

US EPA ARCHIVE DOCUMENT



DUKE ENERGY CORPORATION

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Via E-Mail and Overnight Courier

June 3, 2011

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

Reference: Comments on Draft Dike Inspection Report
Cliffside Steam Station
Mooresboro, North Carolina

Dear Mr. Hoffman,

Duke Energy Carolinas, LLC (DEC) has received and reviewed the draft Coal Combustion Residue Impoundment Round 9 Dam Assessment Report (dated April, 2011) prepared by Dewberry & Davis, LLC on behalf of the US EPA. This report was the result of a specific site assessment of dam safety of the active coal combustion waste (CCW) impoundment located at the Cliffside Steam Station in Mooresboro, NC. The site assessment was conducted on February 23, 2011.

Duke Energy supports the EPA's objective to ensure dam safety of CCW impoundments, and we remain committed to managing our CCW impoundments in a safe and responsible manner. As such, we continue to implement our comprehensive operating, maintenance and inspection programs for each of our CCW impoundment dams to help protect the public and the environment. The EPA's report found that the dams and outlet works associated with the CCW impoundment at the Cliffside Steam Station were generally found to be in a satisfactory, well-maintained condition. These findings support our commitment, and DEC concurs with this opinion. However, during our review we noted the following comments and factual corrections, and we request they be addressed prior to issuing the final report. DEC comments and factual corrections to the referenced report are as follows:

On page 2-2, revise section 2.2.1 to state:

2.2.1 Fly Ash

Fly ash is collected at the base of the stack by an electrostatic precipitator. The collected ash is stored in hoppers and conveyed pneumatically to a silo for by-product sale or transferred to the air separator tank/hydroveyor for transport to the active ash pond. The quantity of discharge into the ash pond is dependent on available sales of fly ash and the quality of the fly ash.

Fly ash can also be collected from the economizer and SCR, from which it is then transferred to the air separator tank/hydroveyor for transport to the active ash pond.

On Page 2-3 the picture entitled "Fly Ash Hoppers" should state:

"Precipitator Fly Ash Hoppers"

On Page 2-3 the picture entitled "Fly Ash Silo" should state:

"Fly Ash Silo – used to store fly ash for sale"

The picture on page 2-4 entitled "Bottom Ash Collection" should be relabeled:

"Economizer Section of the Boiler"

Revise section 2.2.2 Bottom Ash/Slag as follows:

"Bottom ash/slag is collected from the furnace and conveyed through the same pipe as the fly ash into the active ash pond."

On Page 2-4, the picture in section 2.2.3 entitled "Boiler-Point of Boiler Slag Discharge" should be entitled:

"Boiler – Point of boiler bottom ash/slag discharge"

On Page 2-5, it is stated "The Cliffside Steam Station has a flue gas desulfurization unit. Residuals from that process are, at times, transported by pipeline to the ash pond; or may be transported out by truck (i.e. gypsum byproduct)." The statement "Residuals from that process are, at times, transported by pipeline to the ash pond; or may be transported out by truck" is incorrect. Revise this statement as follows:

"FGD material is trucked to the landfill and is not sluiced to the active ash basin."

On Page 5-1, section 5.2 is titled "Upstream Dike (CLEV 050)". Revise "(CLEV 050)" to: "(CLEVE-050)"

On Page 5-1 section 5.2.1 titled "Crest", it is stated "There was minor rutting along the upstream dike, left abutment crest." Since the inspection in February 2011, the ruts on the crest were repaired in May, 2011 as evidenced in the attached photographs.

On Page 5-4, section 5.2 is titled Downstream Dike (CLEV 049). Revise "(CLEV 049)" to:

"(CLEVE-049)"

On Page 7-3 section 7.1.4 titled "Factor of Safety and Base Stresses", it is stated that a five-year report was reviewed. The year and the consultant who performed the inspection and issued the report needs to be referenced in this section.

On page 7-3 section 7.1.5 titled "Liquefaction Potential", it is stated that MACTEC's five year report was reviewed. The year of this report needs to be stated.

If you have any questions, please contact me at our corporate offices at 980-373-3719 or via e-mail at ed.sullivan@duke-energy.com.

Sincerely,



D. Edwin M. Sullivan, P.E.
Consulting Engineer
Environment, Health, & Safety

Attachment:
Photographs showing repaired ruts on left abutment crest.



NOTE

Subject: EPA Comments on Duke Energy Corp, Cliffside Power Station,
Mooresboro, NC
Round 9 Draft Assessment Report

To: File

Date: April 18, 2011

1. On pp. 1-1 and 4-1, Sections 1.1 and 4.1.1, replace: "Duke Power Company" with "Duke Energy Corporation."
2. On p. 4-2, Section 4.2.3, rephrase the following sentence: "Original operational procedures appear to be effect."
3. The check sheet is specifically for the active ash pond. There is no delineation between the upper and lower embankments, however, the text separates the two as distinct units. There needs to be uniformity in the use of labels for the units: Upstream and Downstream Embankments (p. 2-2); Ash pond (pp. 2-2, 2-5); Active Ash Pond (pp. 2-3, 2-4).
4. The company 104(e) response included Retired Units 1-5 Basin. No discussion at all in the draft report on any of these units. Please verify:
 - For Retired Unit 5 closed and covered with soil implies no hydrostatic forces on embankment, so that seems fine as long as it is unable to impound water in the future.
 - For Units 1-4 (1) ask whether these units contain CCRs or are they just used to transfer liquids; (2) if they are impounding CCRs, units must be assessed .
5. On p. 7.3, Section 7.1.4 – "Factors of Safety and Base Stresses" of draft report, EPA contractor notes that the factor of safety assessed in a 1997 Duke contractor (MACTEC) report ranged from 1.35 to 1.4 on the potential failure arcs on the 2H:1V portion of the inside slope. These values are less than acceptable Factors of Safety as required by US Army Corps of Engineers standards, which requires a minimum factor of safety of 1.5 for steady state loadings. The attached MACTEC report confirms an assessed factor of safety of less than the proscribed US ACE value of 1.5, with values of 1.27 and 1.38 for steady state seepage loadings. The lower than prescribed factors of safety are not discussed; is this an area of concern? Please address this issue in the Final Report.
6. The following question was not addressed in report: "Is any part of the impoundment built over wet ash, slag, or other unsuitable materials (like TVA)?" Please include this and the response at the end of the field observation checklist.