

US EPA ARCHIVE DOCUMENT



DUKE ENERGY CORPORATION
526 South Church Street
Charlotte, NC 28202

Mailing Address:
P.O. Box 1006
Charlotte, NC 28201

Via E-Mail and Overnight Courier

October 5, 2009

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

RE: US EPA Request/ICR # 2350.01
Dan River Steam Station
900 South Edgewood Road
Eden, North Carolina 27288

Dear Mr. Hoffman,

Duke Energy Carolinas, LLC (DEC) received and has reviewed the final draft report for the Dan River facility that resulted from the site assessment of the Primary and Secondary Ponds conducted by the US EPA and its engineering contractors on May 27-28, 2009. Duke Energy supports the EPA's objective to ensure ash basin dam safety. We have a comprehensive and robust monitoring, maintenance, and inspection program in place for all of our coal ash basin dams and remain committed to operating and maintaining these facilities safely.

The impoundment facilities at Dan River are currently under the regulatory authority of the North Carolina Utilities Commission. The Commission requires Duke Energy to have an inspection performed every five years by an independent consultant using qualified licensed Professional Engineers. The consultants utilized by Duke Energy to meet this requirement are equally qualified as those used by the EPA for its assessment. Effective January 1, 2010, the facilities will be under the regulatory authority of the North Carolina Department of the Environment and Natural Resources (NCDENR), Division of Land Resources, Office of Dam Safety. The Office of Dam Safety will conduct an assessment/inspection of the impoundments at a minimum of once every two years and in practice, plans to do the inspections once a year. Duke Energy also plans to continue our rigorous internal inspection program.

EPA's engineering contractor has rated the Dan River impoundments in accordance with the National Inventory of Dams rating criteria as "Significant Hazard Potential". As previously noted, this rating is not an indication of the structural integrity of the impoundment, but of the hazard potential if the impoundment were to fail. "Significant Hazard Potential" is used where failure results in no probable

loss of human life but can cause significant economic loss, environmental damage, disruption of lifeline facilities, or impact other concerns. In our response to the CERCLA 104(e) Request for Information Question #1 submitted last March for Dan River, we stated that no National Inventory of Dams criteria rating had been assigned to the Dan River structures by a State or Federal agency; however, the North Carolina Utilities Commission had classified the structures as "high hazard" under the North Carolina Dam Safety Rules due to the potential environmental damage of an ash release in the event of failure. This highlights the difference between the North Carolina rating criteria where high hazard potential is a classification also used if economic damage of greater than \$200,000 is expected; versus the National Inventory of Dams criteria where high hazard potential is reserved for those cases where there would be a probable loss of human life. The National criteria rating of "Significant Hazard Potential" from the contractor is an accurate reflection of the reasoning behind the North Carolina rating of "High Hazard Potential". The EPA's engineering contractor's rating is a reduction in rating from that previously released by the EPA of high hazard from the CERCLA 104(e) Request for Information.

Duke Energy remains committed to meeting all state and federal requirements and to managing its coal combustion byproducts impoundments in a very safe and responsible manner. We are confident, based on our ongoing monitoring, maintenance and inspections, that each of our ash basin dams has the structural integrity necessary to protect the public and the environment. EPA's report supports this conclusion and found that acceptable performance is expected in accordance with the applicable safety regulatory criteria. EPA's contractor did, however, make several recommendations to address minor deficiencies and secondary studies/investigations to provide further assurance of continued structural integrity. Duke Energy responds to each of these recommendations as follows:

- 4.1. *It is recommended that the stability study planned to be performed using the new instrumentation recommended in the last quintennial report and recently installed be performed as soon as enough data has been collected to provide an adequate baseline. In addition to re-evaluation of the embankment with the new data and in light of the apparent trend of seepage to move up the downstream face of the southern embankments, an incremental analysis should be performed to determine at what piezometric levels actions are required to remediate the structure. The embankments comprising the Primary and Secondary Ponds are susceptible to seepage based failure modes as they are constructed chiefly of silty materials and ash, have relatively steep design slopes, and were constructed without the benefit of internal drainage systems. It is possible that the surface slides noted in the inspection are related to localized pore pressure increases caused by the rising piezometric surfaces in the structures. As such, surface slides are likely to continue and potentially deepen if untreated.*

Schedule: *ASAP after a baseline trend has been established for the new instrumentation.*

Duke Energy proposed this same data collection effort and re-evaluation to the North Carolina Utilities Commission in March, 2009. This effort is in progress. We have already forwarded available instrument readings to our third-party engineering consultant and will conduct additional stability analysis by January 31, 2010, based upon the third-party engineering consultant's recommendation after review of the data.

- 4.2. *It is recommended that in conjunction with continued monitoring of the riverbank movement monuments, a global stability study be performed to determine at what level of lateral movement*

of the riverbank that dam safety is compromised. Based on this analysis, action levels tied to the annual survey measurements should be established for remediation/stabilization of the riverbank.

Schedule: *This analysis should be performed in conjunction with the next surveying of the monuments.*

Duke Energy will conduct and complete a study of riverbank movement and establish action levels by January 31, 2010.

- 4.3. *It is recommended that efforts to control nuisance animal activity continue, including regular mowing of the embankments and removal of the animals. In addition, care should be taken when backfilling burrows, as improper or incomplete filling can provide a ready-made conduit for piping type failure modes. Useful resources for dealing with nuisance animals in embankments are available at www.damsafety.org.*

Schedule: *The current animal control practices should be continued, with additional care taken when backfilling per the referenced resources.*

As recommended, Duke Energy will continue with our current animal control practices. This action item is considered complete.

- 4.4. *Several decaying stumps were noted in the area of the southwestern corner of the Primary Pond. These stumps should be removed as completely as possible without affecting embankment stability and the holes backfilled with compacted material that is compatible with the existing embankment. Useful resources for dealing with nuisance plants in embankments are available at www.damsafety.org.*

Schedule: *Stump removal and backfill should be performed within the next two years.*

Duke Energy will address the referenced stumps by January 31, 2010 in accordance with the guidance issued by the North Carolina Department of Environment and Natural Resources, Land Quality Section, Dam Safety Office.

- 4.5. *The current inspection frequencies and site maintenance appear to be suitable for the structures inspected. Continued vigilance and adherence to current schedules is recommended. In addition the recommendations provided in the Sixth Independent Consultant Report (repeated in **Section 3.2**) should be completed per the recommendations of the Consultant.*

Schedule: *Per the recommendations of the Sixth Independent Consultant Report.*

Duke Energy is complying with the recommendations provided in the Sixth Independent Consultant Report in accordance with our response to each recommendation as previously submitted to and reviewed by the North Carolina Utilities Commission, our current regulatory authority. This action item is considered 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.

October 2, 2009
Mr. Stephen Hoffman
Page 4

Sincerely,
Duke Energy Carolinas, LLC

A handwritten signature in blue ink, appearing to read "Stephen A. Townsend". The signature is fluid and cursive, with a large initial "S" and a distinct "A" and "T".

Stephen A. Townsend
General Manager II, Dan River Steam Station
Regulated Fossil Stations