

US EPA ARCHIVE DOCUMENT

Comments:

EPA:

Cover Page – “Prepared for” should read:

U.S. Environmental Protection Agency  
Office of Solid Waste and Emergency Response  
Office of Resource Conservation and Recovery  
1200 Pennsylvania Ave, NW  
MC: 5304P  
Washington, DC 20460

Page 1 – change “Request” to “Response”

State: None

Company: See letter dated September 21, 2010

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September 21, 2010

**CERTIFIED MAIL AND ELECTRONIC MAIL**

Mr. Stephen Hoffman Office of Resource  
Conservation and Recovery (5304P)  
U. S. Environmental Protection Agency  
2733 South Crystal Drive Fifth Floor  
Arlington, VA 22202

**Re: Comments on Draft "Report of Geotechnical Investigation Dam Safety Assessment of Coal Combustion Surface Impoundments, Georgia Power Plant Mitchell"**

Dear Mr. Hoffman:

On July 6, 2010, the U. S. Environmental Protection Agency ("EPA") provided to Georgia Power a draft report regarding certain facilities for the management of coal combustion byproducts at Georgia Power Plant Mitchell ("Draft Report"). The Draft Report was prepared by AMEC Earth & Environmental, Inc. ("AMEC") and was dated June 2010. Georgia Power appreciates the opportunity to provide comments on the Draft Report before it is finalized. This letter and attachments provide Georgia Power's comments on that Draft Report.

**Management Unit Condition and Potential Hazard Rating**

We are pleased that AMEC's on-site inspection of the management units were satisfactory and that AMEC recognized that Georgia Power's inspection practices for the management units at Plant Mitchell were adequate. We are also pleased that the report concludes that the dike for coal combustion byproduct (CCB) management unit, or Ash Pond 1, at Plant Mitchell is in "Satisfactory" condition, which is the most favorable category. Georgia Power, however, does not agree with the "poor" rating for Ash Pond 2. Georgia Power recognizes that the "poor" rating is not a result of the physical, on-site inspections of the dam but appears to be the result of information that had been requested in the Draft Report. The information requested appears to fall into two basic categories: (1) slope stability analyses and (2) hydrology/hydraulic studies. With this submittal we have provided the information requested for these two categories. This information supports a rating of "Satisfactory" for Ash Pond 2.

While Georgia Power has provided the additional information requested, it is important to understand that Georgia Power did provide appropriate slope stability analyses for the management units before the Draft Report was issued. As discussed in the attached comments, there are no regulatory criteria specifying the design storm or minimum freeboard for the Plant Mitchell ash ponds, so these studies were not provided before the Draft Report was issued.

It is important to note that guidance such as Mine Safety and Health Administration (MSHA) for mine tailing ponds is not applicable to the Plant Mitchell ash ponds. The preface, on page iii, of the

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MSHA Engineering and Design Manual, Coal Refuse Disposal Facilities (May 2009), states as follows (emphasis added):

The guidance presented in this Manual represents information, methods and procedures that are recommended for consideration by designers, coal operators, and regulators. The guidance presented in this Manual is not regulation and cannot be enforced as such. It is not intended to preclude the application of other credible methods and procedures or the use of other and new information that will result in a safe and reliable coal refuse disposal facility. It is the responsibility of the designer to investigate the requirements of the project, recognize the unique and critical aspects of the site conditions, and prepare designs that reflect actual site conditions, features, loadings and constraints.

MSHA, therefore, is only guidance. In addition, based on our review of the other final dam CCB inspection reports posted on EPA's website, it appears that MSHA guidance was not used to determine the final rating of a CCB dam.

#### Hydrology/Hydraulic Studies

In AMEC's Draft Report, Georgia Power was requested to apply an appropriate design storm rainfall for Ash Ponds 1 and 2 "to assure the dam and decant system can safely store or control the design flow" (Draft Report, page 20-21). Since neither ash pond is classified as Category I under the Georgia EPD Safe Dams Program, there are no current regulatory requirements for any particular design storm for these ponds. In the absence of a regulatory requirement, we view the requested study as a recommendation to Georgia Power, which has now been satisfied. Given that the requested hydrology/hydraulic studies assure that the dams and decant systems can safely store or control the referenced storm flow and that Georgia Power has provided the information requested by AMEC, we are confident that the ratings for Ash Ponds 1 and 2 will be "Satisfactory" in the final report. Additionally we are requesting that the ratings for Ash Pond 2 in the Draft Report be changed to "Satisfactory".

#### Stability Analyses

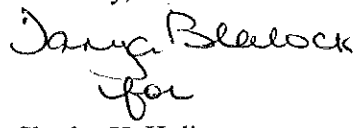
Georgia Power did provide the necessary slope stability analyses to warrant a "satisfactory" rating for the ash ponds. The additional slope stability analyses requested are analyses that use a variety of search methods to assess minimum factors of safety. While the request to use different methodologies for a slope stability analysis may be a recommendation for the utility, such a request is not a missing "critical report" that warrants a "poor" rating for Ash Pond 2. Georgia Power has submitted a stability report using an acceptable and industry-wide recognized methodology which shows that the minimum factors of safety for the dikes are acceptable. Given that all of the slope stability analyses resulted in acceptable minimum factors of safety for existing dams, we are confident that the rating for both ash ponds will be "Satisfactory" in the final report. Additionally, we are requesting that the rating for Ash Pond 2 in the Draft Report be changed to "Satisfactory".

#### Inspection Recommendations

Georgia Power and Southern Company will continue the piezometer monitoring and inspection program for the Plant Mitchell. We are conducting frequent readings on the ash pond piezometers to establish baseline phreatic levels.

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Thank you again for this opportunity to comment. Please continue to direct correspondence to my attention.

Sincerely,  
  
for  
Charles H. Huling

CHH/  
Attachments

PLANT MITCHELL			
PAGE	SECTION	CURRENT STATEMENT READS	RECOMMENDED CHANGE
0	Cover Page	Report of Geotechnical Investigation	Dam Safety Assessment of Coal Combustion Surface Impoundments
0	Certification Page	Southern Company, Georgia Power, Plant Yates..."	Southern Company, Georgia Power; Plant Mitchell
2	1.2	Based on the site visit evaluation of the impoundments, AMEC engineers assigned a "Low Hazard Potential" to Ash Pond 1, however a "Significant Hazard Potential" classification was assigned to Ash Pond 2.	Based on the site visit evaluation of the impoundments, AMEC engineers assigned a "Less Than Low Hazard Potential" to Ash Pond A, a "Low Hazard Potential" to Ash Pond 1, and a "Significant Hazard Potential" was assigned to Ash Pond 2.
2	1.2	There are no Category I impoundments at Plant Mitchell; therefore the state has not issued operating permits for this facility.	The GA EPD has classified Plant Mitchell's Ash Pond 1 and Ash Pond 2 as Category II dams and there are no Category I impoundments at Plant Mitchell.
4	1.4.2	The ash handling summary detailed above was provided to AMEC by Southern Company engineers responsible for design and evaluation of the Plant Mitchell facility operational processes.	The ash handling summary detailed above was provided to AMEC by Southern Company (Georgia Power's parent company) engineers who are responsible for design, evaluation, and inspection of the Plant Mitchell's coal combustion byproduct surface impoundments.
4	1.4.2	Currently, the pond (Ash Pond A) is full, covered, and no longer receives liquid borne material...Currently, neither on-site personnel nor off-site personnel inspect Ash Pond A.	Currently, the pond (Ash Pond A) is full, covered, no longer receives liquid borne material and is completely incised...Currently, neither on-site personnel nor off-site personnel inspect Ash Pond A because it is incised.
4	1.4.3	The dike was mowed...	Vegetation on the dike was mowed...
5	1.4.3	On July 26, 1972, a crack in the dike near the original boil was noted and, according to the observer, appeared to be a conventional foundation failure. It seems clear to AMEC, in retrospect, that the crack was a result of ground loss due to piping; it is not clear what is meant by "conventional foundation failure".	On July 26, 1972, a crack in the dike near the original boil was noted. Please delete the rest of this sentence and the following sentence as it is speculative. Also the next sentence, beginning with "The crack was two inches wide," adequately describes the foundation failure.
6	1.4.4	No other documentation or repair details have been provided regarding the pond draining or sinkhole issues at Ash Pond 2.	Please delete this phrase, as location of sinkholes and repair details were provided.
8	2.2	A construction turbine...	Should be a "combustion" turbine.
8	2.3	The pond was constructed to an elevation of 192 feet with 1.5 feet horizontal to 1 foot vertical slopes.	The dike was constructed to an elevation of 192 feet with 1.5 feet horizontal to 1 foot vertical slopes.
9	2.3.1	During the site visit, a depression was noted in the downstream embankment and was reported as being caused by work crews (photo 1-7).	During the site visit, a minor eroded area was noted in the downstream embankment and was reported as being caused by work crews (photo 1-7).
9	2.3.1	An inactive Low Volume Sump is located within the embankment...	An inactive Low Volume Sump discharge line is located within the embankment..."
9	2.3.1	Previous repairs along the western and northern downstream face appear to be a result of sloughing caused by over-steep slopes.	Previous repairs along the western and northern downstream face appear to be a result of sloughing on the steep slopes.
10	2.3.2	On-site personnel indicated the Ash Pond 1 discharge structure currently receives storm water runoff only, and that the outlet pipe is plugged or no longer connected; however, this was not confirmed. The storm water discharge location was also not confirmed.	On-site personnel indicated the Ash Pond 1 discharge structure currently receives storm water runoff only. The outlet from Ash Pond 1, when valved in, ties to the outlet from Ash Pond 2 and feeds the Ash Sluice Pumps.
10	2.4.1	The finger drains are connected to the slotted pipe located within the blanket drain.	The finger drains are connected to the slotted pipe located within the blanket drain.
11	2.5	...total of 32 piezometers have been installed at Ash Pond 2...	...a total of 32 piezometers were initially installed at Ash Pond 2 (photos 2-8 and 2-15). Currently, 27 piezometers are monitored at Ash Pond 2.
12	3.2.1	There was no information provided regarding hydrologic and hydraulic design of Ash Pond A.	There was no information provided regarding hydrologic and hydraulic design of Ash Pond A. Currently, Ash Pond A is full, covered, no longer receives liquid borne material and is completely incised.
12	3.2.2	There was no information provided regarding hydrologic and hydraulic design of Ash Pond 1.	There was no information provided regarding hydrologic and hydraulic design of Ash Pond 1 prior to the inspection. However, Georgia Power has submitted as part of the comments to the Draft Report the necessary studies.
12	3.2.3	According to the Act, each Category I dam..."	Suggest deleting the reference to Category I dams since none of the dams at Plant Mitchell are Category I dams.
12	3.3	The regulations state that all Category I dams ..."	The regulations state that all dams ...
12	3.3	...safety factors shown in Table 4.	...safety factors shown in Table 3.



12	3.2.3	A typical pond free board of two feet was reported to exist between the maximum pond elevation of 193.0 feet and the top of the dike elevation of 195.0 feet.	An operational pond free board of 7.5 feet is typically maintained between the maximum pond elevation of 187.5 feet and the top of the dike elevation of 195.0 feet.
13	3.3.1	Information regarding structural adequacy and stability was not provided for Ash Pond A.	There was no information provided regarding structural adequacy and stability of Ash Pond A. Currently, Ash Pond A is full, covered, and no longer receives liquid borne material. Additionally, the dike was removed in 1962.
13	3.3.2	Laboratory results for the soil were not provided; therefore the soil parameters utilized within the analysis could not be confirmed.	Laboratory results for the soil were not included with the Design Memo (MIT-API 045) or drawing H80 (MIT-API 0023), therefore the soil parameters utilized within the analysis could not be confirmed. However, Georgia Power has submitted a revised 2010 stability analysis with updated parameters.
17	3.5	Reportedly, plant personnel inspect the ponds and embankments weekly, however, they are not normally documented and no documentation was provided for these inspections.	Plant personnel inspect the ponds and embankments weekly and they are normally documented, but documentation was not requested during the AMEC inspection.
17	3.5	SCG Hydro Services performs semi-annual safety and surveillance inspections for Ash Ponds 1 and 2 at Plant Mitchell and provides summary reports to Georgia Power.	SCG Hydro Services performs semi-annual safety and surveillance inspections for the embankments of Ash Ponds 1 and 2 at Plant Mitchell and provides reports to Georgia Power.
18	3.5.1	Documentation provided to AMEC (MIT-API 5) indicates a total of 32 piezometers have been installed at Ash Pond 2. Notes indicate one piezometer is plugged and two are damaged.	Documentation provided to AMEC (MIT-API 5) indicates a total of 32 piezometers were initially installed. Currently, a total of 27 piezometers are monitored at Ash Pond 2.
18	3.51	As stated in section 1.4.4, AMEC was not provided with any documentation regarding this incident.	Please delete this sentence.
19	4	Definitions of Poor rating A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. POOR may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.	Please make this definition consistent with EPA's definition of POOR in EPA's statement of work.
19	4.1	Ash Pond 1 is rated satisfactory because, although further analysis may be warranted, the studies or investigations were completed appear to address the most critical potential dam safety deficiencies. Further analyses of less critical failure modes and clarification of the latest analyses appear to be needed.	...Ash Pond 1 is rated satisfactory because, although further analysis may be warranted, the studies or investigations that were completed appear to address the most critical potential dam safety deficiencies. Further analyses of less critical failure modes and clarification of the latest analyses appear <u>not</u> to be needed.
19	4.1	<b>Ash Pond 2: Poor</b> Ash Pond 2 is rated poor because further critical studies or investigations are needed to identify potential dam safety deficiencies.	<b>Ash Pond 2: Satisfactory</b> Ash Pond 2 is rated satisfactory because the recommended additional studies or investigations have been completed and submitted with the comments to the Draft Report. This submittal has addressed potential safety issues identified during the inspection and document review.
20	4.2.2	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.	Please delete this statement.
20	4.2.2	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 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.	Please delete these recommendations as they are no longer pertinent.
20	4.2.1	(Ash Pond 1) 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. The analyses should be documented.	Please delete these sentences as they are no longer applicable.
20	4.2.1	(Ash Pond 1) The dam is a maximum of 25 feet high...	The dam is a maximum of 23 feet high...
21	4.3.2	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. ...	Please delete this complete paragraph.
21	4.3.2	AMEC reviewed the soil strength properties .....	Please delete this complete paragraph.
21	4.3.1	(Ash Pond 2) The dam is a maximum of 30 feet high...	The dam is a maximum of 33 feet high...

21	4.3.3	<i>(Ash Pond 2) Some of the instruments were installed only in the last few months, so it would be prudent for Plant Mitchell to document monitoring of those units more frequently than normal until base line phreatic readings are apparent.</i>	Please delete this sentence, since there were no new piezometers installed to monitor Ash Pond 2.
21	4.2.4	<i>(Ash Pond 1) However, the recently added piezometers should be included in future inspection reports.</i>	
21	4.3.1	<i>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. The analyses should be documented.</i>	Please delete these sentences as they are no longer applicable.
22	4.4.1	<i>Ash Pond A is currently inactive and the dam appears to be removed and buried.</i>	Ash Pond A is currently full, covered, and no longer receives liquid borne material and is completely incised.
22	4.4.1	<i>Drainage from this unit appears to flow overland.</i>	Stormwater runoff from this unit flows overland.
22	4.4.2	<i>No stability analyses are available for Ash Pond A. Likewise, it appears that the dam for Ash Pond A has been removed or buried;</i>	No stability analyses were provided for Ash Pond A. The dam has been removed since 1962.
22	4.4.3	<i>No instrumentation was available for review for this unit. It appears that the dam for Ash Pond A has been removed or buried; AMEC has rated this unit as less than low hazard.</i>	No instrumentation was available for review for this unit since the dam for Ash Pond A was removed in 1962. AMEC has rated this unit as less than low hazard.
23	5	<i>...history of Plant Hammond impoundments...</i>	<i>...history of Plant Mitchell impoundments...</i>
Appendix B	Photo 1-7	<i>...DEPRESSION IN DOWNSTREAM SLOPE ON RIGHT</i>	<i>...MINOR ERODED AREA IN DOWNSTREAM SLOPE ON RIGHT</i>
Appendix B	Photo 1-12	<i>...INITIATED FROM 1994 FLOOD (T.S. ALBERTO), PIPE AND CATCH BASIN;...</i>	<i>...INITIATED FROM 1998 FLOOD (UNNAMED), PIPE CATCH BASIN;...</i>
Appendix B	Photo 1-16	<i>...PIPE THROUGH EMBANKMENT IS OLD LOW VOLUME SUMP</i>	<i>PIPE THROUGH EMBANKMENT IS OLD LOW VOLUME SUMP DISCHARGE LINE</i>
Appendix B	Photo 1-20	<i>...CLOSE UP OF PHOTO 1-20, RECYCLE STRUCTURE INLE</i>	<i>...CLOSE UP OF PHOTO 1-21, RECYCLE STRUCTURE INLET</i>
Appendix B	Photo 1-22	<i>...CLOSE UP OF PHOTO 1-20, RECYCLE STRUCTURE INLET PIPE</i>	<i>...CLOSE UP OF PHOTO 1-21, RECYCLE STRUCTURE OUTLET PIPE</i>
Appendix B	Photo 2-5	<i>LOW VOLUME SUMP INLET TO...</i>	<i>LOW VOLUME SUMP OUTLET TO...</i>
Appendix B	Photo 2-15	<i>...LACK OF VEGETATION ON DOWNSTREAM SLOPE</i>	<i>...RECENTLY REPAIRED AND GRASSED AREA ON DOWNSTREAM SLOPE</i>
Appendix B	Photo 2-22	<i>EAST SIDE OF ASH POND 2, LOOKING EAST...</i>	<i>SOUTH SIDE OF ASH POND 2, LOOKING SOUTH...</i>
Appendix B	Photo 2-23	<i>SOUTH SIDE OF ASH POND 2, EAST OF FENCE BEYOND TOE OF SLOPE, LAST (NORTH)...</i>	<i>SOUTH SIDE OF ASH POND 2, SOUTH OF FENCE BEYOND TOE OF SLOPE, LAST (EAST)...</i>
Appendix B	Photo 2-24	<i>SOUTH SIDE OF ASH POND 2, EAST OF FENCE BEYOND TOE OF SLOPE, TOE BLANKET DRAIN OUTLET D8 (GENERALLY FLOWS YEAR ROUND)</i>	<i>SOUTH SIDE OF ASH POND 2, SOUTH OF FENCE BEYOND TOE OF SLOPE, TOE BLANKET DRAIN OUTLET D9</i>
Appendix B	Photo 2-25	<i>JUNCTION OF EMERGENCY SPILLWAY #2 AND BLANKET DRAIN DITCH THROUGH CULVERTS ACROSS RADIUM SPRINGS ROAD (GA HWY 3)</i>	<i>JUNCTION OF EMERGENCY SPILLWAY #2 AND BLANKET DRAIN DITCH THROUGH CULVERTS UNDER RADIUM SPRINGS ROAD (GA HWY 3)</i>
Appendix B	Photo 2-27	<i>CENTRAL, WEST SIDE OF ASH POND 2, LOOKING NORTH AT BLANKET DRAIN OUTLET #4, TOE AND DOWNSTREAM SLOPES</i>	<i>CENTRAL, NORTH SIDE OF ASH POND 2, LOOKING EAST AT BLANKET DRAIN OUTLET #4, TOE AND DOWNSTREAM SLOPES</i>
0	FIGURES		The figures provided by Georgia Power to AMEC should be treated as CBI and redacted. Please see separate submittal to the EPA on CBI matters, for this report. Also, for all figures and documents that were developed by Georgia Power or Southern Company Services, Georgia Power or Southern Company Services needs to be referenced on that figure or document as the author.