

US EPA ARCHIVE DOCUMENT



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

April 24, 2014

OFFICE OF  
SOLID WASTE AND  
EMERGENCY RESPONSE

VIA E-MAIL

Ms. Annette Allen, General Manager  
Grand Haven Board of Light and Power  
City of Grand Haven  
1700 Eaton Drive  
Grand Haven, Michigan 49417

Re: Request for Action Plan regarding Grand Haven Board of Power and Light - JB Sims Power Plant

Dear Ms. Allen,

On August 22, 2012 the United States Environmental Protection Agency ("EPA") and its engineering contractors conducted a coal combustion residual (CCR) site assessment at the Grand Haven Board of Power and Light - JB Sims 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 Grand Haven Board of Power and Light - JB Sims 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 Grand Haven Board of Power and Light - JB Sims Power Plant facility is attached.

This report includes a specific condition rating for the CCR management units and recommendations and actions that our engineering contractors believe should be undertaken to ensure the stability of the CCR impoundments located at the Grand Haven Board of Power and Light - JB Sims 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 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 provide a rationale. Please provide a response to this request by **May 27, 2014**. Please send your response to:

Mr. Stephen Hoffman  
U.S. Environmental Protection Agency (5304P)

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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  
5<sup>th</sup> Floor, N-5838  
Arlington, VA 22202-2733

You may also provide a response by e-mail to [hoffman.stephen@epa.gov](mailto:hoffman.stephen@epa.gov), [dufficy.craig@epa.gov](mailto:dufficy.craig@epa.gov), [kelly.patrickm@epa.gov](mailto:kelly.patrickm@epa.gov) and [englander.jana@epa.gov](mailto: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,  
/Barnes Johnson /, Director  
Office of Resource Conservation and Recovery

Enclosures

**Grand Haven Board of Power and Light - JB Sims Power Plant Recommendations  
(from the final assessment report)**

**CONCLUSIONS**

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

The dikes surrounding the East Pond appear to be structurally sound based upon visual inspection. The dikes surrounding the West Pond may have clay liner disturbance by the excavator. The clay liner disturbance, if controlled to surficial damage, as was observed, should not affect the structural integrity of the embankment. We observed ponding of water at the toe of the southern and western dikes. The utility indicated the ponding was due to a rainfall event (0.32 inches) six days prior to the site visit. However ponding could be due to seepage and there was no documentation (such as water analyses or field inspection notes) to identify the source of the ponded water. Dewberry engineers could not determine the structural soundness of the dikes due to the fact that requested technical data was not provided by Grand Haven Board of Power and Light (GHBPL, the utility).

The utility has committed (in an e-mail to the EPA (see Appendix D, Doc 12 of the final report) from Grand Haven Board of Light and Power's Paul Cedarquist, on January 13, 2013) to doing dike stability studies and the EPA will be reviewing the results whenever those studies are complete to confirm the safety of the dikes.

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

No hydrologic or hydraulic analyses were provided to Dewberry by the utility. The ponds only receive water from sluicing and direct precipitation, there is no external drainage into the ponds.

**Conclusions Regarding the Adequacy of Supporting Technical Documentation**

The supporting technical Documentation is inadequate. Engineering documentation reviewed is referenced in Appendix A of the final report.

**Conclusions Regarding the Description of the Management Unit(s)**

The description of the management units provided by the utility was an inaccurate representation of what Dewberry observed in the field. Specifically, there is an overflow spillway shown on the construction drawings for the East Pond. The utility noted (Appendix A, Doc 11 of the final report) that the spillway was removed for safety reasons related to the utility substation. Pond filling and ash removal procedures preclude the need for the spillway.

**Conclusions Regarding the Field Observations**

Dewberry staff was provided access to all areas in the vicinity of the management units required to conduct a thorough field observation.

**Conclusions Regarding the Adequacy of Maintenance and Methods of Operation**

The current maintenance and methods of operation appear to be inadequate for the bottom ash management units.

**Conclusions Regarding the Adequacy of the Surveillance and Monitoring Program**

The management unit dikes do not have a surveillance program or a monitoring program. Subsequent to the Draft report, the utility has stated that a written monitoring program is being developed. The utility also explained in detail current surveillance operations at the plant (Appendix D, Doc 11 of the final report).

**Classification Regarding Suitability for Continued Safe and Reliable Operation**

**Both the East Pond and West Pond are rated POOR for continued safe and reliable operation due to the lack of technical information on the design, lack of seismic and dam slope stability safety analyses, lack of hydrologic information and analyses, and lack of formal maintenance procedures.**

Additionally, concerns were noted during field assessments of ponded water below the southern and western toes of the West Pond. This ponding is either representative of seepage from the ponds and is therefore of concern to the EPA or is/was an issue of poor grading on clayey soils from precipitation events, as the utility presented during the site visit and in subsequent comments on the Draft report (Appendix D, Doc 11 of the final report). We note that the utility

stated in its comments that the roadway has been regarded and no ponding has occurred, supporting the argument that previous ponding was due to poor drainage. Photographs taken one day after a 1-inch rainfall in November 2013 confirm this statement.

## **RECOMMENDATIONS**

### **Recommendations Regarding the Structural Stability**

The utility needs to perform structural stability calculations for both the East Pond and West Pond dikes under static and seismic conditions to show the dikes have sufficient Factors of Safety to prevent failure and releases to the environment.

It is recommended that a liquefaction potential analysis be performed if a qualitative analysis of embankment soil material or underlying foundation materials indicates the soil type is susceptible to liquefaction.

### **Recommendations Regarding the Hydrologic/Hydraulic Safety**

Hydrologic and hydraulic analyses of both the East and West Ponds' performance under flood conditions should be performed.

### **Recommendations Regarding the Supporting Technical Documentation**

Dewberry recommends that new dam design documents be generated to reflect the removal of the spillway.

### **Recommendations Regarding the Maintenance and Methods of Operation**

We recommend that formal maintenance procedures be adopted for both the East and West Ponds; the Michigan Dam Safety office can provide guidance on creating one. There needs to be written procedures and provisions for follow up actions.

Subsequent to the Draft report, the utility has stated that they are in the process of developing such written procedures (Appendix D, Doc 11 of the final report).

### **Recommendations Regarding the Surveillance and Monitoring Program**

A recommendation on a surveillance program for both the East and West Ponds is dependent on the type of maintenance plan developed, post Dewberry visit. Formal maintenance procedures for both the East and West ponds should be documented.

Subsequent to the Draft report, the utility has stated that they are in the process of developing such written procedures (Appendix D, Doc 11 of the final report).

### **Recommendations Regarding Continued Safe and Reliable Operation**

Dewberry recommended that the pending seen during the site visit be addressed by the utility. Subsequent to the Draft report, the utility has provided information stating that "the plant has been re-sloped and [the plant has] repaved the roadway to the south of the ponds as part of its regular maintenance, in part to redirect storm water" (Appendix D, Doc 11 of the final report).