

US EPA ARCHIVE DOCUMENT



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

January 7, 2011

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

VIA E-MAIL AND FEDERAL EXPRESS

Mr. Charles Huling, Vice President, Environmental Affairs
Georgia Power
241 Ralph McGill Blvd., N.E. 22nd Floor, bin 10221
Atlanta, Georgia 30308-3374

Dear Mr. Huling,

On May 13, 2010 the United States Environmental Protection Agency ("EPA") and its engineering contractors conducted a coal combustion residual (CCR) site assessment at the Plant Mitchell Station. 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 Plant Mitchell Station 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 Plant Mitchell Station is enclosed. This report includes a specific 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 Plant Mitchell Station. 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 February 7, 2011. Please send your response to:

Mr. Stephen Hoffman
US 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
US Environmental Protection Agency
Two Potomac Yard
2733 S. Crystal Drive
5th Floor, N-237
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 ongoing efforts to ensure protection of human health and the environment.

Sincerely,
/Suzanne Rudzinski/, Director
Office of Resource Conservation and Recovery

Enclosures

Enclosure 2
Plant Mitchell Station Recommendations

4.2 Ash Pond 1

4.2.1 Hydrologic and Hydraulic Recommendations

June 2010 Draft Report. Ash Pond 1 is currently inactive and does not receive CCW. The impoundment is essentially full of ash and scrub trees and brush are growing atop the ash. The dam can still impound storm water that falls within its watershed. The dam is, for all practical purposes, a ring dike, the watershed is the area of the impoundment, and the service spillway is still in place and working. The dam is a maximum of 23 feet high and the surface of the ash is sufficiently low to allow accumulation of water. The impoundment does not have an open channel emergency spillway. AMEC recommends that the appropriate design storm rainfall should be applied to the impoundments watershed to assure that the dam and decant system can safely store or control the design flow. The analysis should be documented.

Final Report. Based upon additional information provided by Georgia Power on September 21, 2010, in AMEC's opinion, the analyses that were provided address the ability of the impoundment to safely control or pass appropriate storm events.

4.2.2 Geotechnical and Stability Recommendations

June 21 Draft Report. It appears that the stability analyses were performed for the existing loading condition plus a seismic acceleration. It is unclear if the steady state condition includes the peak pool due the design storm event. The analyses notes results for "Downstream Steady State - Surface Slough" and "Downstream Seismic- Surface Slough" for Ash Pond 1 but fails to describe what that case entails; it is unclear from the table heading. AMEC recommends that the Failure Conditions analyzed be clarified, describing what is meant by "surface slough." The analyses presented depicted a grid and radius type search; however, the grid appears to be small and seems to limit the radii of the potential failure circles. The analyses should include an entry and exit type of search that would allow long radius failure surfaces. Furthermore, the failure surfaces appear to be limited to circular surface; the failure surfaces should be optimized. AMEC recommends that the analyses should include entry-exit type analyses and optimization of failure surfaces.

Final Report. AMEC has reviewed the additional information and geotechnical analyses, provided by Georgia Power, for Ash Pond 1 and determined that Georgia Power has adequate inspection practices. The stability analyses were performed for the existing loading condition plus a seismic acceleration. The analyses notes results for "Downstream Steady State - Surface Slough" for Ash Pond 1, which results in a factor of safety less than the regulatory agencies minimum factor of safety. The SCECS, in AMEC's opinion, adequately addressed the deficiency and have indicated that that particular failure mode is checked in their regular inspection. AMEC recommends that the slopes continue to be routinely and regularly inspected as part the current inspection program and practices for this ash pond.

4.2.3 Monitoring and Instrumentation Recommendations

This ash pond is not actively receiving CCW, but may be impacted by storm water accumulation. There are currently six recently installed piezometers for this structure. These instruments were installed early 2010, so it would be prudent for Plant Mitchell to document

monitoring more frequently than normal until base line phreatic readings are apparent. AMEC recommends that the current inspection program and practices be continued for this ash pond.

4.2.4 Inspection Recommendations

AMEC has reviewed provided information and inspection records for Ash Pond 1 and determined that Georgia Power has adequate inspection practices. AMEC recommends that the current inspection program and practices be continued for this ash pond except that future reports should include the new piezometer readings.

4.3 Ash Pond 2

4.3.1 Hydrologic and Hydraulic Recommendations

June 2010 Draft Report. Ash Pond 2 is currently used for disposal and processing of CCW. The dam is, for all practical purposes a ring dike and the watershed is the area of the impoundment. The dam is a maximum of 33 feet high and the ash is primarily deposited in the north and east portions of the pond; the southwest portion of the pond is primarily occupied by water. The impoundment does not have an open channel emergency spillway. AMEC recommends that the appropriate design storm rainfall should be applied to the impoundment,,s watershed to assure that the dam and decant system can safely store or control the design flow.

Final Report. Based upon additional information provided by Georgia Power on September 21, 2010, in AMEC's opinion, the analyses that were provided adequately address the ability of the impoundment to safely control or pass appropriate storm events.

4.3.2 Geotechnical and Stability Recommendations

June 2010 Draft Report. It appears that the stability analyses were performed for the existing loading condition plus a seismic acceleration. It is unclear if the steady state condition includes the peak pool due to the design storm event. Likewise, the analyses appear to lack other stages of development for the impoundment, such as the load condition when the impoundment is nearly full of low strength ash that has a unit weight much higher than water. The analyses presented depict several methods of search; however, the extent of the searches appears to be limited and seems to prevent several modes of failure. The failure surfaces should also be optimized to allow for non-circular or non-planar failures.

AMEC reviewed the soil strength properties used for the stability analyses and see that the values selected for the dike soil appear to have soil strength properties for the total stress and effective stress envelopes that appear unusual (MIT-API 51, page 158 of 175). The effective stress envelope appears to have gained significant cohesion and reduced phi angle from the total stress envelope. AMEC recommends that the soil strength tests be revisited to clarify the results; and, that the analyses should include entry-exit type analyses and optimization of failure surfaces.

Final Report. Based upon additional information provided by Georgia Power on September 21, 2010, AMEC has reviewed provided information and geotechnical analyses for Ash Pond 2 and determined that Georgia Power has adequate inspection practices. Additional analyses were made for maximum pool surcharge and for maximum ash loading. The analyses notes results for "Upstream Steady State" for Ash Pond 2, which results in a factor of safety less than the regulatory agencies minimum factor of safety. The SCECS, in AMEC's opinion, adequately

addresses the deficiency. AMEC recommends that the current inspection program and practices be continued for this ash pond.

4.3.3 Monitoring and Instrumentation Recommendations

AMEC has reviewed provided information and instrumentation records for Ash Pond 2 and determined that Georgia Power has adequate inspection practices. AMEC recommends that the current inspection program and practices be continued for this ash pond.

4.3.4 Inspection Recommendations

AMEC has reviewed provided information and inspection records for Ash Pond 2 and determined that Georgia Power has adequate inspection practices. AMEC recommends that the current inspection program and practices be continued for this ash pond.

4.4 Ash Pond A

4.4.1 Hydrologic and Hydraulic Recommendations

Ash Pond A is full, covered, no longer receives liquid borne material, and is completely incised. Stormwater runoff from this unit flows overland. Erosion and vegetation appear to be under control. AMEC recommends that Georgia Power continue to maintain this unit to provide erosion and vegetation control.

4.4.2 Geotechnical and Stability Recommendations

No stability analyses were provided for Ash Pond A. The dam has been removed since 1962. AMEC rated this unit as less than low hazard. AMEC recommends that only routine maintenance of vegetation and prevention of erosion is necessary for this unit.

4.4.3 Monitoring and Instrumentation Recommendations

No instrumentation was available for review for this unit since the dam for Ash Pond A was removed in 1962. AMEC rated this unit as less than low hazard. AMEC recommends that only routine maintenance of vegetation and prevention of erosion is necessary for this unit.

4.4.4 Inspection Recommendations

This pond has, historically, not had routinely documented inspections. AMEC recommends that only routine maintenance of vegetation and prevention of erosion is necessary for this unit.