



North Carolina Department of Environment and Natural Resources

Dexter R. Matthews, Director

Division of Waste Management

Michael F. Easley, Governor
William G. Ross Jr., Secretary

March 23, 2006

Mr. Pat McCabe, P.E.
Environmental Support
Duke Power
526 S. Church Street
EC10A / PO Box 1006
Charlotte, NC 28201-1006

RE: Compliance Demonstration Report & Construction Plan Application,
Volumes 1&2– Addendum Revision 1 – December 15, 2005 - Phase 1-
Cells 1&2
– by Chas. H. Sells, Inc.
Duke Power, Marshall Steam Station
FGD Scrubber Residue Landfill
Catawba County, NC
Review Comments
Permit No. 18-04

Dear Mr. McCabe,

On March 13, 2006, I received a revised Construction Plan Application and Compliance Demonstration Report (dated December 15, 2005 by Chas. H. Sells) for Cells 1&2 of Phase 1. The original Construction Plan Application for Cell 1 was submitted to the SWS in March 2004. The (SWS) issued a Permit to Construct for Cell 1 of this landfill on January 14, 2005. This permit would allow construction of an unlined landfill. At the end of 5 years, the landfill would be covered with an engineered cover system.

Compliance Demonstration

According to the Construction Plan Application (December 15, 2005)
“Subsequent to the issuance of the Permit to Construct, Duke performed additional leaching tests on the clarifier sludge filter cake, an additional waste stream to be placed in this landfill. This material is a filter cake generated by sludge from the FGD wastewater treatment system. Testing of this material indicated placement of this material in an unlined landfill was not acceptable and that a synthetic liner would be required for disposal of this material”.

Pat McCabe

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According to the Compliance Demonstration Report (December 15, 2005), the changes in the modeling from the previous Compliance Demonstration Report (November 2004) are:

1. *“Reduced infiltration rates based on the addition of a leachate collection and removal system, an HDPE liner, and a geosynthetic clay liner underlying the HDPE liner. The infiltration rates for the unlined landfill were 1.55 ft/year during the operational period. The reduced infiltration rates for the lined landfill are 8.3E-7 ft/yr during the operational period”.*
2. *“Modeling of additional constituents; boron chloride, and selenium”.*

Revised HELP model information contained in the Construction Plan Application (December 15, 2005) were used in the MYGRT fate and transport analyses.

Based on the addition of the proposed liner modification, and revised modeling, HELP and MYGRT, the documentation depicts no exceedances of 2L Groundwater Standards at the Compliance Boundary. I concur with these results; however, this does not negate the requirement to monitor ground-water and surface water at the site; the Water Quality Plan shall still be adhered to.

Construction of Cell 2

On June 15, 2004, the SWS issued to Duke Power a Site Suitability Approval letter for 20.64 acres. As mentioned previously, the SWS also issued a Permit to Construct for Phase 1, Cell 1 on January 14, 2005.

The Construction Plan Application (December 15, 2005), Volume 1-Section 1.1 states in part: *“the landfill footprint contains approximately 31.9 acres and will consist of two cells. Cell 1 which will be constructed and filled first, has a footprint of 14.8 acres. Cell 2 has a footprint of 17.1 acres”.*

Please clarify the difference between the 20.64 acres approved for site suitability on June 15, 2004 by the SWS and the 31.9 acres mentioned in the Construction Plan Application for Cells 1 and 2.

Also, according to the letter by Ellen Lorscheider on December 15, 2004 to Allen Stowe of Duke Power; the paragraph under the section titled “Construction Plan Application” states in part the following: *“Cell 2 will be handled under a*

separate Permit to Construct (PTC). It would be impossible to include that area in this PTC, as the Paper work is not complete. Additionally it will be necessary to evaluate hydrogeologic conditions before construction is started in the area of wetland mitigation”.

The Construction Plan Application (December 15, 2005), Volume 1-Section 5.3 states in part: *“An intermittent stream and wetland area of 0.56 acres are located within the landfill footprint for Cell 2. The stream and wetland area were investigated by a qualified wetlands specialist. Representatives from the US Army Corps of Engineers (USACOE) and from the NCDENR Water Quality Section visited the site and confirmed the presence of jurisdictional boundary of the stream and wetland area (Waters of the U.S.) This was documented per USACOE notification action report ID: 2003300369. Subsequent to the delineation, the stream and wetland area was surveyed and documented on site drawings. The intermittent stream will be re-routed south of the future Cell 2 area as shown on the Cell 2 Grading Plan. Prior to disturbance of the stream and wetland area, appropriate permitting will be completed.”*

Please provide documentation stating approval of the wetland area(s) [i.e. letter(s), permit(s) for approval].

Also, based on the current and historical information submitted, the footprint and compliance area of proposed Cell 2 needs to be characterized further to determine geology and hydrogeological factors. Review of some of the information on file from previous site suitability studies does not show ample borings in the proposed footprint area of Cell 2 to meet design requirements. For site design requirements, it is the SWS policy that a minimum of 1 boring per acre be installed in the footprint and compliance areas to determine, lithology, water levels, seasonal high groundwater, top of bedrock, hydraulic conductivity, total & effective porosity, etc. Therefore, a Hydrogeologic Design Report providing this information needs to be submitted for Cell 2.

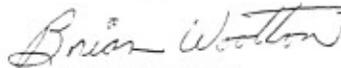
Also, submit a Water Quality Plan that depicts ample ground-water and surface water monitoring for both Cells 1 & 2 of Phase 1.

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Pat McCabe
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Please note the comments and questions mentioned above and have your Engineering and Geologic Consultants provide additional information and revisions as needed. If you, your Geologic Consultant, or your Engineering Consultant have any questions, or wish to schedule a meeting to discuss the items referenced in this letter, please call me at (919) 508-8524.

Sincerely,



Brian Wootton
Hydrogeologist
Solid Waste Section

cc:	Ed Mussler	Solid Waste Section
	John Murray	Solid Waste Section
	Al Hetzell	Solid Waste Section
	Central File	