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Via E-Mail and Overnight Courier

February 13, 2012

Mr. Stephen Hoffman
US Environmental Protection Agency
Two Potomac Yard
2733 S. Crystal Drive
5th Floor, 5304P
Arlington, VA 22202-2733

Reference: US EPA Request for Action Plan
Cliffside Steam Station
Mooresboro, North Carolina

Dear Mr. Hoffman,

Duke Energy Carolinas, LLC (DEC) has received and reviewed the Final Coal Combustion Residue Impoundment, Round 9 - Dam Assessment Report for Cliffside Steam Station Ash Basin Dikes, dated August 2011. The report was prepared by Dewberry & Davis, LLC on behalf of the US EPA and was received under the US EPA cover letter titled Request for Action Plan regarding Duke Energy Corp – Cliffside Power Station (dated January 12, 2012). This report was the result of a specific site assessment of the dam safety of the coal combustion residual (CCR) impoundment located at the Cliffside Steam Station in Mooresboro, North Carolina. The site assessment was conducted on February 23, 2011.

Duke Energy supports the EPA's objective to ensure dam safety of CCR impoundments and remains committed to managing its CCR impoundments in a safe and responsible manner. As such, we continue to implement our comprehensive operating, maintenance and inspection programs for each of our ash basin dams to help protect the public and the environment. EPA's report on the Cliffside Steam Station found the dams and outlet works facilities associated with the CCR impoundment in a satisfactory, well-maintained condition. However, the EPA's contractor did state several conclusions regarding the safety of the impoundment and recommendations to perform supplementary engineering analyses and monitor areas identified. As requested, Duke Energy has developed an action plan in response to each of these conclusions and recommendations as follows:

## 1.1 CONCLUSIONS

### 1.1.1 Regarding the Structural Soundness of the Management Unit(s)

*The dike embankments and spillway appear to be structurally sound based on a review of the engineering data provided by the owner's technical staff and Dewberry engineers' observations during the site visit.*

**Response:** Duke Energy agrees with this conclusion.

**1.1.2 Regarding the Hydrologic/Hydraulic Safety of the Management Unit(s)**
*Adequate capacity and freeboard to safely pass the design storm (full Probable Maximum Precipitation (PMP)) has not been demonstrated. Hydrologic and hydraulic analyses provided to Dewberry indicate there is adequate impoundment capacity to contain the 1/2 PMP design storm without overtopping the dikes. (Appendix A: Doc 0 I - 2007 Five-Year Inspection Report).*

**Response:** Reference the response to recommendation 1.2.1 regarding the hydrologic and hydraulic safety.

**1.1.3 Regarding the Adequacy of Supporting Technical Documentation**
*Supporting documentation reviewed by Dewberry is inadequate. Although documentation was provided for the hydrologic/hydraulic safety analysis, the PMP design storm was not assessed. Remaining supporting technical documentation is adequate. Engineering documentation reviewed is referenced in Appendix A of the final report.*

**Response:** Reference the response to recommendation 1.2.1 regarding the hydrologic and hydraulic safety.

**1.1.4 Regarding the Description of the Management Unit(s)**
*The description of the management unit provided by the owner was an accurate representation of what Dewberry observed in the field.*

**Response:** Duke Energy agrees with this conclusion.

**1.1.5 Regarding the Field Observations**
*The visible parts of the embankment dikes and outlet structure were observed to have no signs of overstress, significant settlement, shear failure, or other signs of significant instability although widespread seepage was observed along the toe of the upstream dike which needs to continue to be monitored. There are no apparent indications of unsafe conditions or conditions needing remedial action.*

**Response:** Duke Energy agrees with this conclusion.

**1.1.6 Regarding the Adequacy of Maintenance and Methods of Operation**
*The current maintenance and methods of operation appear to be adequate for the ash management unit. There was no evidence of significant embankment repairs or prior releases observed during the field inspection. However there were minor ruts from erosion along the upstream dike, left abutment crest.*

**Response:** Duke Energy agrees with this conclusion. Reference the response to recommendation 1.2.3 regarding the ruts along the upstream dike, left abutment crest.

**1.1.7 Regarding the Adequacy of the Surveillance and Monitoring Program**
*The surveillance program appears to be adequate. The management unit dikes are instrumented. Multiple piezometers and observation wells have been installed as instrumentation. However, widespread seepage at the toe of the upstream dike and seepage at the toe of the downstream dike need to be monitored and recorded. If discoloration or changes in the flow are observed, then an action plan should be developed.*

**Response:** Please reference the response to recommendation 1.2.2 regarding the field observations.

**1.1.8 Classification Regarding Suitability for Continued Safe and Reliable Operation**
*The facility is SATISFACTORY for continued safe and reliable operation. No existing or potential management unit safety deficiencies are recognized. Acceptable performance is expected under all applicable loading conditions (static, hydrologic, seismic) in accordance with the applicable criteria.*

**Response:** Duke Energy agrees with this conclusion.

**1.2 RECOMMENDATIONS**

**1.2.1. Regarding the Hydrologic/Hydraulic Safety**
*Perform hydrologic/hydraulic analysis to document adequate freeboard exists to pass the PMP event.*

**Response:** AMEC performed a hydraulic and hydrologic (H&H) analysis to verify the adequacy of the freeboard to safely pass the full PMP design storm. Results indicated that the active impoundment at Cliffside Steam Station can safely pass the full PMP event as presented in AMEC's report "Full PMP Spillway Capacity Analysis for Cliffside Steam Station" dated November 10, 2011. Duke Energy considers this recommendation complete.

**1.2.2 Regarding the Field Observations**
*Continue to monitor seepage along the toe of both embankments.*

**Response:** These areas of seepage are monitored and documented monthly by trained station personnel as part of the Duke Energy Fossil Impoundment Inspection Program. Duke Energy considers this recommendation complete.

**1.2.3 Regarding the Maintenance and Methods of Operation**
*Remediate minor rutting along upstream dike, left abutment crest.*

**Response:** As stated in Section 5.2.1 of the EPA's report, this minor rutting area was remediated shortly after the site assessment on February 23, 2011. The EPA report contains photographs that document this repair. Duke Energy considers this recommendation complete.

If you have any questions regarding the above responses, please contact Ed Sullivan at our corporate offices at 980-373-3719 or via e-mail at Ed.Sullivan@duke-energy.com.

Sincerely,
Duke Energy Carolinas, LLC

Rick Roper
Station Manager, Cliffside Steam Station
Duke Energy Regulated Generation