



FACILITY COMPLIANCE INSPECTION REPORT
Division of Waste Management
Solid Waste Section

UNIT TYPE:

Lined MSWLF		LCID		YW		Transfer		Compost		SLAS		COUNTY: Stokes PERMIT NO.: 8505-INDUS- FILE TYPE: COMPLIANCE
Closed MSWLF		HHW		White goods		Incineration		T&P		FIRM		
CDFL		Tire T&P / Collection		Tire Monofill		Industrial Landfill	<input checked="" type="checkbox"/>	DEMO		SDTF		

Date of Site Inspection: 4/27/2015

Date of Last Inspection: 9/26/2013

FACILITY NAME AND ADDRESS:

Duke Energy Carolinas, LLC
 Belews Creek Steam Station
 FGD Residual Landfill
 3195 Pine Hall Road
 Belews Creek, North Carolina 27009

GPS COORDINATES: N: 36.27908 W: -80.05890

FACILITY CONTACT NAME AND PHONE NUMBER:

Melonie Martin, Environmental Coordinator
 Office: 336-445-0610, Cell: 336-669-2994
 E-mail: melonie.martin@duke-energy.com

Kimberlee Hutchinson, PE, Sr. Engineer - Environmental Services
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 E-mail: kim.hutchinson@duke-energy.com

FACILITY CONTACT ADDRESS:

Duke Energy Carolinas, LLC
 Belews Creek Steam Station
 3195 Pine Hall Road
 Belews Creek, North Carolina 27009

PARTICIPANTS:

Shawn McKee, NCDENR, Solid Waste Section, Environmental Senior Specialist
 Hugh Jernigan, Solid Waste Section, Environmental Senior Specialist
 Larry Frost, NCDENR, Solid Waste Section, Engineering Project Manager
 Elizabeth Werner, NCDENR, Solid Waste Section, Permitting Hydrogeologist
 Kim Hutchinson, Duke Environmental, Duke Energy
 Evan Andrews, Duke CCP, Duke Energy
 Will Harrison, Duke CCP, Duke Energy
 Melanie Martin, Duke Environmental, Duke Energy

STATUS OF PERMIT:

Notification of the Site Suitability	June 19, 2006
Permit to Construct, New Permit	June 29, 2006
Permit to Operate, New Permit	January 24, 2008
Permit to Operate, Modification, dust control and chimney drains	August 5, 2011
Permit to Operate, Amendment, five (5) year renewal	October 22, 2012
The Permit to Operate shall expire January 24, 2018	

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PURPOSE OF SITE VISIT:

Comprehensive Inspection

STATUS OF PAST NOTED VIOLATIONS:

None

OBSERVED VIOLATIONS

None

The item(s) listed above were observed by Section staff and require action on behalf of the facility in order to come into or maintain compliance with the Statutes, Rules, and/or other regulatory requirements applicable to this facility. Be advised that pursuant to N.C.G.S. 130A-22, an administrative penalty of up to \$15,000 per day may be assessed for each violation of the Solid Waste Laws, Regulations, Conditions of a Permit, or Order under Article 9 of Chapter 130A of the N.C. General Statutes. Further, the facility and/or all responsible parties may also be subject to enforcement actions including penalties, injunction from operation of a solid waste management facility or a solid waste collection service and any such further relief as may be necessary to achieve compliance with the North Carolina Solid Waste Management Act and Rules.

ADDITIONAL COMMENTS

1. The facility under Permit No. 85-05 (22.6 acre landfill footprint) is utilized primarily for the disposal of residuals generated from the flue gas desulfurization (FGD) process at the Belews Creek Steam Station. Landfilling operations at the site commenced April 2008.
2. The facility is permitted to operate 24 hours a day, 7 days a week. The facility is in operation on an as needed basis. Operations rarely occur outside of daylight hours.
3. The current facility Solid Waste Permit (Issuance date October 22, 2012 and approved Operations Plan (plan revision date May 23, 2012) were reviewed during the inspection.
4. The approved Operations Plan (listed in Section 2.1.2) allows for the disposal of coal combustion by-products, gypsum produced by the flue gas desulfurization (FGD) process, waste water treatment sludges produced by the flue gas desulfurization process, waste limestone materials, sand blast materials, and coal waste generated by the Belews Creek Steam Station.
5. The facility is currently landfilling only gypsum. The FGD gypsum is mined and transported to wallboard producers when demand for gypsum exceeds production.
6. The facility is operated by Charah, Inc. which is responsible for hauling materials to the landfill, daily operations of the landfill, and conducting other associated activities.
7.
 - a. Annual internal training on the Belews Creek Landfill Operations Plan was last conducted 8/21/2014.
 - b. The following Charah, Inc. personnel are NC Certified Landfill Manager:
 - Andrew Reisling, Certification #14-02-00116, exp. 7/23/17
 - Justin Mize, Certification #11-02-00022, exp. 6/22/17
 - c. The following Charah, Inc. personnel are NC Certified Landfill Operator:
 - Andrew Reisling, Certification #14-0200103, exp.1/11/17
 - Johnny Brown, Certification #14-020-0098, exp. 1/11/17
 - Randolph Wideman, Certification #14-020-00106, exp. 1/11/17

Additional Duke Energy personnel are certified but not listed on the report. Charah personnel are responsible for landfill operations; certified staff are always present when the landfill is in operation.

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8. The facility has a current Division of Air Quality, Title V Permit.
9. Financial assurance documentation for the facility was reviewed during the inspection. The financial assurance was submitted by Duke Energy Carolina on March 23, 2015. The approved financial assurance includes \$3,521,048 for closure, \$890,895 for post-closure care, and \$2,085,504 for potential assessment and corrective action.
10. During the month of April 2015 up to the date of the inspection the facility landfilled 846.26 tons of gypsum residue. Year-to-date of the inspection 66,155 tons of gypsum residue were landfilled. Year-to-date of the inspection, 8,603 tons of gypsum was transported offsite to wallboard producers.
11. During periods of lower gypsum production, gypsum residue is mined from the landfill to satisfy demand. Gypsum residue was being mined from the landfill during the inspection.
12. For the annual reporting period July 1, 2013-June 30, 2014 the facility landfilled a total of 246,903.7 tons of gypsum residue. During the period approximately 5,500 tons of gypsum was mined for transport to wallboard producers
13. The approved Operations Plan (Section 2.7) does not require detection monitoring for methane and hydrogen sulfide gas. The facility previously monitored for these constituents and the last monitoring event on May 10, 2012 detected no methane or hydrogen sulfide.
14. Edge of waste markers are in place and easily identifiable around the waste footprint at the facility.
15. During the inspection, the semi-annual ground water, surface water and leachate monitoring report for the sampling event conducted November 12, 2014 were reviewed. Twelve ground water wells and one surface water location were monitored. Ground water well monitoring indicated the presence of Iron, Manganese, Sulfates, and Total Dissolved Solids.
16. All monitoring wells were observed during this inspection. The following concerns were noted:

Monitoring Well ID	Well Tag	Concrete Pad	Comments
BC-20	Yes	Yes	
BC-21	Yes	Yes	
BC-22	No	Yes	needs permanent metal well tag
BC-23A	Yes	Yes*	pad cracked; pad needs to be replaced
BC-25	No	NA	flushmount well - needs metal well tag & needs locking cap
BC-26	Yes	Yes	
BC-27	Yes	NA	flushmount well - covered in mud, needs repair (conversion to stand pipe is recommended), needs locking cap
BC-28	Yes	Yes	
BC-29	Yes	Yes*	check for concrete pad, appears to be buried under sediment
BC-30	Yes	Yes	
BC-31	Yes*	Yes	well IDed, but no well construction info on tag
BC-32	Yes	Yes	
BC-7	Yes	Yes	only used for water level readings
SW-1	NA	NA	needs surface water sample location sign

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BL-27 – in need of repair



Mining of gypsum

17. Leachate lines for the landfill were cleaned in February 2015, with a follow-up cleaning in May 2015 to remove isolated areas of blockage. Routine cleaning of the leachate systems helps maintain proper flow.
18. Leachate and contact water generated by the facility is collected as per approved Operations Plan (Sections 2.2 and 2.3) and discharged into the Belews Creek Steam Station Ash Basin.
19. Facility access roads are of all-weather construction and are well maintained.
20. Water trucks are utilized to control road dust, as needed. Water trucks were operating at the time of the inspection.
21. Operational cover is being maintained as approved in the facility Operations Plan (Section 2.1.8.1 and Appendix I, Dust Control Plan). Minimal soil is utilized for cover; landfilled materials are moistened and allowed to crust over to prevent windblown material. The facility received approval (January 23, 2013) to use the same process for intermediate cover.
22. No windblown dust from landfill operations or roadways was noted during the inspection. Weather conditions during the inspection were sunny, dry and windy.
23. No on-site or off-site erosion observed. Side slopes were well vegetated.

Please contact me if you have any questions or concerns regarding this inspection report.

Environmental Senior Specialist

Phone: 919-707-8284

Sent on: May 8, 2015	Email: X	Hand delivery	US Mail	Certified No. []
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Copies:

- Ellen Lorscheider, Section Chief, Solid Waste Section
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- Jessica Montie, Compliance Officer, Solid Waste Section