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

State: None

Company: See letter dated September 21, 2010

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GEORGIA POWER
A SOUTHERN COMPANY

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 McDonough"

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 McDonough ("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 the report concludes that the dikes for coal combustion byproduct (CCB) management units or Ash Ponds 1, 2, 3 and 4 at Plant McDonough are in "Satisfactory" condition, which is the most favorable category. We are also pleased that AMEC's on-site inspection of all of the management units was satisfactory and that AMEC recognized that Georgia Power's inspection practices for the management units at Plant McDonough were adequate. AMEC also requested additional information which Georgia Power is submitting with this letter. This information supports the rating of "Satisfactory" for Ash Ponds 1, 2, 3 and 4 in the final report.

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 McDonough ash ponds. The preface, on page iii, of the 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 determine what rainfall event is appropriate for each ash pond and then evaluate if each ash pond can safely contain or pass the inflow due to the design storm." (Draft Report, page 27). Since Plant McDonough Ash Ponds 1, 2 and 3 are not 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. In addition, Ash Pond 4 is a Category I dam and meets the Georgia Safe Dams requirement for the applicable storm event. Given that the requested hydrology/hydraulic studies assure that the dams can safely contain or pass the inflow due to the appropriate storm event and that Georgia Power has provided the information requested by AMEC, we are confident that the ratings for the Plant McDonough ash ponds will remain "Satisfactory" in the final report.

Stability Analyses

Georgia Power did provide the necessary slope stability analyses to warrant a "Satisfactory" rating for the Plant McDonough ash ponds. The additional slope stability analyses provide additional information requested by AMEC. 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 the Plant McDonough ash ponds will remain "Satisfactory" in the final report.

Inspection Recommendations

Georgia Power and Southern Company will continue the current inspection program and practices for Plant McDonough.

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

Sincerely,

Tanya Blalock
for
Charles H. Huling

CHH/
Attachments

MCDONOUGH				
PAGE	SECTION	CURRENT STATEMENT READS	RECOMMENDED CHANGE	ADDITIONAL NOTES
0	0	*Throughout the report, the terminology CCW (Coal Combustion Wastes) or CCR (Coal Combustion Residues) are used.*	Georgia Power prefers the use of the term CCB (Coal Combustion Byproducts) because these materials do have many beneficial uses.	
0	0	*Report of Geotechnial Assessment Dam Safety of Coal Combustion Surface Impoundments*	Report of Dam Safety Assessment of Coal Combustion Surface Impoundments	This Report is an assessment, not a Report of Geotechnical Investigations.
1	1.1	*We were informed that the use of coal fired generation was scheduled to be retired by the end of 2010.*	The updated retirement dates are Oct. 2011 for Unit 2 and April 2012 for Unit 1.	The Georgia Public Service Commission approved these new dates after the inspection took place.
1	1.2	*According to documentation provided by Georgia Power, Ash Ponds 1, 2, and 3 do not appear on the NID. Ash Pond 4 is listed on the NID, but does not have an assigned*	According to the NID listing dated January 29, 2010, Ash Ponds 1, 2, and 3 do not appear in the listing, and Ash Pond 4 is listed, but does not have an assigned hazard rating. Georgia Power still	
1	1.1, Table 1	*Benjamin Gallagher, Engineer*	Benjamin Gallagher, PE, Engineer.	Mr. Gallagher is a PE
2	1.2	*According to the Safe Dam Rules, Category I dams are permitted and monitored periodically, while Category II dams are not permitted, but are reinventoried every 5 years.*	According to the Safe Dam Rules, Category I dams are permitted and monitored periodically, while Category II dams are not required to have permits, but are but are reinventoried every 5 years.	Category II dams are not required to have permits.
3	1.4	*The ash handling summery detailed above was provided to AMEC by Southern Company engineers responsible for designing and evaluation of the Plant McDonough facility operational processes.*	The ash handling summary detailed above was provided to AMEC by Southern Company Generation engineers who are responsible for design, inspection and evaluation of the Plant McDonough coal combustion byproduct surface impoundments.	The word summary is misspelled.
4	1.4.2	*Bottom ash, sluiced to Ash Pond 2 from the plant facility, is excavated for market or stored in one of Plant McDonough's permitted dry stacking facilities.*	Bottom ash, sluiced to the concrete dewatering bin in Ash Pond 2, is excavated for market or stored in one of Plant McDonough's permitted dry ash stacking facilities.	
4	1.4.4	*A portion of Ash Pond 4 serves as a co-treatment facility that receives low-volume wastees. The remining portion of Ash Pond 4 acts as a sedimentation basin for a dry stacking operation that when permitted by the EPD in 1995 and again in 2006.*	A portion of Ash Pond 4 serves as both a co-treatment facility that receives low volume waste and a sedimentation basin for a dry stacking operation permitted by the EPD in 1995 and again in 2006.	
5	1.6	*In general, piedmont soil...*	In general, Piedmont soil...	
5	1.4.4	*The diversion was accomplished by routing approximately 2900 feet of 90- inch diameter fiberglass lined, reinforced concrete pipe across the bottom of Ash Pond 4.*	The diversion was originally accomplished by routing approximately 1629 feet of 90" diameter BCCMP, that was re-lined in 2007 with a 78" diameter fiberglass reinforced plastic (FRP) pipe.	
6	2.1	*Rainfall data from for the Smyrna, Georgia area was collected for the 30 days prior to the site visit.*	Rainfall data for the Smyrna, Georgia area was collected for the 30 days prior to the site visit.	Please delete the word "from".
6	2.1	*The monthly rainfall looks typical.*	Please delete this sentence as there is no comparison reference.	
6	2.2	*Ash pond 1 is capable of impounding water...*	Ash Pond 1 is not capable of impounding a significant head of water, as determined by the H&H study conducted by Southern Company. The study determined that there is virtually no storage available in McDonough's Ash Pond 1 (most of this storage is immeditely in the area surrounding the discharge structure).	
7	2.3	*The surface of Ash Pond 2 is currently used as a dewatering facility for bottom ash.*	Ash Pond 2 is currently used as a dewatering facility for bottom ash.	
7	2.2.1	*According to design drawings, the embankment is approximately 30 feet high and the pool area is 25.3 acres.*	According to design drawings, the embankment is approximately 30 feet high, with an original pond area of 25.3 acres.	

7	2.2.2	*appeared to be tricking...'....(probably precipitation seeping through the ash)....*	...water was trickling" (misspelling) and please delete the statement about precipitation seeping through the ash unless verification can be supplied.	The source of the seepage is unknown.
7	2.3.1	*Ash Pond 2 has a 16-foot high embankment with a pool area of 6.5 acres.*	Ash Pond 2 has a 16-foot high embankment with an original pond area of 6.5 acres.	
8	2.4.1	*Ash Pond 3 has a side-hill embankment 39 feet high and a pool area of 25 acres.*	Ash Pond 3 has a side-hill embankment 39 feet high and an original pond area of 23 acres.	Ash Pond 3 has a surface area of 23 acres.
8	2.4.1	*Ash pond 3 is capable of impounding water..."*	Ash pond 3 is not capable of impounding a significant head of water. All rainfall that drains on Ash Pond 3 is discharged to Ash Pond 4. The H&H study conducted by Southern Company concludes that Ash Ponds 3 and 4 are capable of handling the runoff from the 1/2 PMP with 4.9 feet of freeboard. This meets the Georgia EPD Safe Dam STandards for a Category I dam.	
8	2.4.2	*...(and indicated as the emergency discharge for Ash Pond 4) may function as some type of emergency dicharge for Ash Pond 3 as well.*	...(and indicated as the emergency discharge for Ash Pond 4) functions as an emergency dicharge for Ash Pond 3 as well.	
8	2.4.2	*The outlet pipe was oserved to be unobstructed, however it appeared to have been recently damaged by construction equipment (photo 3-5).*	The outlet pipe was observed to be unobstructed, however it appeared to have been recently damaged by construction equipment (photo 3-5). Use of this pipe was discontinued in 2009, and then removed in 2010. The emergency overflow has been redirected to a nearby sedimentation basin, and is eventually pumped back to Ash Pond 3.	Photo 3-5 is of the pipe that was removed in 2010.
9	2.5.1	*Ash Pond 4 is a 68 foot high, earthen embankment, with a 41 acre pool area.*	Ash Pond 4 has an earthen embankment, that has a maxiumum height of 68 feet, and has an original pond area of 41-acres.	Currently, the only ponded area is the recycle pond.
9	2.5.2	*The spillway was noted to have some overgrown vegetation (photo 4-9).*	The emergency overflow was noted to have some overgrown vegetation during the April 28, 2010 AMEC inspection, but the vegetation was removed after the inspection.	Photos verifying the corrective action are included with this spreadsheet.
10	2.6.1	*The study stated that plant personnel intended to read the piezometers monthly, but there was no other reference to data piezometers located in Ash Pond 3 beyond that shown in Table 3.*	The study stated that plant personnel intended to read the piezometers monthly, but there was no other reference to data for piezometers located in Ash Pond 3 beyond that shown in Table 3.	Insert "for" as in "reference to data for piezometers...
12	2.6.3	*Since relining the 90-inch culvert tunnel in 2007, the piezometers have seen a gradual increase in piezometric levels.*	Please delete this sentence as Georgia Power does not see the signficance of this statement.	
15	3.2	*However, these ponds all have the capacity to store surface water, yet the flow capacity of their decant systems is unknown.*	However, these ponds all have the capacity to store surface water, yet the flow capacity of their decant systems was unknown during the preparation of this report. H&H studies conducted by Southern Company show that Ash Ponds 1 and 2 can pass the 100-year storm maximum discharge with adequate freeboard, and Ash Ponds 3 and 4 can store the 1/2 PMP with adequate freeboard.	
15	3.3	*..safety factors shown in Table 5..*	...safety factors shown in Table 6.	

16	3.3	*These reports were reviewed to determine the way the dike structures were modeled and to determine whether the calculated factors of safety were sufficient, compared to that required by the Georgia EPD newly constructed and existing dams...*	These reports were reviewed to determine the way the dike structures were modeled and to determine whether the calculated factors of safety were sufficient, compared to that required by the Georgia EPD newly for constructed and existing dams...	Insert "for" constructed and existing dams.
18	3.3.3	*The analyses appear to neglect the surcharge due to the dry ash stacking.*	Please delete this entire paragraph.	This stacking surcharge effect and the use of appropriate phreatic surfaces will be included in the revised slope stability analysis that is being submitted to AMEC.
19	3.3.4	*Although the analysis cover letter states that results are shown in a tabulated form, the tablated results results were not included in the documentation received by AMEC.*	Although the analysis cover letter states that results are shown in a tabulated form, the tabulated results were not included in the documentation received by AMEC. Georgia Power did not have a copy of the tabulated results in their files.	
19	3.3.4	*Figure A (missing from AMEC's copy):*	Figure A was inadvertently missing from AMEC's copy provided at the time of the inspection.	We have located Figure A. It was inadvertently omitted from MCD-API 075. We are furnishing a copy of the missing figure with these comments.
20	3.3.4	*Although the 2008 report references Figures 1,2, & 3 as existing and proposed dike and road alignments in plan and profile views, these figures were not included in the documetation provided to AMEC.*	Although the 2008 report references Figures 1,2, & 3 as existing and proposed dike and road alignments in plan and profile views, these figures were inadvertently excluded in the documetation provided to AMEC. However, Georgia Power has subsequently provided these drawings to AMEC.	The drawings are included as an attachment to these comments.
24	3.3.5	*However, the borings and CPT soundings indicated that the ash is very weak. The reported effective phi angle does not appear to be consistent with the results from the borings and CPT soundings.*	Please delete this comment as it is addressed in the revised slope stability analysis that is being submitted with these comments.	
24	3.3.5	*Likewise, the use of cohesion in effective stress slope stability analyses is not fully endorsed by the state of practice in geotechnical engineering.*	Please delete this statement as Georgia Power is providing justification for the use of effective cohesion in the revised slope stability analysis that is being submitted with these comments.	
25	3..4	*Ash Pond 2 is the only impoundment that was constructed by a process where the dike was formed by cutting existing material from the proposed impoundment interior and compacting in the dike, thus creating a combination incised and diked impoundment. Dikes for Ash Pond 1,3, and 4 were constructed of native soil. The soils included clayey silts, sandy clays and silty clays.*	Dikes for Ash Ponds 1,2, 3, and 4 were constructed of native soil consisting of clayey silts, sandy clays, and silty clays.	
27	4.2	*AMEC recommends that Georgia Power determine what rainfall event is appropriate for each ash pond and then evaluate if each ash pond can safely contain or pass the inflow due to the design storm.*	Please delete this statement, as Georgia Power is providing this data as an attachment to these comments.	

27	4.3	*Please delete this entire section,including the comment on dam break analysis since it is not required for a Category II dam, and is not appropriate for a dam that is not impounding water.*	These recommendations have been addressed in the revised slope stability analysis submitted with these comments to the draft report.	
29	5	*The conclusions and recommendations given in this report are based on visual observations, our partial knowledge of the history of Plant Hammond impoundments, and information provided to us by others.*	This Report is for Plant McDonough.	
	CHECKLISTS		Checklists for Ash Ponds 1, 2, and 3 should indicate instrumentation that is present.	
	FIGURES		Figures provided under CBI by GP are used in this report under a format of AMEC's and is shown being drawn and checked by AMEC personnel. Notations pertaining to CBI nor attributions to GP are not shown.	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.
	Photo 2-1	*Steep Slope/Uneven Ground Surface along Eastern Dike*	Steep Slope/Uneven Ground Surface along South Dike	
	Photo 2-3	*Emergency Spillway*	Inlet at Emergency Outlet Pipe	
	Photo 2-4	*Emergency Spillway*	Inlet at Emergency Outlet Pipe	
	Photo 3-1	*Primary Outlet*	Secondary Outlet (formerly Primary Discharge Structure)	AMEC section 2.4.2 correctly notes that this was previously the primary discharge.
	Photo 3-2	*Inlet from Plant*	This is the sluice line discharge from the plant.	
	Photo 3-5	*Outlet from primary spillway*	Former Outlet from Primary Spillway	Former outlet of the primary spillway (abandoned in 2009 and removed in 2010)
	Photo 4-5	*Outlet from diversion pipe*	It would clarify this photo if the outlet were circled in red like photo 2-5. The outlet is located at right.	
	Photo 4-6	*Emergency Overflow*	Inlet to Emergency Overflow Drop Structure.	