



North Carolina Department of Environment and Natural Resources  
Division of Land Resources

James D. Simons, PG, PE  
Director and State Geologist

Beverly Eaves Perdue, Governor  
Dee Freeman, Secretary

**Certificate of Approval**

November 30, 2010

Permit No.	Date	DIN
3612	December 2, 2010	12333

CERTIFIED MAIL  
RETURN RECEIPT

RECEIVED  
**December 2, 2010**  
Solid Waste Section  
Asheville Regional Office

Duke Energy Corporation  
Attn: Mr. B. Henry Taylor, PE, Senior Engineer  
Procurement, Construction and EH&S – Environmental Projects  
EC11Y P.O. Box 1006  
Charlotte, North Carolina 28201-1006

RE: Allen Retired Ash Basin Dam  
Approval to Modify  
Gaston County  
State Dam ID: GASTO-016

Dear Mr. Taylor:

This is in response to your submissions dated and received as follows of plans, specifications and design data for modification of the subject dam in compliance with the Dam Safety Law of 1967.

1. "OPERATIONS PLAN RETIRED ASH BASIN (RAB) – ASH LANDFILL ALLEN STEAM STATION BELMONT, NORTH CAROLINA" document dated March 11, 2008, revised September 3, 2010. This document was received on September 9, 2010.
2. "Permit to Operate – Modifications Request" document dated September 3, 2010. This document was received on September 9, 2010.
3. "Permit to Operate – Modifications Request – Response to NCDENR Comments" document dated November 11, 2010. This document was received on November 12, 2010.

This dam is of high hazard classification. These plans, specifications and design data were prepared under the supervision of Mr. Kenneth R. Daly, PE, with S&ME, Inc.

This letter constitutes approval of the proposal to modify the subject dam according to the plans and specifications received by this Division on September 9, 2010, revised November 12, 2010 with the following stipulations:

1. Project construction shall be supervised by Mr. Kenneth R. Daly, PE. Mr. Kenneth R. Daly, PE shall be responsible for field observation of construction as necessary to ensure compliance with approved plans. Mr. Kenneth R. Daly, PE shall provide a report to this office on March 31, June 30, September 30 and December 31 of each year for the duration of the project beginning in 2011. The report is to be in a format which will certify that material placement to date is in accordance with approved compaction requirements and provide professional opinion as to whether material strength parameters assumed in the structural analyses by S&ME, Inc. dated February 18, 2009 and May 1, 2009 remain valid. This report is to be provided in digital format.
2. During construction, the Division of Land Resources may require such progress reports as are deemed necessary.
3. The Operations Plan shall be revised as follows for quality control of compaction effort on dry placed waste ash material:
  - a. Waste fill shall be compacted to a minimum of 95 (ninety-five) percent of its Standard Proctor (ASTM D698) maximum dry density. Compacted moisture content shall be within 5 (five) percent of optimal moisture content.
  - b. Cells 1 and 3: At minimum, perform in-place density tests at a frequency of one test per 8,000 cubic yards (or one test per 216,000 square feet of 12-inch thick lift). At minimum, develop one moisture-density relationship (Standard Proctor test – ASTM D698) at a frequency of one test per 50,000 cubic yards of material placed.
  - c. Cells 2 and 4: At minimum, perform in-place density tests at a frequency of one test per 2,000 cubic yards (or one test per 54,000 square feet of 12-inch thick lift). At minimum, develop one moisture-density relationship (Standard Proctor test – ASTM D698) at a frequency of one test per 20,000 cubic yards of material placed.
4. In accordance with GS 143-215.29 and NCAC 15A-2K .0203, .0212, .0215, and .0216, within 30 days of completion of the project, Mr. Kenneth R. Daly, PE shall inspect the completed work and upon finding that the work has been done as specified and the dam is safe, shall file with the Division of Land Resources two sets of record drawings and a certificate stating that the work has been completed in accordance with approved plans, specifications and other requirements.
5. Final approval for operation of this dam must be issued by the Division of Land Resources upon project completion.
6. An emergency action plan (EAP) is required for all high hazard dams. It is strongly recommended that the EAP be submitted prior to commencing modifications to address

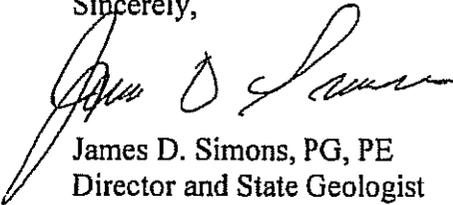
problems that may arise during construction. Nevertheless, the EAP must be received prior to March 31, 2011 or this approval is void.

7. You must notify Mr. Zahid Khan, Regional Engineer, Land Quality Section, 610 East Center Avenue, Mooresville, North Carolina 28115, (704) 663-1699 ten days before the start of construction.

The Army Corps of Engineers and the Water Quality Section of this Department should be contacted to determine if additional permits are required. Also, the erosion and sediment control program having jurisdiction should be contacted to determine permit requirements. In any case, sediment must be prevented from entering the waters of the state or flowing onto neighboring property.

Construction of the modifications must begin within one year of the date of this letter or this approval is void. For assistance you may contact the Mooresville Regional Office at (704) 663-1699 or a staff member of the Dam Safety Program in the Raleigh Central Office at telephone number (919) 733-4574.

Sincerely,



James D. Simons, PG, PE  
Director and State Geologist

JDS/smm

cc: Mr. Kenneth R. Daly, PE, with S&ME, Inc.  
Mr. Zahid Khan, Land Quality Regional Engineer  
Surface Water Protection Regional Supervisor

File name: GASTO-016\_20101130\_COAM\_Allen Retired Ash Basin Dam.doc

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY	
<ul style="list-style-type: none"> <li>■ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</li> <li>■ Print your name and address on the reverse so that we can return the card to you.</li> <li>■ Attach this card to the back of the mailpiece, or on the front if space permits.</li> </ul>	A. Signature <b>X</b> <span style="float: right;"><input type="checkbox"/> Agent <input type="checkbox"/> Addressee</span>	
1. Article Addressed to:  Duke Energy Corporation Attn: Mr. B. Henry Taylor, PE Procurement, Construction and EH&S – Environmental Projects EC11Y P.O. Box 1006 Charlotte, North Carolina 28201-1006	B. Received by ( <i>Printed Name</i> )	C. Date of Delivery
2. Article Number <i>(Transfer from service label)</i>	D. Is delivery address different from Item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No	
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PS Form 3811, February 2004 <span style="margin-left: 100px;">Domestic Return Receipt</span> <span style="margin-left: 50px;"><b>GASTO-016</b></span> <span style="float: right;">102595-02-M-1540</span>		

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