

US EPA ARCHIVE DOCUMENT



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

June 13, 2013

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

VIA E-MAIL

Ms. Cynthia Anderson, Senior Manager, Water and Waste Compliance
Fossil Generation Development & Construction
Tennessee Valley Authority
1101 Market Street, BR 4A
Chattanooga, TN 37402-2801

Re: Request for Action Plan regarding Tennessee Valley Authority – Colbert Fossil Plant

Dear Ms. Anderson,

On September 19, 2011 the United States Environmental Protection Agency ("EPA") and its engineering contractors conducted a coal combustion residual (CCR) site assessment at the Tennessee Valley Authority - Colbert Fossil Plant 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 Tennessee Valley Authority - Colbert Fossil Plant 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 Tennessee Valley Authority - Colbert Fossil Plant facility can be accessed at the secured link below. The secured link will expire on July 31, 2013.

Here is the link: <http://www.yousendit.com/download/UVJnT0NkR0ZEa1cwYjhUQw>

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 Tennessee Valley Authority - Colbert Fossil Plant facility. These recommendations are listed in Enclosure 1.

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 **July 15, 2013**. Please send your response to:

Mr. Stephen Hoffman

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U.S. 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
U.S. Environmental Protection Agency
Two Potomac Yard
2733 S. Crystal Drive
5th Floor, N-5838
Arlington, VA 22202-2733

You may also provide a response by e-mail to hoffman.stephen@epa.gov,
dufficy.craig@epa.gov, kelly.patrickm@epa.gov and 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

Tennessee Valley Authority - Colbert Fossil Plant Recommendations (from the final assessment report)

CONCLUSIONS

Conclusions are based on visual observations from a one-day site visit, September 12, 2011, and review of technical documentation provided by Tennessee Valley Authority.

Conclusions Regarding the Structural Soundness of the Management Unit

The Ash Pond 4 and Disposal Area 5 embankments and spillways appear to be structurally sound based on a review of the engineering data provided by the owner's technical staff, consultants, and Dewberry engineers' observations during the site visit.

- Geotechnical analyses available at the time of the site visit indicated the calculated slope stability under static conditions of a section of Ash Pond 4 dike did not meet the minimum requirements of 1.5.

Alterations and improvements were being made to the Ash Pond 4 dike at the time of the site visit.

Subsequently, documentation was provided that verified the effectiveness of the improvements in raising the stability Safety Factor to greater than 1.5.

- Liquefaction analyses have not been performed for either Ash Pond 4 or Disposal Area 5. Qualitative examination of geotechnical data for Ash Pond 4 indicates the presence of loose to very loose silty sand beneath the toe of the east lower dike, and loose to very loose ash beneath the toe of the upper dike. Both conditions are prevalent along the east dike. Disposal Area 5 did not show soil conditions susceptible to liquefaction.

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

Hydrologic and hydraulic analyses, including a dam break analysis of Ash Pond 4, were provided to Dewberry for review. The dam break analysis of Ash Pond 4 included both "sunny day" breaches and overtopping during a Probable Maximum Precipitation (PMP) event. Based on the results of the analysis, a segment of the embankment crest was lowered, and new spillway and siphon systems constructed to lower the normal pool elevation. The purpose of the work was to remove the probability of the loss of human life in the event of a failure of the embankment. Documentation provided states that lowering the crest of a section of Ash Pond 4 provides sufficient overflow capacity to prevent the remainder of the embankment from being overtopped during a PMP event.

Conclusions Regarding the Adequacy of Supporting Technical Documentation

The supporting technical documentation is inadequate due to the absence of liquefaction analyses, particularly for Ash Pond 4.

Conclusions Regarding the Description of the Management Unit(s)

The description of the management unit provided by the owner was an accurate representation of what Dewberry observed in the field.

Conclusions Regarding the Field Observations

Dewberry staff was provided access to all areas in the vicinity of the management unit required to conduct a thorough field observation. The visible parts of the Ash Pond 4 and Disposal Area 5 embankments and outlet structures were observed to have no signs of overstress, significant settlement or shear failure, or other signs of instability. Embankments appear structurally sound. There are no apparent indications of unsafe conditions, or conditions needing remedial action beyond current monitoring and maintenance operations.

Conclusions Regarding the Adequacy of Maintenance and Methods of Operation

The current maintenance and methods of operation appear to be adequate for the Ash Pond 4 and Disposal Area 5. There was no evidence of significant embankment repairs or prior releases observed during the field inspection. TVA has identified seepage areas, performed an analysis of the seepage potential, and instituted a program of monitoring and managing the seepage.

Conclusions Regarding the Adequacy of the Surveillance and Monitoring Program

The surveillance program appears to be adequate. The Ash Pond 4 and Disposal Area 5 embankments are instrumented with a network of piezometers. The piezometers are monitored regularly.

Classification Regarding Suitability for Continued Safe and Reliable Operation

Ash Pond 4 is rated FAIR and Disposal Area 5 CCR management units are rated SATISFACTORY for continued safe and reliable operation.

RECOMMENDATIONS

Recommendations Regarding the Structural Stability

No recommendations appear warranted at this time.

Recommendations Regarding the Hydrologic/Hydraulic Safety

No recommendations appear warranted at this time.

Recommendations Regarding the Supporting Technical Documentation

It is recommended that an analysis of the impact of potential liquefaction of materials within and under Ash Pond 4 be performed now rather than upon closure of the unit.

Recommendations Regarding Continued Safe and Reliable Operation

It is anticipated that the Ash Pond 4 management unit would be considered Satisfactory for continued safe and reliable operation upon:

A determination that the liquefaction potential for soils and materials under the design seismic event is not a safety issue.