

US EPA ARCHIVE DOCUMENT



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

April 15, 2014

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

VIA E-MAIL

Mr. Donald Kom, Director
Electric Department
City of Ames
502 Carroll Avenue
Ames, Iowa 50010

Re: Request for Action Plan regarding City of Ames - Ames Electric Power Plant

Dear Mr. Kom,

On August 20, 2012 the United States Environmental Protection Agency ("EPA") and its engineering contractors conducted a coal combustion residual (CCR) site assessment at the City of Ames - Ames Electric Power 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 unit at the City of Ames - Ames Electric Power 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 City of Ames - Ames Electric Power Plant facility is attached.

This report includes a specific condition rating for the CCR management unit and recommendations and actions that our engineering contractors believe should be undertaken to ensure the stability of the CCR impoundment located at the City of Ames - Ames Electric Power 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 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 **May 16, 2014**. Please send your response to:

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

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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 unit, 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,
/Barnes Johnson /, Director
Office of Resource Conservation and Recovery

Enclosures

Enclosure 1
**City of Ames - Ames Electric Power Plant Recommendations (from the final
assessment report)**

CONCLUSIONS

Conclusions Regarding the Structural Soundness of the Management Unit(s)

The Lime and Ash Pond is a single, dual use diked impoundment. The impoundment is divided into two approximately equal cells, with the Ash Pond on the eastern end, and the Ames Water Department Lime Pond (also known as Water Plant Lime Pond and Lime Pond) on the western end. The cells are separated by an engineered divider dike that was part of the original facility constructions. The cells are not hydraulically connected.

The dike embankments appear to be structurally sound based on Dewberry engineers' observations during the site visit. Documentation of slope stability Factors of Safety under static and seismic conditions for the Lime Pond and the Ash Pond was not provided for review.

Based on the lack of documentation of slope stability factors of safety, the embankments for both static and seismic loading conditions are rated POOR for structural soundness.

Conclusions Regarding the Hydrologic/Hydraulic Safety of the Management Unit

Sufficient documentation of the hydrologic and hydraulic safety of the pond was not provided to Dewberry for review. USGS stream gage data during 100-year floods on the Skunk River in 2008 and 2010 was provided. No corresponding data on Ash Pond water elevations was provided.

Based on the lack of documentation of hydrologic and hydraulic analyses, the management unit is rated POOR for hydrologic and hydraulic safety.

Conclusions Regarding the Adequacy of Supporting Technical Documentation

The supporting technical documentation is inadequate. Insufficient documentation of hydrologic and hydraulic safety, and no slope stability documentation was provided to Dewberry for review.

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 embankments were observed to have no signs of overstress, significant settlement, shear failure, or other signs of instability. Embankments appear structurally sound. There are no apparent indications of unsafe conditions or conditions needing remedial action.

The Ash Pond does not have an outlet structure (i.e., there is no discharge to the environment). Sluice water and precipitation falling into the Ash Pond are directed to the Clear Water pond after clarification and before being pumped back to the power plant for reuse.

Conclusions Regarding the Adequacy of Maintenance and Methods of Operation

The presence of trees on the exterior and interior slopes of the embankment, and erosion along sections of the interior embankments of the Ash Pond indicate the maintenance program needs enhancement.

Conclusions Regarding the Adequacy of the Surveillance and Monitoring Program

The Lime Pond and Ash Pond monitoring program consists of daily monitoring of the Ash Pond pool elevation, and the condition of the recirculation pumps. The surveillance program appears to lack a component regarding observation of the embankments for signs of distress, or potential threats to the safety of the slope, including trees on the slope, potential seepage issues, animal burrows, etc.

Classification Regarding Suitability for Continued Safe and Reliable Operation

The Ash Pond and the Lime Pond impoundment embankments are rated POOR for continued safe and reliable operation.

RECOMMENDATIONS

Recommendations Regarding Structural Stability

Recommendations regarding structural stability relates to documentation and operational issues. Specifically, the utility needs to provide the Lime Pond and the Ash Pond embankment slope stability Factors of Safety for static and seismic loading conditions. Per a January 3, 2014 document (Appendix C, Doc 9 of the final report) provided by the City of Ames, the City has solicited proposals for a seismic and static slope stability study. Upon completion of the study the results will be sent to USEPA.

Recommendations Regarding the Supporting Technical Documentation

Additional documentation is recommended to:

- Provide hydrologic and hydraulic data to verify the Lime Pond and the Ash Pond can contain the one-percent probability in any given year's storm events without overtopping the embankments
- Provide engineering documentation that the Lime Pond and the Ash Pond embankment slope stability Factors of Safety for static and seismic loading conditions meet or exceed minimum requirements (see "**Conclusions Regarding the Structural Soundness of the Management Unit(s)**" above)
- Provide documentation of construction quality control/quality assurance activities to verify that specified compaction of embankment subgrade soils and fill materials were met.

According to the January 3, 2014 document, the City has asked the original architect/engineer to search for this documentation.

Recommendations Regarding Continued Safe and Reliable Operation

Recommendations for continued safe and reliable operation of the management unit include:

- Add a weekly visual inspection of the embankment for signs of distress or conditions that are adverse to the continued safe operation of the management unit. Inspections can be documented using a checklist form. The City of Ames has informed USEPA (Appendix C, Doc 9 of the final report) that it now conducts a weekly visual inspection of the pond.
- Increase maintenance activities for the embankments, including:
 - Removal of trees on the exterior and interior slopes. Per the City of Ames (Appendix C, Doc 9 of the final report) a program is in place for implementation in Spring 2014 for tree removal.
 - Repair eroded area along interior slope of Ash Pond. Per the City of Ames (Appendix C, Doc 9 of the final report) a program is in place to repair erosion along the interior slope.