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

January 4, 2010

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
Marshall Steam Station
8320 East North Carolina 150 Highway
Terrell, North Carolina 28682

Dear Mr. Hoffman,

Duke Energy Carolinas, LLC (DEC) received and has reviewed the final draft report for Marshall Steam Station that resulted from the site assessment of the Coal Ash Retention Pond 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 Marshall 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 Marshall impoundment 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 Marshall, we stated that no National Inventory of Dams criteria rating had been assigned to the Marshall structure by a State or Federal agency; however, the North Carolina Utilities Commission had classified the structure 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:

Section 3.2 Studies and Analyses

1. *An updated stability analysis of the upstream and downstream embankment slopes including an analysis of shallow slope failure (especially for the as built upper downstream slopes, which appear steeper than 2H:1V) should be conducted after surveying the actual configuration of the slopes.*

   Duke Energy will have a third-party engineering consultant verify the grade of the downstream slope and conduct the recommended slope stability analysis by October 31, 2010. In addition, please see the attached (Enclosure 1) for the shallow slope failure analysis from our consultant, MACTEC. It was MACTEC's conclusion that the failed areas were shallow slumps on the downstream fill slopes. The shallow surface failures did not compromise the overall global stability of the main dike.

2. *Duke Energy has retained an outside consultant to provide an engineered repair of the scarps, but rather than approach this issue as an isolated repair, GZA recommends investigating the cause of the scarps more thoroughly (including but not necessarily limited to item 1 above).*

   As noted, Duke Energy had retained a third party engineering firm, MACTEC Engineering and Consulting, Inc., to develop and implement an engineered repair of the scarps as a part of our planned maintenance activities. Engineering was in progress during the time of the EPA inspection. Repairs were completed in September, 2009. MACTEC determined during the course of their analyses that the slope failures are the result of local surficial soil instability and any deep

seated failures are unlikely. Observations made during the subsequent repairs confirmed this assessment. This recommendation is considered complete.

3. *Observations of the upper downstream toe should be made at periods of low rainfall to determine whether the wet and spongy conditions observed at the toe were due to surface water runoff or internal seepage. Further study should be conducted to correct the migration of dam core material that is being deposited on the berm.*

   The inspection by EPA's engineering contractor was conducted during a period of wet conditions due to significant rainfall events prior to and during the inspection. Observations made during dry weather conditions by our third party contractor, MACTEC Engineering and Consulting, during 2004, 2008 and 2009 did not indicate seepage at the downstream slope. Additionally, subsurface conditions observed during the recent repairs in September, 2009 (described in Item 2 above), confirmed the integrity of the downstream slope.

   Soil deposited on the berm during the wet conditions at the time of the EPA site visit was due to surface erosion from the shallow failed areas described in Item 2 above, which have been repaired. No evidence was found during the repairs to support the assumption that this soil came from the core of the dam.

   This recommendation is considered complete.

4. *Surface grading and the extent and condition of the drainage system (including video camera survey of pipe interiors and related drainage infrastructure where appropriate) at and adjacent to the dam should be evaluated.*

   The drainage system has been inspected and is in good working order. Surface grading repair is addressed in Section 3.4, Recommendation #1 below. The evaluation and inspection of surface grading and the drainage systems is a part of Duke Energy's ongoing inspection and maintenance program for the main dam. This recommendation is considered complete.

Section 3.4 Repair Recommendations

1. *Repair of surface drainage system and grading including minor depressions found on the crest.*

   The drainage system has been inspected and is functioning properly. Duke Energy will make the necessary repairs to the surface grading, including minor depressions on the crest, by January 31, 2010.

2. *Investigate seeps at the downstream toe in dry weather, with repairs designed by a professional engineer and construction by a contractor experienced in dam repair.*

   This is the same concern identified in Section 3.2, Item 3, above. Observations made during 2004, 2008 and 2009 indicated no seepage at the downstream slope during dry weather conditions. As no seepage problems exist, no repairs are required. The identification and investigation of seeps is a part of Duke Energy's ongoing inspection and maintenance program for the main dam and will be continued. This recommendation is considered complete.

Section 3.5 Remedial Modifications Recommendations

These recommendations will require design by a professional engineer and construction by a contractor experienced in dam repair. A Dam Safety Permit will likely be required.

1. *Investigation and repair of the scarps and potential improvements required to meet the required factors of safety for embankment stability if found necessary by the analysis recommended above.*

   The investigation and repair of the scarps has been completed as described in Section 3.2 Item #2 above. Repairs were completed on September 15, 2009. The potential improvements required to meet the factors of safety for embankment stability is the same concern as addressed in Section 3.2 Item #1 above and the date given for final resolution still applies. This recommendation is considered complete.

2. *Trees and their root system and undergrowth within approximately 10 feet of the toe of the downstream slope (north of the boat ramp adjacent to the outlet channel) and along the southern upstream slope should be removed. The trees and root systems growing along the downstream slope of the berm are not considered to be a major dam safety issue given the 200 to 300 foot wide berm. However, erosion and vegetation along the downstream slope of the berm should be maintained.*

   Duke Energy will address all trees and roots in these areas 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. Adequate vegetation along the downstream slope of the berm will be maintained to prevent erosion.

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.

Sincerely,
Duke Energy Carolinas, LLC

David A. Renner

David A. Renner
General Manager III, Marshall Steam Station
Regulated Fossil Stations