

May 18, 2011

**VIA FEDERAL EXPRESS**

Mr. Stephen Hoffman  
US Environmental Protection Agency  
Two Potomac Yard  
2733 South Crystal Drive  
5th Floor, N-5237  
Arlington, VA 22202-2733

Subject: Final Impoundment Assessment Report  
Plan and Schedule  
Winyah Generating Station – Georgetown, SC

Dear Mr. Hoffman:

South Carolina Public Service Authority (Santee Cooper) received and reviewed the draft dike assessment report for the Winyah Generating Station which resulted from the site assessment conducted by EPA's contractor, Dewberry & Davis, LLC., on June 29 and 30, 2010.

EPA's engineering contractor has rated the Winyah Generating Station impoundments in accordance with the National Inventory of Dams rating criteria. Ash Pond A and Ash Pond B are rated as having "Low" hazard potential. The South Ash Pond, West Ash Pond, Unit 3 & 4 Slurry Pond and the Unit 2 Slurry Pond are rated as having "Significant" hazard potential. The significant hazard potential rating for the Unit 2 Slurry Pond is over stated. It is noted, the hazard potential rating is not an indication of the structural integrity of the impoundment, but of the hazard potential if the impoundment were to fail. A significant hazard potential is used where failure results in no probable loss of human life but can cause significant economic loss, environmental damage, or disruption of lifeline facilities. The Unit 2 Slurry Pond functions as a dry coal combustion residual storage area, stormwater is continually pumped to maintain the dewatered condition, and the impoundment has a very small height and small storage capacity. A failure of the Unit 2 Slurry Pond dike therefore does not have the potential to release coal combustion residuals into the surrounding area, and is not capable of causing danger to humans, economic or environmental losses, or disruption of lifeline facilities.

EPA's consultant has classified the Winyah Generating Station impoundments in accordance with EPA criteria for continued safe and reliable operation. All of the impoundments are rated FAIR for continued safe and reliable operation. The consultant acknowledged these ratings are influenced by the lack of some rudimentary engineering

Mr. Stephen Hoffman  
WGS  
May 18, 2011  
Page 2

data and anticipates the ratings for continued safe and reliable operation would be improved upon completion of the recommendations.

Santee Cooper has an excellent track record with regard to the safety of our coal combustion residual impoundments and is fully committed to maintaining this record. The consultant acknowledges this commitment however, made several recommendations to address minor deficiencies and provide further assurances for non-critical conditions. Santee Cooper responds to each of the recommendations as follows:

**1.2.1 & 1.2.3 Structural Stability and Supporting Technical Documentation –**

Recommendation –

*To eliminate concern about the lack of documentation, it is recommended that Santee Cooper perform a documented engineering review of foundation soil conditions at the West Ash Pond/Unit 3 & 4 Slurry Pond perimeter dike and the South Ash Pond perimeter dike to determine what, if any, limited or detailed analyses of seismic stability and liquefaction potential should be performed.*

*It is recommended that Santee Cooper investigate the apparent problem conditions along the active outlet penetration through the Ash Pond B perimeter dike and along the abandoned outlet penetration through Ash Pond A perimeter dike and implement appropriate remedial actions.*

Response -

Santee Cooper will perform a documented engineering review of foundation soil conditions at representative locations along the perimeter dikes of the West Ash Pond/Unit 3 & 4 Slurry Pond, the South Ash Pond, and Ash Pond A/Ash Pond B. The documented engineering review will include a determination as to what, if any, limited or detailed analyses of seismic stability and liquefaction potential should be performed. Santee Cooper will provide the necessary supporting technical documentation by March 29, 2012.

Santee Cooper evaluated options to address the functionally abandoned outlet penetration at Ash Pond A. Based on projected coal combustion residual management practices, this outlet penetration will be properly abandoned. Santee Cooper will provide the necessary supporting documentation by October 31, 2011.

Santee Cooper evaluated options to address the active outlet penetration at Ash Pond B and determined construction of an in-kind replacement and proper abandonment of the existing penetration was the best option. To date,

construction of the replacement outfall has been completed. Santee Cooper will complete proper abandonment of the existing penetration and provide the necessary supporting technical documentation by March 29, 2012.

#### **1.2.2 & 1.2.3 Hydrologic/Hydraulic Stability and Supporting Technical Documentation –**

Recommendation –

*It is recommended that Santee Cooper verify the hydrologic/hydraulic safety of Unit 3 & 4 Slurry Pond and the West Ash Pond to document that the basins can safely store and pass the appropriate design storm.*

Response -

Santee Cooper has completed a preliminary analysis of the hydrologic/hydraulic safety of Unit 3 & 4 Slurry Pond and the West Ash Pond. Two culverts were installed in the divider dike to allow gravity flow and supplement the existing pumps discharging from Unit 3 & 4 Slurry Pond into the West Ash Pond. Santee Cooper will install a backup pump at the West Ash Pond to augment pumping capacity into the South Ash Pond. Santee Cooper will provide a final report by March 29, 2012 showing the basins can safely store and/or pass the appropriate design flood.

#### **1.2.4 Description of Management Units -**

Recommendation –

*To eliminate concern about the lack of documentation, it is recommended that Santee Cooper maintain accurate and legible record drawings and reports for all impoundment outlets both active and abandoned, and also all future ash pond modifications.*

Response -

Santee Cooper will continue to document and maintain records of all modifications to outlet works of the coal combustion residual impoundments according to the Management of Change procedure. Documentation of recent work to abandon outlet works will be provided as indicated in item 1.2.1/1.2.3 above.

#### **1.2.5 Recommendations Regarding Field Observations -**

Recommendation –

*To continue maintaining vegetation on the crest and side slopes of all impoundments and to perform visual monitoring for any areas of wet soil and seepage along the toe of the perimeter dikes.*

Mr. Stephen Hoffman

WGS

May 18, 2011

Page 4

Response -

Santee Cooper will insure that adequate vegetation management on all dikes continues and is appropriate to allow unimpeded access and visual inspections in order to identify changing conditions. Santee Cooper will continue to perform quarterly dike inspections as required for the BMP program. The inspection procedure will be updated by July 31, 2011 to require walking the toe of the perimeter dikes on at least an annual basis to visually monitor for any areas of wet soil and seepage.

**1.2.6 Maintenance and Methods of Operation -**

Recommendation -

*Santee Cooper should insure pumping operations at the West Ash Pond, Unit 3 & 4 Slurry Pond, and Unit 2 Slurry Pond are closely monitored and have back-up pumps in reserve that can be quickly placed into service, if needed.*

Response -

Santee Cooper will continue routine inspections of pumping operations at least once per shift. Backup diesel pumps are available at the Station and utilized as needed for heavy rainfall events. A contract is in place with a local vendor to provide 24 hour support for additional pumping capacity if needed. The on-site backup pumps together with the contractual arrangement has been effective to manage water levels during past extreme rainfall events.

**1.2.7 Surveillance and Monitoring Program -**

Recommendation -

*Santee Cooper should perform a walking inspection of the impoundment dikes at least once per year, with close scrutiny in critical outside toes areas, such as at penetrations or areas of known seepage or wet areas to check for changed conditions.*

*The principal outlet structures located at Ash Pond B and the South Ash Pond should be inspected internally with a remote camera at least once every 5 years and documented with a written report.*

Response -

Santee Cooper will update the BMP Plan to require walking the toe of the perimeter dikes on at least an annual basis to check for changed conditions. Visual monitoring for any areas of wet soil and seepage, and visual inspection of all penetrations will be included. Santee Cooper will update the Plan by July 31, 2011.

Mr. Stephen Hoffman  
WGS  
May 18, 2011  
Page 5

Santee Cooper's BMP Plan requires an inspection of the impoundments be conducted by a Qualified Dam Safety Engineer on an annual basis or every 5 years, depending on the impoundment. A schedule is included in the plan. Santee Cooper will update the Plan to include an internal inspection and written report for the principal outlet structures at least once every five years. Santee Cooper will update the Plan by July 31, 2011.

#### **1.2.8 Continued Safe and Reliable Operation -**

Recommendation -

*Santee Cooper should periodically review downstream changes that may alter the hazard potential classification or assessment of the consequences of potential failure of the impoundments.*

Response -

Santee Cooper's BMP Plan requires an inspection of the impoundments be conducted by a Qualified Dam Safety Engineer on an annual basis or every 5 years, depending on the impoundment. A schedule is included in the plan. Santee Cooper will update the Plan to include a review by a Qualified Dam Safety Engineer of downstream changes that may alter the hazard potential classification or assessment of the consequences of potential failure of the impoundments. Santee Cooper will update the Plan by July 31, 2011.

Santee Cooper makes no confidentiality claims with respect to material contained in the draft report or with respect to this correspondence. Please contact me at 843-761-8000 if you have any questions.

Sincerely,



Jay Hudson, PE  
Manager  
Environmental Management

JAH:SWJ:DBB:dss