downstream slope of ATB #2 was 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 periodic maintenance. These areas are as follows:

- Continue to be vigilant in watching for rodent holes. A few small rodent holes were observed.
- Monitor, and improve drainage where possible on the benches to prevent stormwater from ponding.
- Cut larger brush from the embankment/groin swale contacts where mowers cannot get close enough to the swale rip rap for effective mowing.
- Keep toe drains free of vegetation and debris.
- Monitor the crest for potholes and erosion rills that may require refilling.

#### **4.4 Erosion Repair at ATB #2**

On the west side of the main fill of the dam, there is an erosion rill about 2 feet deep. This erosion feature needs to be filled and the adjacent drainage swale regraded as necessary to prevent this type of erosion from occurring in this area.

#### **4.5 Toe Drain Cleaning**

One of the toe drains on the east side of the secondary fill has mud partially clogging the end of the drain pipe. It appeared from our observations and a review of ATC's January 2009 inspection that a natural slope slough in the area of this headwall had buried the pipe. While the drain pipe had been re-exposed, mud from the slough still partially clogged the pipe. This pipe

needs to be cleaned out, and monitored to confirm that seepage is clear and that the surrounding natural slopes are stable.

#### **4.6 Gypsum Stacking Facility Standing Water**

Standing water was observed along the east side of the Gypsum Stacking Facility. Indications were that this standing water was related to poor drainage of stormwater. However, long term standing water can contribute to softening of the embankment toe and foundation soils, and prevent inspectors from differentiating seepage from ponded stormwater. CHA recommends improving the drainage in this area to provide positive drainage of stormwater in this area.

#### **4.7 Seepage at the Gypsum Stacking Facility**

Kentucky Utilities is working with Stantec to evaluate and resolve a seep observed about 2 feet below the crest of the starter dike on the east embankment. Corrective action of this seep would appear critical prior to raising the pool elevation within the stacking facility.

#### **4.8 Rapid Drawdown Stability Analysis at ATB #2**

A rapid drawdown analysis has not been performed for ATB #2. 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. CHA recommends that a rapid drawdown analysis be performed for ATB #2, particularly since the clay (low permeability) core is located on the upstream slope of the raised portion of the dam.