

US EPA ARCHIVE DOCUMENT



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

April 20, 2011

OFFICE OF  
SOLID WASTE AND  
EMERGENCY RESPONSE

VIA E-MAIL AND FEDERAL EXPRESS

Mr. R. M. Singletary, Senior Vice President  
Santee Cooper  
One Riverwood Drive  
Moncks Corner, South Carolina 29461-2901

Dear Mr. Singletary:

On June 28, 2010 the United States Environmental Protection Agency ("EPA") and its engineering contractors conducted a coal combustion residual (CCR) site assessment at the Winyah facility. 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 Winyah facility 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 Winyah facility 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 Winyah facility. 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 May 20, 2011. Please send your response to:

Mr. Stephen Hoffman  
US Environmental Protection Agency (5304P)  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460

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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  
5<sup>th</sup> Floor, N-237  
Arlington, VA 22202-2733

You may also provide a response by e-mail to [hoffman.stephen@epa.gov](mailto:hoffman.stephen@epa.gov)

This request has been approved by the Office of Management and Budget under EPA ICR Number 2350.01.

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.

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

### **1.2.1 Recommendations Regarding the Structural Stability**

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 and determine what, if any, limited or detailed analyses of seismic stability and liquefaction potential should be performed. After reviewing the draft report, Santee Cooper indicated that analyzing seismic stability and liquefaction potential has never been required as part of the original permit to construct ash ponds at the Winyah GS and believes that such analyses of the impounding structures at Ash Pond A, Ash Pond B, Unit 2 Slurry Pond, South Ash Pond, and the West Ash Pond are not critical needs at this time. However, Santee Cooper has indicated that they will evaluate the need to assess the seismic stability and liquefaction potential at the Unit 3 & 4 Slurry Pond.

It is recommended that Santee Cooper investigate the apparent problem conditions along the active (RCP) outlet penetration through the Ash Pond B perimeter dike and along the abandoned (apparent CMP) outlet penetration through Ash Pond A perimeter dike and implement appropriate remedial actions, as needed. After reviewing the draft report, Santee Cooper indicated they are evaluating remedial options for addressing the active RCP outlet penetration through the Ash Pond perimeter dike and along the abandoned (apparent CMP) outlet penetration through Ash Pond A perimeter dike, and will take appropriate action based on the results of the evaluation, ranging from repair to full replacement for the Ash Pond B outlet and appropriate sealing of the abandoned Ash Pond A outlet.

### **1.2.2 Recommendations Regarding the Hydrologic/Hydraulic Safety**

It is recommended that Santee Cooper verify the hydrologic/hydraulic safety of the Unit 3 & 4 Slurry Pond and the West Ash Pond with documented analyses. After reviewing the draft report Santee Cooper has indicated that they will analyze and verify the hydrologic/hydraulic safety of these ash ponds relative to the available freeboard.

### **1.2.3 Recommendations Regarding the Supporting Technical Documentation**

As recommended above in Subsection 1.2.1, a documented engineering review of seismic stability and liquefaction potential of the South Ash Pond perimeter dike and the West Ash Pond/Unit 3 & 4 Slurry Pond perimeter dike should be performed.

As recommended above in Subsection 1.2.2, the hydrologic/hydraulic safety of the Unit 3 & 4 Slurry Pond and the West Ash Pond should be verified by documented analysis.

### **1.2.4 Recommendations Regarding the Description of the Management Unit(s)**

It is recommended that Santee Cooper continue to maintain project records that contain accurate, legible records of the as-built features of all CCW pond outlet works, as well as information on abandoned works and how they were abandoned.

Note that Santee Cooper has indicated that they will continue to document and maintain records of all modifications to any of the ash pond outlet works or dikes for future reference. Furthermore Santee Cooper has indicated that they will review their records pertaining to abandoned outlet works and how they were abandoned and, based on the findings, determine what, if any, additional information is warranted.

### **1.2.5 Recommendations Regarding the Field Observations**

Ash Pond A and Ash Pond B Dams – The draft report recommended that Santee Cooper perform investigations and any needed repairs with respect to problem conditions noted along the two pipe penetrations. In response to the draft report, Santee Cooper has indicated such investigations are already in progress. No other recommendations appear warranted at this time. Santee Cooper should continue to maintain vegetation on the crest and outside slopes and perform visual monitoring of wet soil areas along the toe of the perimeter dam as recommended in Subsections 1.2.6 and 1.2.7, below.

South Ash Pond Dam – None appear warranted at this time, other than to continue maintaining vegetation on the crest and outside slopes, and particularly along the toe, and perform visual monitoring of the areas of wet soil and seepage along the toe of the dam as recommended in Subsections 1.2.6 and 1.2.7, below.

Unit 3 & 4 Slurry Pond and West Ash Pond Dams – None appear to be warranted at this time, other than to continue maintaining vegetation on the crest and outside slopes and perform visual monitoring of the wet soil areas along the toe of the perimeter dam as recommended in Subsections 1.2.6 and 1.2.7, below.

Unit 2 Slurry Pond Dam – None appear to be warranted at this time, other than to continue maintaining vegetation on the crest and outside slopes as a part of routine maintenance as recommended in Subsection 1.2.6, below.

### **1.2.6 Recommendations Regarding the Maintenance and Methods of Operation**

Maintain or repair active and abandoned pipe penetrations through the Ash Pond A/Ash Pond B perimeter dike as recommended above in Subsection 1.2.1. As noted above, Santee Cooper has indicated that evaluation of these penetrations is already in progress.

The draft report recommended that bare soil areas on the dikes, particularly the South Ash Pond perimeter dike be reseeded or otherwise protected against erosion as part of routine maintenance. Santee Cooper has indicated that reseeded of the bare soil areas on the South Ash Pond perimeter dike was completed on August 24, 2010 and a protective grass cover has been established.

No recommendations regarding operational procedures appear to be warranted at this time, but ensure that pumping operations at the West Ash Basin, 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. (Santee Cooper has indicated that routine inspections of the pumping operations are performed at least once per shift and that spare pumps are available in the fleet used to perform inspections; furthermore, a contract is in place with a qualified vendor to provide additional pumps and technical support on a 24-hour basis in

the event they are needed,)

### **1.2.7 Recommendations Regarding the Surveillance and Monitoring Program**

The draft report recommended that all the CCW pond dikes be walked at least once per year, with close scrutiny in critical outside toe areas, such as at penetrations (conduits, including abandoned ones) or areas of known seepage or wet areas to check for changed conditions. These conditions cannot be viewed properly from the crest. . Santee Cooper has indicated that their quarterly inspections include proper inspection of the upstream and downstream slopes and all structures, including penetrations and that standard inspection procedures outlined in the National Dam Safety Program, Training Aids for Dam Safety are utilized.

It is recommended that the principal outlet structures, which are those located at Ash Pond B and the South Ash Pond, be inspected internally with a remote camera on a frequency of at least once every 5 years and be documented with a written report.

### **1.2.8 Recommendations Regarding Continued Safe and Reliable Operation**

No additional recommendations for continued safe and reliable operation appear warranted at this time, other than to periodically review downstream changes that may alter the hazard potential classification or assessment of the consequences of failure of the dams.