

US EPA ARCHIVE DOCUMENT



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

June 27, 2011

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

VIA E-MAIL AND FEDERAL EXPRESS

Mr. Michael Menne, Vice President Environmental Services
Ameren Energy
One Ameren Plaza
1901 Chouteau Avenue
P.O. Box 66149
St Louis, Mo. 63166-6149

Dear Mr. Menne,

On August 10, 2010 the United States Environmental Protection Agency ("EPA") and its engineering contractors conducted a coal combustion residual (CCR) site assessment at the Meredosia 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 Meredosia 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 Meredosia facility is enclosed. 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 Meredosia 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 July 27, 2011. Please send your response to:

Mr. Stephen Hoffman
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

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

Enclosures

6.1 Definitions

Priority 1 Recommendation: Priority 1 Recommendations involve the correction of severe deficiencies where action is required to ensure the structural safety, operational integrity of a facility, and that may threaten the safety of the impoundment.

Priority 2 Recommendation: Priority 2 Recommendations where action is needed or required to prevent or reduce further damage or impair operation and/or improve or enhance the O&M of the facility, that do not appear to threaten the safety of the impoundment.

Based on observations during the site assessment, it is recommended that the following actions be taken at the Meredosia Power Generating Station.

6.2 Priority 1 Recommendations

- 1. Prepare an emergency action plan (EAP) for the facility by 8/2/2011.** An EAP should be prepared for the Fly Ash and Bottom Ash Ponds as well as any other pertinent features related to the impoundments. The EAP should be reviewed by the EPA.
- 2. Perform a hydrologic and hydraulic study by 8/1/2011.** This study should be performed to determine if the existing ponds are capable of impounding the appropriate inflow design flood without overtopping of the impoundments. At a minimum, documentation required for this evaluation will include a current topographic survey of the site and surrounding drainage basin, basin characteristics (surface runoff/infiltration condition) and sufficient hydrologic data to determine the design storm event. The results of this evaluation should be reviewed by the EPA.
- 3. Establish seepage and ground water monitoring program by 8/1/2011.** As discussed in Section, 3.5, seepage water at various locations along the downstream embankment of the Fly Ash pond was observed. The presence of seepage water at the downstream embankment raises serious questions regarding the integrity and the stability of the embankment. Therefore, a detailed monitoring program should be established to quantify various important factors including seepage quantities through the embankment, the amount of sediments carried by the seepage water, and the fluctuation of ground water levels. The results of this evaluation should be reviewed by the EPA.
- 4. Perform embankment and structure stability analyses by 8/1/2011.** The slopes of the Bottom Ash Pond were steep, appearing to be 1H:1V in some cases, and their stabilities are is unknown. Due to the lack of documented engineering design analysis, new stability analyses of both impoundments should be performed. The analyses should incorporate seepage monitoring data and include evaluation of the embankments and the structures under seismic loading scenarios. According to Ameren, we understand that this task is currently being completed by another consultant retained by Ameren Energy. The results of this evaluation should be reviewed by the EPA.
- 5. Perform video assessments of culvert piping by 8/1/2011.** Culvert piping used for the outlet works of the impoundments is vitrified clay pipe. As this pipe is either past or nearing the end of its life expectancy, a video assessment should be performed of all culvert piping to determine its effectiveness and if remedial actions are necessary.

6. Control vegetation on the upstream and downstream slopes. Remove the trees and stumps from the embankment including the large tree at the overflow outlet discharge point by 8/1/2011. Refer to FEMA Manual 534 (Impact of plants on Earthen Impoundments) for guidance on vegetation removal. This manual is available on the FEMA website.

6.3 Priority 2 Recommendations

- 1. Repair erosion of embankment.** Minor surface erosion was noted at both the Bottom Ash Pond and Fly Ash Pond. Areas where erosion has occurred should be filled in and re-dressed with appropriate fill in order to prevent erosion from cutting further into the embankments.
- 2. Review the condition of riprap at the downstream toe of the bottom ash embankment and upgrade the riprap, if needed, to meet typical requirements for riprap size and placement by 12/1/2011.**
- 3. Maintain a log of maintenance and other activities at the fly ash impoundments and supporting facilities.** We believe that this log will provide continuity during periods of staff change.
- 4. Develop an Operation and Maintenance (O&M) manual for the impoundments and the facility by 8/1/2011.** The O&M manual should include at least the following three key elements:
 - ☐ Procedures needed for operation and maintenance of the impoundments during typical operating conditions
 - ☐ Procedures for monitoring performance of the impoundments, including visible changes such as surface erosion, settlement and sloughing; internal embankment changes such as erosion due to uncontrolled seepage; and fluctuations in groundwater level
 - ☐ The EAP