

US EPA ARCHIVE DOCUMENT

NOTE

Subject: EPA Comments on Ameren Energy Generating Company – Hutsonville Power Station, Hutsonville, IL
Round 10 Draft Assessment Report

To: File

Date: May 3, 2012

1. On page i, “Executive Summary,” it may be advantageous to briefly explain the reasoning for the exclusion of Pond C from analysis. Later, it is noted in Section 1.2.3 “Purpose of the Impoundments” that Pond C is fully incised.
2. On page 5, Section 1.2.9 “Hazard Potential Classification,” the report states that “...Pond D would be considered as having a **Low** hazard potential.” Given the proximity of the impoundment to the Wabash River (approximately 150’ at the nearest point), it may be advantageous to explain the hazard potential rating in light of the proximity to the surface water body.
3. On page 11, Section 2.6 “Structural and Seepage Stability,” it may be advantageous to provide a table with calculated factors of safety for respective impoundments for each loading condition along with corresponding minimum acceptable factors of safety in practice for given loading condition.
4. In appendix A, Please remove "Alliant" and replace with "Ameren" in items 2 and 6. In Item 6 replace "Wisconsin" with "Illinois"
5. We have requested that the following question be answered for each pond, this is generally accompanied with the assessment check list sheets: “*Is any part of the impoundment built over wet ash, slag, or other unsuitable materials (like TVA)?*” Please address for each impoundment.
6. The report states that there is no Emergency Action Plan specifically addressing potential impoundment failure. Section 3.3 ought to include a recommendation for the development of EAP specific to the impoundments.
7. There was no indication of instrumentation or lack of instrumentation at or around Pond D. Please address.

State Comments on Draft Report
Ameren Energy Generating Company – Hutsonville Power Station
By Paul Mauer, Jr., P.E.
Senior Engineer
Illinois Dam Safety Program

Summary

Each structure inspected by the consultant is given a poor condition rating. As discussed in detail later, the ratings are inconsistent with the stated finding in the body of the report. Each structure should be rated satisfactory based on the conditions described in the report.

Pond A –

There were 4 deficiencies outlined in the executive summary. The first 2 are to be expected as normal occurrences in this type of structure and are routine maintenance needs. The report does not indicate that the level of the condition points to failure to complete standard maintenance in a timely manner, which would change the observation from needed maintenance to deficiency. The 3rd deficiency is not one of condition but one of documentation. Pond A was permitted based upon a hydrologic analysis. Freeboard is required such that the full PMP is stored, without outflow. No hydraulic analysis is required. The 4th deficiency is a condition created by a repair project underway on the only day of inspection. This is not a reason for a condition finding, but a reason to have either scheduled the inspection for another day or to have returned for a follow-up inspection of normal operating conditions.

Based upon the observations, the condition of Pond A should be judged to be Satisfactory.

Pond B –

The deficiency for Pond B is related to engineering documentation rather than condition. The condition is a matter of the hydrologic design of the structure. The data recorded indicates a freeboard of 3.2 feet, more than sufficient to store the PMP event of 33.5” in 24 hours.

Based upon the observations, the condition of Pond B should be judged to be Satisfactory.

Pond D –

Both deficiencies for Pond D are related to engineering documentation rather than condition. The first condition again is a matter of the hydrologic design of the structure. The data recorded indicates a freeboard of 4.0 feet, more than sufficient to store the PMP event of 33.5” in 24 hours. This office has not seen the stability analysis referenced in the document. A pseudo-seismic slope stability analysis of structures of this type in Illinois routinely indicates factors of safety less than 1. Analysis of this type is not accepted as a complete assessment of the structural stability under seismic design conditions.

Based upon the observations, the condition of Pond D should be judged to be Satisfactory.

Studies and Analyses

As noted in the condition assessment for each structure, no additional hydrologic/hydraulic studies are warranted.

There is no evidence of a lack of structural stability in any of the embankments. Given the uniformity of the geometry of the embankments, there is no reason to believe that Pond B is not stable. No additional analysis of the general stability of Pond B is warranted.

As noted, this office has not seen the seismic analysis of Pond D referenced. We will obtain and review it. The recommendation to perform slope stability in accordance with the International Building Code is inappropriate as that procedure is not accepted for embankment dams in Illinois. Further the recommendation that combined risk analysis be performed is also inappropriate for assessment of condition or sufficiency of design outside of a portfolio analysis and certainly not appropriate for consideration of low hazard dams. The risk procedure would define extremely low probability failure modes for application to non-existent damage projections. The proposal is an exercise in statistics that has no real world application.

Recurrent Operation and Maintenance Recommendations

The recommendation of increased maintenance mowing is not supported by an observation, the photographic documentation or the owner's inspection documentation. No change in frequency of mowing is recommended.

Remedial Measures Recommendations

Recommendations 1 and 2 are inappropriate as noted. Recommendation 3 is probably not appropriate as the analysis referenced was probably incomplete with regard to a assessment of the structural stability under design seismic conditions.

Inspection Document

The inspection document misstates the state jurisdiction. The Illinois Department of Natural Resources regulates all dams. The Illinois Environmental Protection Agency issues NPDES permits.

June 28, 2012

Mr. Stephen Hoffman
US Environmental Protection Agency (5304P)
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: Ameren Energy Resources
Hutsonville Energy Center
Response to GZA GeoEnvironmental, Inc. Draft Dam Safety Assessment of CCW
Impoundment

Dear Mr. Hoffman:

In the USEPA email to Mr. Michael Menne dated May 29, 2012, the USEPA requested that we review and submit your comments on the report t information on how Ameren intended to address recommendations found in draft report on the structural stability of the fly ash and bottom ash ponds at Ameren Energy Resources (“AER”) Hutsonville Energy Center. This report was prepared by your engineering contractor (GZA GeoEnvironmental, Inc.) based on a site visit and review of engineering documentation provided by AER. Your engineering contractor then provided their evaluation of the structural stability of the fly ash and bottom ash pond and provided recommendations in their draft report dated April 27, 2012.

In 2010 and citing investigation authority under CERCLA, USEPA instituted a review of coal ash impoundments at electric generating facilities located throughout the United States. Ameren Corporation and its operating companies cooperated fully with that investigation and provided a variety of engineering documentation and made its facilities available for site inspections performed by USEPA’s engineering consultant. That limited review effort has culminated in USEPA’s issuance of reports regarding the structural stability of impoundments located at our facilities. While many of the observations are routine, we do have some concerns as to the methodology and process employed in drafting the reports.

In fact, USEPA’s regulatory basis both its initial investigation, and most recent correspondence regarding structural assessments remains unclear. (As you are aware, USEPA has proposed revisions to RCRA which would allow for the direct regulation including the engineering and

design of impoundments and landfills. That regulatory process, however, has not been finalized.) In fact, state regulatory authorities such as Illinois Department of Natural Resources (IDNR) traditionally have authority over the structural integrity of such facilities through their dam safety programs. Accordingly, in responding to USEPA's reports regarding the structural stability of ash ponds at our facilities, AER reserves its right to object to USEPA's assertion of jurisdiction in an area that appears to be outside of its regulatory purview.

Subject to the above comments and objections, below are Ameren Energy Resources' responses to the conclusions and recommendations provided in the GZA GeoEnvironmental, Inc. draft dam safety assessment of the coal combustion waste (CCW) impoundments at the Hutsonville Energy Center.

Comments on Executive Summary

AER takes strong exception to the "POOR" condition rating given to the impoundments based on the findings in the report as detailed herein:

- Of the four (4) deficiencies noted for ash pond A, the first two are minor maintenance issues and there is no indication in the report that the conditions are at a level such that acceptable performance of the unit is compromised. Regarding the third deficiency, Pond A is an IDNR permitted dam, the design of which was submitted and approved as meeting the design requirements of the state (which include hydrologic and hydraulic design criteria) and no further analysis is deemed necessary. The fourth deficiency regarding the conditions leading to inadequate freeboard was a maintenance issue that developed shortly before the inspection and was in the process of being corrected by the plant at the time of inspection. The maintenance was subsequently completed and the pond was returned to normal operating conditions. Based upon the observations in the report, Ameren feels the ponds should be rated as "SATISFACTORY".
- The deficiency noted for Pond B is related to engineering documentation rather than condition. The deficiency is related to the hydrologic design of the structure. The data recorded in the inspection report indicates a freeboard of 3.2 feet which is more than sufficient to store the 33.5" PMP event in 24 hours. Based upon the observations in the report, Ameren feels the ponds should be rated as "SATISFACTORY".
- The two deficiencies noted for Pond D are related to engineering documentation rather than condition. The first deficiency is related to the hydrologic design of the structure. The data recorded in the inspection report indicates a freeboard of 4.0 feet which is more than sufficient to store the 33.5" PMP event in 24 hours. The second deficiency regarding the calculated safety factor under seismic loading being less than 1.0 is out of context. The safety factor that was calculated to be 0.9 was based on a combined

loading condition of seismic and flooding. Discussions with the IDNR Dam Safety personnel indicate that this loading condition would not be appropriate for consideration, especially for low hazard dams, in the design due to the extremely low probability of the simultaneous occurrence. Based upon the observations in the report, AER feels the ponds should be rated as "SATISFACTORY".

Comments on Studies and Analyses

1. AER does not intend to perform a stability analysis on Pond B. The embankment was designed by licensed engineers and there has been no evidence of structural stability issues in the embankments that give reason to believe that Pond B is not stable.
2. AER does not intend to perform a hydrologic/hydraulic analysis for Ponds A, B, and D. The normal operating freeboards of Ponds A, B and D are more than sufficient to store the 33.8" PMP in 24 hours. Further, as of 12/31/2011, Hutsonville Energy Center was permanently retired and the ash ponds are no longer receiving flows other than the precipitation. The levels of the ponds have been lowered by removing and replacing stop logs and/or pumping to provide more than sufficient freeboard for precipitation.
3. AER does not intend to perform additional stability analysis beyond what has been done as previously discussed.

Comments on Recurrent Operation & Maintenance Operations

1. The sloughing noted is minor and is routinely monitored. Repair will be made should the sloughing become a dam safety issue.
2. The animal burrows along the crest will be evaluated, however, considering that the ponds are substantially de-watered, no longer receiving flows, and are lined (i.e. no phreatic surface in the embankment), they are not a dam safety concern at this time.
3. The stop logs cannot be exercised under normal operating conditions as this would require lowering pond levels which would impact the NPDES outfall discharges. The slide gate was exercised March of 2012 and operated as expected..
4. AER does not intend to increase the mowing frequency and the photos in the report do not support the recommendation to increase the frequency.

Comments on Remedial Measures Recommendations

As previously discussed, AER does not intend to perform additional analyses and therefore these recommendations are not appropriate.

Comments on Report

Paragraph 1.2.7 on page 5 of the report incorrectly states that the maintenance of the impoundments is regulated by the EPA. The maintenance of the impoundments is regulated by the IDNR.

Business Confidentiality Claim

We request the draft Dam Safety Assessment Report for the Hutsonville Energy Center prepared by GZA GeoEnvironmental, Inc. as well as our responses to this report remain confidential. This request is made in accordance with the procedures described in 40 CFR, Part 2, Subpart B. We also request that engineering documents initially submitted to GZA GeoEnvironmental, Inc. for preparation of their draft report along with the stability analysis submitted for consideration in Ameren's response to the draft report be designated as Confidential Business Information.

If you need further information, please feel free to contact me at 314-554-2388.

Sincerely,



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