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Comments on Santee Cooper Jefferies Generating Station Draft Report:

EPA:

Page iii, states: "The purpose of this report is to evaluate the condition and potential of waste release from **management units that have and have not been rated for hazard potential classification** by the company or state."

The purpose should be stated more broadly by including the yellow highlighted insert above. This change can be made to all future reports.

Page 6-2: It is not clear whether Santee Cooper's task force has given the ponds the hazard ratings or whether this is Dewberry's determination. Please clarify.

State: None

Company: See letter dated November 30, 2010.

US EPA ARCHIVE DOCUMENT

santee cooper

November 30, 2010

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

Subject: Draft Dike Assessment Report Comments
Jefferies Generating Station – Moncks Corner, SC

Dear Mr. Hoffman:

South Carolina Public Service Authority (Santee Cooper) received and reviewed the draft dike assessment report for the Jefferies Generating Station which resulted from the site assessment conducted by your contractor, Dewberry & Davis, LLC., on June 29, 2010. Attached is a summary of recommended corrections and comments.

The impoundments are under the regulatory authority of the South Carolina Department of Health and Environmental Control. Santee Cooper has an excellent track record with regard to the safety of our coal combustion residual storage impoundments and is fully committed to maintaining this record.

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:dks

Attachment

Santee Cooper Jefferies Generating Station
Comments on Draft Dam Assessment Report
By
Dewberry & Davis, LLC
Dated July 2010

Santee Cooper has reviewed the draft assessment report prepared by Dewberry & Davis, LLC, for the impoundments containing coal combustion residuals at the Jefferies Generating Station. Santee Cooper appreciates the consultant's thoroughness and we concur with the conclusion that "the embankment dams appear well maintained, safe, and structurally sound. There are no apparent indications of any unsafe conditions. The visible parts of the embankment dams and outlet structures were observed to have no signs of overstress, significant settlement, shear failure, or other signs of instability" and "no seepage was observed." The following corrections and comments are provided:

Draft Report Corrections:

1. Section 2.0, various locations -
   The consultant notes an apparent discrepancy in the height data reported by Santee Cooper in a previous submission to EPA. In either interpretation, the height of both impoundments as measured from the top of the dam to the lowest elevation of the outside limit of the barrier or toe of the dike is still classified as very small and actual elevations can be field verified if needed.
2. Page 2-2, Section 2.2 -
   "plan operations" *should be* "plant operations".
3. Page 2-5, Section 2.4.1 –
   The consultant states the size of the offsite drainage area is significant and, based on USGS topographic maps is on the order of 2.5 to 3 times the surface area of Ash Ponds A and B combined. Santee Cooper notes the size of the contributing drainage area is severely restricted by the proximate location and high elevation of the adjacent railroad tracks along the northwest edge, the proximate location and high elevation of Powerhouse Road to the north, and the proximate location of a natural divide in topography located to the northeast and traversed by a dike access road. The actual size of the contributing drainage area appears to be less than 25% of the combined surface area of Ash Ponds A and B.
4. Page 3-1, Section 3.2 –
   To expand on the statement regarding the expired NPDES permit, Santee Cooper notes the SC DHEC has been delegated NPDES permitting authority by the EPA and administers the program for the State. SC DHEC has stated that if there should be a delay in renewing permits beyond the expiration of the existing permits, the permits will be extended by operation of law and Santee Cooper may still discharge pursuant to Section 1-23-370 of the Code of Laws of South Carolina 1976, as amended. The Jefferies Generating Station NPDES permit was reissued effective March 1, 2003, with an expiration date of February 29, 2008. An application for renewal of the

Jefferies Generating Station NPDES permit was submitted by September 30, 2007 or 180 days in advance of the expiration date as required.

5. Page 6-3, Section 6.1.4 –
   The consultant states a potential breach during a major flood could travel as a wall of water down the canal to the Cooper River about 2.7 miles downstream. Santee Cooper notes the maximum volume of free water that would be contained within both impoundments based on the most recent capacity estimates is only 416 Acre-feet. This small storage capacity combined with the relatively flat topography in the coastal area and the relatively large size of the tailrace canal (approximately 400 feet wide at the water surface) would potentially cause only a small rise in water level within the tailrace canal.
6. Page 6-3, Section 6.1.4 –
   Change references to Highway 17 bridge to Highway 52/17-A bridge.
7. Page 6-3, Section 6.1.4 –
   Biggin Swamp, that relatively wide swamp that lies between the spoil bank along the tailrace canal to the west and high ground to the east, is located downstream of Ash Pond B and is within the boundary of property under the ownership of Santee Cooper. This limits any off-site environmental impacts resulting from the potential breach scenarios discussed by the consultant.
8. Page 9-1, Section 9.1 –
   Santee Cooper notes the intent of the BMP plan is to train operating personnel to conduct routine, periodic inspections of the impoundment dikes and have qualified dam safety personnel assist operating personnel with the quarterly inspections as requested. A copy of section 4.9 of the BMP plan was previously provided.
9. All occurrences of the term Coal Combustion Waste and CCW should be changed to Coal Combustion Residual and CCR.

Comments to Consultant's Recommendations:

1. **Recommendations Regarding the Structural Stability**
   Page 1-3, Section 1.2.1 –
   "Ash Pond A Dam and Ash Pond B Dam – None appear warranted at this time to satisfy a critical need; however, to eliminate concern about the lack of documentation, it is advised that Santee Cooper perform at least simplified, but conservative, documented analyses to verify static stability of the perimeter dike impounding Ash Pond A and Ash Pond B."
   Comment -
   Santee Cooper agrees there is not a critical need to perform a static stability analysis. Given our current inspection practices, the low head on both dikes, and the satisfactory operational history of these dikes, Santee Cooper will evaluate the need for a static stability analyses of the Ash Pond A and Ash Pond B dikes.
2. **Recommendations Regarding the Hydrologic/Hydraulic Safety**
   Page 1-3, Section 1.2.2 –
   "Ash Pond A Dam and Ash Pond B Dam – It is recommended that Santee Cooper review and document how the apparent off-site drainage toward Ash Pond A is

handled and perform hydrologic/hydraulic analysis as may be required to document that the basins can safely store and pass the appropriate design flood."
Comment -

Santee Cooper agrees that there is an apparent small off-site drainage basin contributing to Ash Pond A and concurs with Dewberry and Davis' recommendation to review and document how the off-site drainage toward Ash Pond A is handled and perform hydrologic/hydraulic analysis as may be required to document that the basins can safely store and/or pass the appropriate design flood.

3. **Recommendations Regarding the Supporting Technical Documentation**
Page 1-3, Section 1.2.3 –
"Ash Pond A and Ash Pond B - Provide documentation as recommended above in Subsections 1.2.1 and 1.2.2."
Comment -
Regarding 1.2.1 - Santee Cooper will evaluate the need for a static stability analyses of the Ash Pond A and Ash Pond B dikes.
Regarding 1.2.2 – Santee Cooper will review and document how the off-site drainage toward Ash Pond A is handled and perform hydrologic/hydraulic analysis as may be required to document that the basins can safely store and/or pass the appropriate design flood.
4. **Recommendations Regarding the Description of the Management Unit(s)**
Page 1-3, Section 1.2.4 –
"Ash Pond A and Ash Pond B – none appear warranted at this time."
No Comment
5. **Recommendations Regarding the Field Observations**
Page 1-4, Section 1.2.5 –
"Ash Pond A and Ash Pond B – none appear warranted at this time."
No Comment
6. **Recommendations Regarding the Maintenance and Methods of Operation**
Page 1-4, Section 1.2.6 -
"Ash Pond A and Ash Pond B – none appear warranted at this time."
No Comment
7. **Recommendations Regarding the Surveillance and Monitoring Program**
Page 1-4, Section 1.2.7 –
"Ash Pond A Dam and Ash Pond B Dam – In addition to the informal inspections of the spoil bank from a boat along the Tailrace Canal, it is recommended that more detailed inspections along the spoil bank be performed at least once per quarter and be documented by a written report or checklist. It is further recommended that internal inspection of the outlet structures be performed at a frequency of a least once every 5 years and be documented with a written report."
Comment
Santee Cooper presently inspects the spoil bank annually by boat and will document these inspections. However, an inspection of the crest section would provide an additional level of safety. Santee Cooper will evaluate what is required to facilitate a quarterly inspection of the crest.

With regards to the internal inspection of the outlet structures, the CCR impoundment dikes are inspected every quarter, the dikes have less than 15 ft. of head, sound construction methods and materials were utilized, and that Santee Cooper has a good operational history. Based on this information it is not necessary to camera inspect the outlet structures at Ash Pond A and Ash Pond B dikes. If something is observed during an inspection that warrants further evaluation we will consider a more detailed inspection including the use of a camera at that time.

8. **Recommendations Regarding Continued Safe and Reliable Operation**
   Page 1-4, Section 1.2.8 –
   "Ash Pond A Dam and Ash Pond B Dam – No additional recommendation 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 dikes.
   Comment
   Santee Cooper concurs with the recommendation to periodically review downstream changes that may alter the hazard potential classification or assessment of the consequences of failure of the dikes.

Comments to Consultant's Impoundment NID Hazard Potential Ratings:

1. Ash Pond A — This impoundment is classified as very small in height with small storage and is approximately 80% full with nearly all of the freestanding water along the southeastern end near the outfall structure. A final condition rating should be postponed until additional work is completed to more accurately assess the hazard potential.
2. Ash Pond B – This impoundment is classified as very small in height with small storage and contains nearly all freestanding water. Santee Cooper concurs with the consultant's low hazard potential rating.

Comments to Consultant's Impoundment Condition Ratings:

The Dewberry & Davis draft report did not outline the criteria used to complete the condition ratings; however, the GEI Consultants, Inc. draft report for Grainger Generating Station included the criteria used to rate the condition of the CCR impoundments. The parameters are broad and do not specifically apply to the CCR impoundments found at Jefferies Generating Station. In addition, the criteria heavily consider engineering analysis of the CCR impoundments that were not previously required by Federal or State Regulation or as standard engineering practice at the time of original design. As previously mentioned, CCR impoundments owned and operated by Santee Cooper are not regulated by Federal and/or State dam safety standards. That being said, every CCR impoundment has been designed by a Professional Engineer using methods accepted by the Practice at that time. Furthermore, given the very small height classification, small storage classification, generally low consequences of failure, the

overall good condition of the basins and embankments, CCR consolidation, and exceptional performance record, Santee Cooper does not agree with the condition ratings found in the draft report by Dewberry & Davis. A revised condition rating for each impoundment and justification is provided as follows:

1. Ash Pond A – As summarized in the Dewberry & Davis draft report, this impoundment is a very low head structure (maximum 12.5' height) with a small storage potential (982 acre-feet). It is well maintained, safe, structurally sound, and there are no apparent indications of any unsafe conditions. In addition, there are no critical studies needed to identify any potential dam safety deficiencies. Therefore, the condition rating should be changed from "Poor" to "Satisfactory".
2. Ash Pond B - As summarized in the Dewberry & Davis draft report, this impoundment is a very low head structure (maximum 14.6' height) with a small storage potential (245 acre-feet). It is well maintained, safe, structurally sound, and there are no apparent indications of any unsafe conditions. In addition, there are no critical studies needed to identify any potential dam safety deficiencies. Therefore, the condition rating should be changed from "Fair" to "Satisfactory".