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GEORGIA POWER
A SOUTHERN COMPANY

May 3, 2010

Mr. Stephen Hoffman
US Environmental Protection Agency
Two Potomac Yard
2733 S. Crystal Drive
5th Floor, N-237
Arlington, VA 22202-2733

Re: "Assessment of Dam Safety Coal Combustion Surface Impoundments (Task 3) Final Report" for Georgia Power Plant Branch, Milledgeville, Georgia

On March 30, 2010, The U.S. Environmental Protection Agency ("EPA") provided Georgia Power a final report regarding certain facilities for the management of coal combustion byproducts at Georgia Power's Plant Branch ("Final Report"). The Final Report was prepared by CHA under contract to Lockheed Martin and was dated March 29, 2010. EPA indicated that Georgia Power's comments were considered in preparation of the Final Report. Georgia Power appreciated the opportunity to provide comments. Additionally, EPA requested Georgia Power's response to the report recommendations, including specific plans and schedules for implementing the recommendations. This letter provides Georgia Power's response and additional comments on the Final Report.

Acknowledgement of Management Unit Condition and Potential Hazard Rating

Georgia Power is committed to management of coal combustion byproducts in a safe manner that is protective of human health and the environment. Georgia Power has had a robust ash pond dike inspection and maintenance program in place for many years. We are pleased that EPA's on-site inspection and document review have confirmed that Georgia Power's facilities are well constructed and managed effectively.

Report Recommendations

The final report includes the following recommendations. Specific plans and schedules for implementing these recommendations are provided below.

4.2.1 Ash Pond B

Visually, the downstream slope of the southwest dike at Ash Pond B was found to be in fair condition. Observations could not be made of the upstream slope due to the infilling of the pond with ash and subsequent soil cap. Should the Georgia DNR-EPD Dam Safety Program and/or

the US EPA determine that the Ash Pond B dike cannot be decommissioned, a few areas were observed that warrant monitoring on a routine basis to confirm that changes are not occurring or if periodic maintenance is required. These areas are as follows:

- *Brush and trees have grown in the downstream face of the embankment. CHA recommends that the trees should be cut. The resulting stumps should be monitored for decay.*

Georgia Power needs additional time to fully evaluate this recommendation, and proposes to submit a plan and schedule on or before October 1, 2010.

4.2.2 Ash Pond C

- *Grading along the west dike near the south central portion of the dike should be reviewed to promote positive drainage of storm water.*

Georgia Power will evaluate this area and take any action necessary to grade and redirect the stormwater away from the toe of the dike. Georgia Power will provide confirmation that this has been accomplished on or before October 1, 2010.

- *Saturated soil conditions were also noted north of the recycle water pump station. We understand that Georgia Power has placed rock in this area previously and the wet conditions have continued. CHA recommends that Georgia Power consult with a geotechnical engineer to develop recommendations for this area.*

Georgia Power has completed grading in this area to route water to Ash Pond B. Photo documentation is attached (Photo #1). This should close out this issue.

•New drains installed in the wet areas observed on the south dike should continue to be monitored and included with the monthly routine data collection process.

Monitoring of the new drains will be included in the inspection routine for Ash Pond C.

•Non-uniform grading was observed on the upstream slope of the east dike which may be the result of erosion rills. This area should be closely monitored.

Georgia Power believes that this comment should be directed to the downstream slope of the east dike, where surface irregularities appear to be the result of mowing, as shown in the referenced photo 53. This area will be closely monitored as recommended.

•Erosion due to water "lapping" the surface was observed on the upstream side of the south dike. CHA recommends improvements to the erosion protection along the water's edge. Georgia Power has indicated that this has been completed since CHA's site visit.

Rip rap has been placed on the upstream side of the south dike for erosion protection. Please reference attached the photo documentation (Photo #2).

4.2.3 Ash Pond D

Surface irregularities as a result of mowing activities on softened soils or possible long term creep activity should be graded and reseeded as needed. Mowing patterns can be altered to avoid repeated rutting in the same areas and maintenance activities on the slope utilizing heavy equipment should be limited after periods of rain until the soil has had ample opportunity to dry.

These areas will be monitored as part of the inspection procedures for the dike to determine if any movement or creep is occurring. If this occurs, these areas will be appropriately repaired. Also, future mowing activities will be limited to periods where the slope is sufficiently dry to prevent rutting.

4.2.4 Ash Pond E

•Three soft areas have been identified by Southern Company east of the lower concrete lined drainage channel. CHA recommends continued monitoring of these locations for changes.

These areas will continue to be monitored per the inspection procedures for Plant Branch.

•Sloughing and surface irregularity due to recent rain was noted along the southern end of the downstream slope and sparse vegetation due to mowing activities was also observed. Measures should be implemented to reduce the potential for progressive erosion in these areas.

The sloughed area has been repaired (Photo #3). Also, future mowing activities will be limited to periods where the slope is sufficiently dry to prevent rutting. In addition, affected areas of the dike have been re-seeded and Georgia Power will continue to monitor for sparse vegetation and take appropriate actions as necessary.

4.3 Animal Control

Evidence of animal burrows was observed on the upstream and downstream side of several of the dikes. CHA observed Southern Company personnel filling some of burrows during the site assessment period, and Southern Company has indicated that this repair activity has been completed. CHA recommends continued vigilance by Southern Company personnel to make note of areas disturbed by animal activity, trap the animals, and make repairs to areas to protect the integrity of the dikes.

Monitoring and repair of animal burrows will continue as part of the inspection procedures for Plant Branch.

4.4 Site Plan and Instrumentation

CHA recommends that survey plans with elevation contour information be prepared for each

pond and dike area. The plans should include, at a minimum, the location of the constructed dikes, limits of existing ponds, water level in the ponds, location of instrumentation, and location and elevation of normal operation and emergency spillways. These plans should include stationing from the design documents to assist in a comparison of the design and as-built conditions.

This data is currently available for use from multiple sources. This recommendation will be considered and implemented as opportunities arise.

4.5 Hydrologic and Hydraulic Recommendations

CHA recommends that a hydrologic and hydraulic analysis be performed for each of the active ponds. Ash Ponds B, C, and D are not regulated by Georgia Department of Natural Resources Environmental Protection Division, therefore there are no specific hydrologic and hydraulic design guidelines. CHA suggests the impoundment be evaluated for susceptibility to overtopping during a reasonable design storm.

CHA recommends that Georgia Power continue to evaluate the available flood storage as deposited ash elevations change within the pond.

Georgia Power and Southern Company Services will perform the hydrologic and hydraulic analyses of Ash Ponds B, C, and D to determine the susceptibility of overtopping the dikes during a reasonable design storm. The results of the analyses will be available on or before October 1, 2010.

4.6 Stability Recommendations

4.6.1 Ash Pond B

Ash Pond B and the dike have changed significantly from the time they were completed, with a large portion of the pond adjacent to the dike being filled and capped. Recent investigation in the capped areas has led Georgia Power to conclude that the Ash Pond B dike is no longer a liquid waste impounding structure. If the Georgia Department of Natural Resources Environmental Protection Division Safe Dams Program deems the available data sufficient and acceptable to officially declassify the dike as an impounding structure, then no further work is recommended. Should, however, the state elect not to de-classify the dike as an impounding structure, CHA recommends that at least a rudimentary geotechnical exploration program be undertaken and a corresponding slope stability analysis performed.

A slope stability analysis will be performed for the Ash Pond B dike. The results of this analysis will be provided on or before October 1, 2010.

4.6.2 Ash Pond C

The original and updated analyses show that the Ash Pond C embankment was generally designed with the required factors of safety for the load cases considered at the time the particular analyses were performed. An exception is the Lake Sinclair shoreline below the toe of the dike, where it has been demonstrated that the minimum factor of safety is associated with a thin, superficial failure plane. Since the failure surface with the minimum factor of safety is below accepted standards, CHA suggests that this area be investigated to determine where the failure surface with an acceptable safety factor lies with respect to the dike geometry. In this way one can ascertain how such a failure would affect gross dike stability.

Load cases not examined for the Ash Pond C dike include rapid drawdown conditions for the downstream toe at the aforementioned Lake Sinclair shoreline and the upstream slope, and a surcharge pool or flood condition. CHA recommends that a stability analysis considering these loading conditions be performed so that the embankment performance under such loading cases can be anticipated and properly managed.

These recommendations will be taken into consideration in a revised stability analysis to be submitted on or before October 1, 2010.

4.6.3 Ash Pond D

The original and updated analyses show that the Ash Pond D dike embankment was generally designed with the required factors of safety for the load cases considered at the time the particular analyses were performed. CHA recommends that a stability analysis be performed for rapid drawdown and a surcharge pool or flood condition.

The existing ash layer on the upstream slope of the cross-section of Ash Pond D was inadvertently omitted in the updated stability analysis. Ash Pond D is currently full of ash to approximately Elev. 401. The top of dike is Elev. 403. This analysis will be revised to correctly show the ash on the upstream slope. With this configuration, rapid drawdown on the upstream slope cannot occur. A surcharge loading on the Ash Pond D dike will not occur due to the limited remaining freeboard and due to the discharge capacity provided by the existing emergency spillway and outlet channel to Ash Pond C.

The revised stability analysis for Ash Pond D will be submitted on or before October 1, 2010.

4.6.4 Ash Pond E

No further analyses recommended.

4.7 Inspection Recommendations

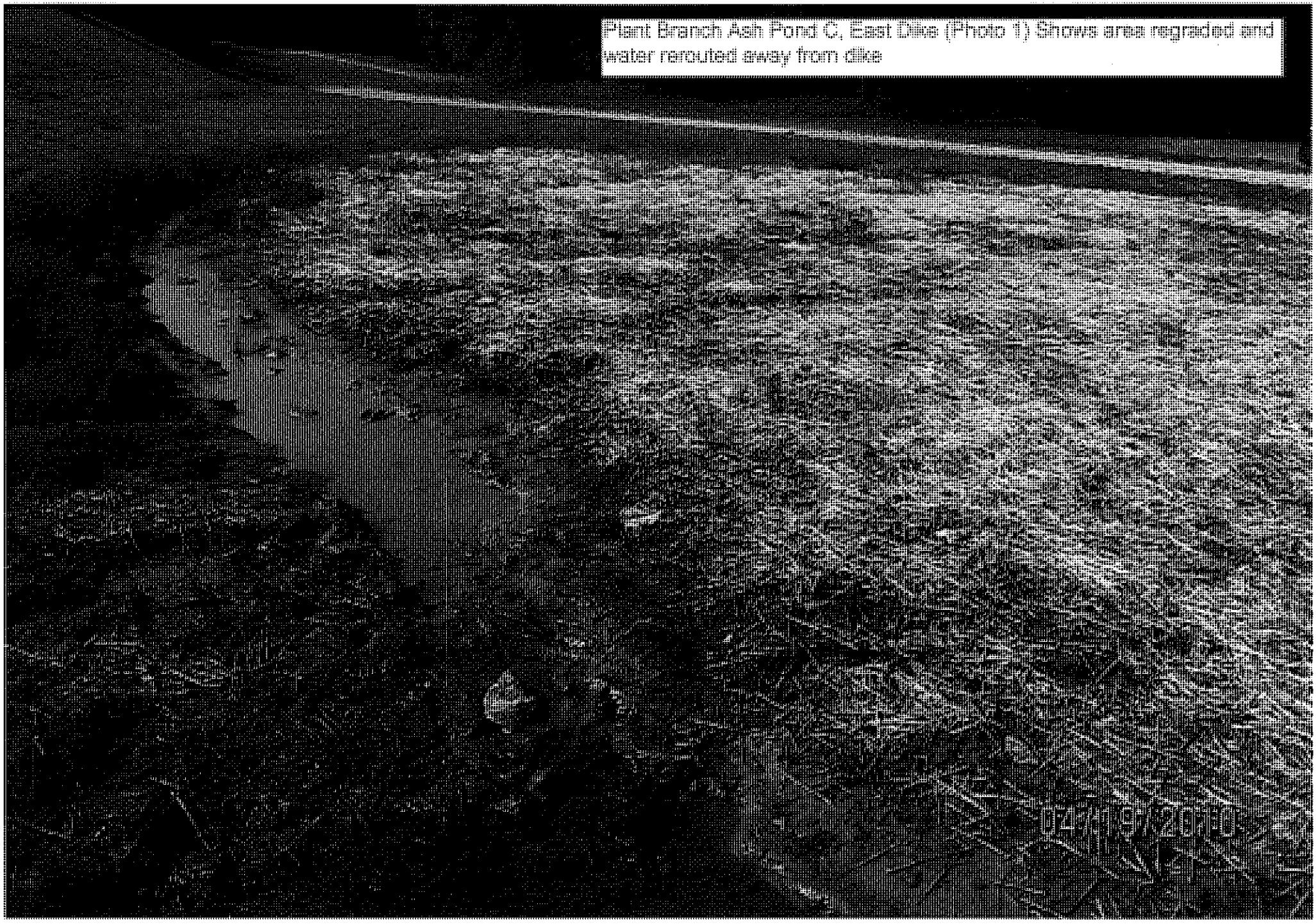
CHA recommends that Georgia Power and Southern Company continue the piezometer monitoring and inspections that have been implemented for the Ash Ponds. This type of inspection allows for proactive responses to developing situations, which can reduce the risk of damaging releases or failures from occurring.

Georgia Power and Southern Company Services will continue the monitoring of the piezometers as part of the inspection procedures for Plant Branch.

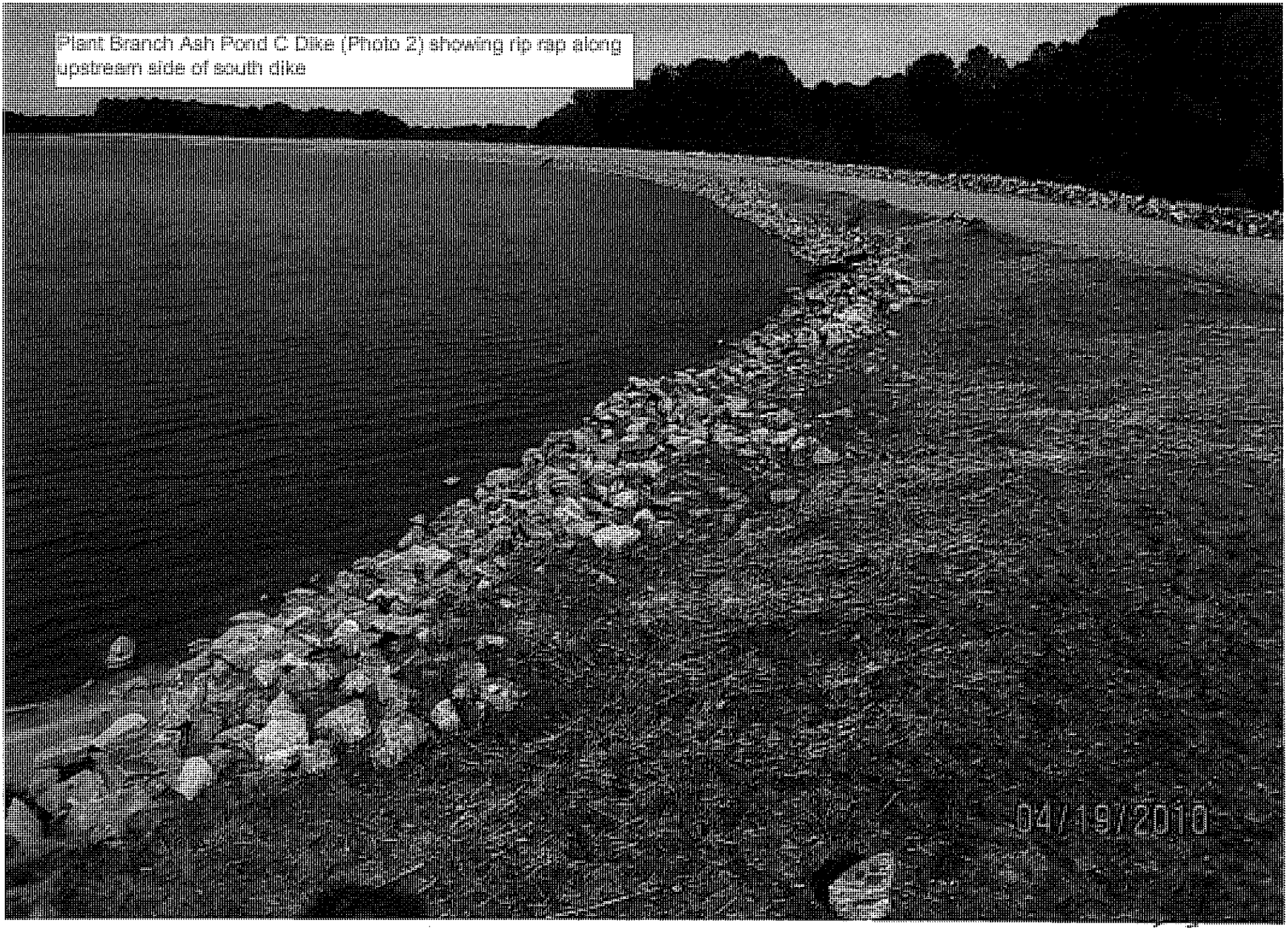
Sincerely,

Tanya Blalock for

Charles H. Huling



Plant Branch Ash Pond C, East Dike (Photo 1) Shows area regraded and water rerouted away from dike



Plant Branch Ash Pond C Dike (Photo 2) showing rip rap along upstream side of south dike

Plant Branch Ash Pond E, Dike (Photo 3) showing repair
04/19/2010

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GEORGIA POWER
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October 1, 2010

OVERNIGHT 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: Additional Information in Response to "Assessment of Dam Safety Coal Combustion Surface Impoundments (Task 3) Final Report" for Georgia Power Plant Branch, Milledgeville, Georgia

Dear Mr. Hoffman:

On March 30, 2010, the U.S. Environmental Protection Agency ("EPA") provided Georgia Power a final report regarding certain facilities for the management of coal combustion byproducts at Georgia Power's Plant Branch ("Final Report"). The Final Report was prepared by CHA under contract to Lockheed Martin and was dated March 29, 2010. Additionally, EPA requested Georgia Power's response to the Final Report's recommendations, including specific plans and schedules for implementing the recommendations. Georgia Power responded to those recommendations in a letter to you, dated May 3, 2010. With a few exceptions, the recommendations in the Final Report were either completed or being implemented. In the May 3 letter to you, we stated that we would respond to any outstanding recommendations by October 1, 2010. This letter provides Georgia Power's response and additional comments on the Final Report. With this submittal, Georgia Power has addressed all recommendations identified in the Final Report and in EPA's transmittal letter dated March 30, 2010.

Additional Hydrology/Hydraulic Studies

In the Final Report, CHA recommended that a hydrologic and hydraulic analysis be performed for each of the active ponds. Ash Ponds B and D (also referred to as D-1) are

Category II ponds under the Georgia Safe Dams Act and, as such, are excluded from the design standards of the Georgia Department of Natural Resources Environmental Protection Division. Georgia Power does not have confirmation from the Georgia Department of Natural Resources Environmental Protection Division on whether or not they have classified Ash Pond C. Category II dams do not have specific hydrologic and hydraulic design guidelines. CHA suggested that Ash Ponds B, C, and D be evaluated for susceptibility to overtopping during a reasonable design storm. CHA also recommended that Georgia Power continue to evaluate the available flood storage as deposited ash elevations change within the ponds. Georgia Power and Southern Company Services have performed the hydrologic and hydraulic analyses of Ash Ponds B, C, and D to determine the susceptibility of overtopping the dikes during a reasonable design storm. The results of the analyses are provided under separate transmittal to EPA dated October 1, 2010.

Ash Pond B studies show the pond can safely pass the 100 year storm with 2.5 feet of freeboard.

Ash Pond C studies show the pond can safely pass the 100 year storm event with approximately 3.4 feet of freeboard. We are evaluating methods to increase the capacity of the pond to handle storm runoff.

Ash Pond D studies show the pond can contain the 100 year storm event with 0.1 foot of freeboard. Georgia Power plans are to incorporate Ash Pond D into the coal combustion byproduct solid waste landfill currently in the permitting process under Georgia Solid Waste Subtitle D Regulations. The permit is expected to be received in 2011. However, we are exploring appropriate modifications to increase the storm capacity until the pond is incorporated into the solid waste landfill.

The hydrologic and hydraulic analysis for Ash Pond E was provided to CHA prior to the release of the final report. As noted in Section 3.2.1 of the report, this analysis showed that Ash Pond E could safely pass the ½ PMF with 3.0 feet of freeboard.

Additional Stability Studies

In the Final Report, CHA recommended that certain additional stability studies be performed for Ash Ponds B, C and D.

Ash Pond B

CHA recognized in the Final Report that Ash Pond B and the dike have changed significantly from the time they were completed, with a large portion of the pond adjacent to the dike being filled and capped. CHA recommended a rudimentary geotechnical exploration program be undertaken and a corresponding slope stability analysis performed. Georgia Power has performed this additional study. The results of the analyses (Revision 2) are provided under separate transmittal to EPA dated October 1, 2010. Stability analyses show that the minimum calculated factors of safety factors exceed the minimum criteria of Georgia Safe Dams program and the U.S. Army Corps of Engineers (EM1110-2-1902, 2003) for the downstream slope steady

state (long term) and stead state with seismic loading conditions. The ash pond is currently full with ash and soil cover to the crest of the elevation of the dike. The steady state and steady state with seismic loading include this loading. However, since the pond is full, the upstream maximum surcharge loading and upstream rapid drawdown load case were not considered.

Ash Pond C

For Ash Pond C, CHA stated in the Final Report that the original and updated analyses show that the Ash Pond C embankment was generally designed with the required factors of safety for the load cases considered at the time the particular analyses were performed. An exception is the Lake Sinclair shoreline below the toe of the dike, where it has been demonstrated that the minimum factor of safety is associated with a thin, superficial failure plane. CHA suggested that this area be investigated to determine where the failure surface with an acceptable safety factor lies with respect to the dike geometry. In this way, one can ascertain how such a failure would affect gross dike stability. This analysis was performed and included in Revision 2 of the stability report. The downstream toe and shoreline were evaluated with revised search criteria to determine the location of the failure surface, below the surficial layer of rip rap, with the minimum calculated factor of safety. The global stability of the dike, the dike toe, and the shoreline was also evaluated. The results of these analyses show tht the resulting factors of safety exceeded the minimum criteria.

Load cases not examined in previous submittals for the Ash Pond C dike include rapid drawdown conditions for the downstream toe at the aforementioned Lake Sinclair shoreline and the upstream slope, and a surcharge pool or flood condition. CHA recommended in the Final Report that a stability analysis considering these loading conditions be performed so that the embankment performance under such loading cases can be anticipated and properly managed. Revision 2 of the stability report addresses this recommendation. The rapid drawdown analysis for the downstream toe at the Lake Sinclair shoreline, from the probable maximum flood elevation to normal pool elevation, showed factors of safety exceeded the accepted criteria. The analysis for the upstream maximum surcharge condition (at one foot of freeboard) and the rapid drawdown from the maximum surcharge elevation also showed safety factors exceeding the accepted criteria.

Ash Pond D

CHA stated in the Final Report that the original and updated analyses show that the Ash Pond D dike embankment was generally designed with the required factors of safety for the load cases considered at the time the particular analyses were performed. CHA recommended that a stability analysis be performed for rapid drawdown and a surcharge pool or flood condition.

Ash Pond D stability analysis has been revised to include the ash and water loading on the upstream slope at Elev. 401. The top of the dike for Ash Pond D1 is at Elev. 403. This leaves a limited freeboard of two feet. The maximum surcharge and rapid drawdown analyses were performed at a maximum pond elevation of Elev. 403. The results showed factors of safety exceeding the minimum accepted criteria..

The results of the analyses are provided under separate transmittal to EPA dated October 1, 2010. Stability analyses show that safety factors exceed the minimum criteria of Georgia Safe Dams program and the U.S. Army Corps of Engineers (EM1110-2-1902, 2003) for applicable loading cases.

Additional Recommendation for Ash Pond B

In the Final Report, CHA identified that brush and trees have grown in the downstream face of the embankment on Ash Pond B. CHA stated a "few areas were observed that warrant monitoring on a routine basis to confirm that changes are not occurring or if periodic maintenance is required". CHA further stated that if Ash Pond B dike could not be decommissioned, then CHA recommended that the trees on the downstream face of the embankment be cut and that the resulting stumps should be monitored for decay. Georgia Power stated in its May 3 letter to you that it needed additional time to fully evaluate this recommendation and proposed to submit a response to this recommendation by October 1, 2010.

Since Georgia Power's May 3, 2010 letter to you, EPA has released its draft coal combustion residue rule, dated June 21, 2010. Because of the draft rule, there is a much uncertainty around ash pond closures and the potential regulatory constraints that may apply to ponds closed under a current Subtitle D solid waste regulation such as the one in Georgia. Therefore the option to "decommission" the pond can not adequately be addressed at this time.

The Ash Pond B dike is substantially over constructed and does not pose any stability or integrity issue as identified in the enclosed stability analyses. The EPA consultant also identified that the "dike does not show signs of changes in horizontal alignment and the dike did not exhibit obvious signs of distress (i.e. significant sloughing, bulging, or apparent leakage)". Therefore, Georgia Power will remove the underbrush to allow better visibility and access for enhanced inspection of this area in our routine inspections. We believe this enhanced inspection will allow us to confirm if any changes are occurring or if periodic maintenance is required without removing the trees. Because this area lies within the state stream buffer and the FERC project boundary for Lake Sinclair, a state permit and FERC approval will be required to complete these actions.

With this response, Georgia Power has addressed all recommendations in the Final Report and in EPA's letter dated May 3, 2010. Please continue to direct correspondence to my attention.

Sincerely,

Tanya Blaylock
for

Charles H. Huling

CHH/
Attachments