

<b>NORTH CAROLINA DIVISION OF AIR QUALITY</b>			<b>Region:</b> Raleigh Regional Office <b>County:</b> Wake <b>NC Facility ID:</b> 9200593 <b>Inspector's Name:</b> Steven Carr <b>Date of Last Inspection:</b> 07/22/2009 <b>Compliance Code:</b> 3 / Compliance - inspection
<b>Air Permit Review - Renewal</b>			
<b>Permit Issue Date:</b> XXX, XX 2010			
<b>Facility Data</b>			<b>Permit Applicability (this application only)</b>
<b>Applicant (Facility's Name):</b> North Wake County Landfill Facility			<b>SIP:</b> 15A NCAC 2Q .0513 <b>NSPS:</b> N/A <b>NESHAP:</b> N/A <b>PSD:</b> N/A <b>PSD Avoidance:</b> N/A <b>NC Toxics:</b> N/A <b>112(r):</b> N/A <b>Other:</b> N/A
<b>Facility Address:</b> North Wake County Landfill Facility 9004 Deponie Drive Raleigh, NC 27615			
<b>SIC:</b> 4953 / Refuse Systems <b>NAICS:</b> 562212 / Solid Waste Landfill			
<b>Facility Classification: Before:</b> Title V <b>After:</b> Title V <b>Fee Classification: Before:</b> Title V <b>After:</b> Title V			
<b>Contact Data</b>			<b>Application Data</b>
<b>Facility Contact</b>	<b>Authorized Contact</b>	<b>Technical Contact</b>	<b>Application Number:</b> 9200593.09C <b>Date Received:</b> 09/28/2009 <b>Application Type:</b> Renewal <b>Application Schedule:</b> TV-Renewal  <b>Existing Permit Data</b> <b>Existing Permit Number:</b> 08890T06 <b>Existing Permit Issue Date:</b> 10/21/2009 <b>Existing Permit Expiration Date:</b> 06/30/2010
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<b>Consultant:</b> SCS Engineers <b>Contact:</b> Robert E. Dick <b>Phone:</b> (804) 598-9485 <b>email:</b> bdick@scsengineers.com			
<b>Review Engineer:</b> Booker Pullen <b>Regional Engineer:</b> Charles McEachern  <b>Review Engineer's Signature:</b> _____ <b>Date:</b> June 6, 2010		<b>Comments / Recommendations:</b> <b>Issue:</b> 08890T07 <b>Permit Issue Date:</b> XXX, XX, 2010 <b>Permit Expiration Date:</b> XXX XX, 2015	

**I. Introduction:**

The North Wake County Landfill is located at 9004 Deponie Drive, in Raleigh, Wake County, North Carolina. This facility is owned by Wake County, however, landfill operations are managed by a private company under a contract agreement with the County named Wake Gas Producers. Application No. 9200593.09C for the renewal of the Title V Air permit was received on September 28, 2009, by the Division of Air Quality Central Office, and was considered complete for processing on that date.

This permit modification **will** go through a 30-day public notice and a 45 day EPA review at this time.

**II. Description:**

The North Wake County Solid Waste Landfill collected household, commercial, and industrial wastes from the Raleigh-Wake County Metropolitan area. This landfill is now officially closed. No hazardous, liquid, or infectious waste was accepted at the landfill. This facility participates in waste-to-energy project with a nearby facility named Covidien (which burns landfill gas as a fuel in a boiler at that facility) and with a nearby facility named Tyco Healthcare (which burns landfill gas in a boiler as a fuel at that facility).

The landfill is comprised of a closed unlined section of the landfill and a closed lined section of the landfill. The unlined section of the landfill opened in 1986 and closed in 1997, at which time a final cover system was installed. The unlined section of the landfill is approximately 36 acres with a capacity of 1.4 million Megagrams of waste.

**II. Description: (continued)**

The lined section of the landfill opened in 1996 and was closed in May 2008. The final cover system on the remaining portion of the fill area was completed in June 2009. The closed landfill has an existing capacity of approximately 4.1 million Mg.

The landfill gas (LFG) collection system is comprised of vertical extraction wells connected to a header pipe that conveys collected LFG to a blower station. Upon exiting the blower, the LFG is delivered to flares (CD-1A) and/or (CD-3) located at the landfill or the LFG is supplied as a fuel via pipeline for two offsite boilers (one at Covidien and one at Tyco Healthcare). The LFG goes through a gas treatment system prior to being sent offsite to the boilers.

**II. Statement of Compliance:**

On the latest inspection of the facility, November 6, 2009 by Mr. Steven Carr of the Raleigh Regional Office, the facility indicated compliance with the Title V permit.

**III. Summary of Emission Sources and Control Devices**

The following table identifies all emission sources and associated control devices for which this Title V Operating Permit is being issued

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-1, ES-2 NSPS, MACT	Municipal Solid Waste Landfill	CD-GCCS1	One landfill gas collection and control system with a treatment system:
		CD-1A	One utility flare (1,250 scfm maximum flow rate)
		CD-3	One utility flare (2,800 scfm maximum flow rate)
		CD-Boiler-1 ** NSPS	One landfill gas-fired boiler (34.0 million Btu per hour heat input capacity)
		CD-Boiler-2 ***	One landfill gas-fired boiler (100.0 million Btu per hour heat input capacity)

\*\* This boiler is owned, operated, and physically located on the adjacent property of the Covidien Company. North Wake County Landfill does not exercise control over the boiler.

\*\*\* This boiler is owned, operated, and physically located on the adjacent property of Tyco Healthcare. North Wake County Landfill does not exercise control over the boiler.

**IV. Emission Source-by-Source Evaluation**

**A. Municipal solid waste landfill (ID Nos. ES-1 and ES-2) with associated gas collection and control system including two utility type flares (ID Nos. CD-1A and CD-3)**

**1. Description:** This facility receives municipal solid waste. The anaerobic decomposition of the buried waste produces landfill gas (LFG) which is collected and conveyed to two utility type flares (ID Nos. CD-1A and CD-3). The gas is sent through a landfill gas treatment system and then sent to two offsite boilers. Blower units apply a vacuum to the landfill through a series of vertical and/or horizontal collection piping and route the landfill gas.

2. **Applicable Regulatory Requirements:** This municipal solid waste landfill (ID Nos. ES-1, ES-2, and ES-03) was modified after May 30, 1991, and is therefore subject to 40 CFR Part 60, Subpart WWW. The landfill has a design capacity (in-place waste plus additional permitted waste) greater than 2.5 million megagrams by mass (2.75 million tons) and 2.5 million cubic meters by volume and is therefore subject to Title V. Nonmethane organic compound (NMOC) emissions from the landfill are greater than 50 Mg per year, therefore the landfill is required by Subpart WWW to install and operate a gas collection and control system.

The utility flares (CD-1A and CD-3) are **not** subject to any specific NSPS except they must be designed in accordance with 40 CFR §60.18 “General Control Device Requirements”. This landfill is also subject to the landfill MACT in accordance with 40 CFR Part 63, Subpart AAAAA, because it is subject to the Title V requirements and the landfill is required to install and operate a gas collection and control system.

The following provides a summary of limits and/or standards for the emission source(s) described above.

Regulated Pollutant	Limits/Standards	Applicable Regulation
Non methane organic compounds (NMOC)	Route landfill gas to a flare designed in accordance with 40 CFR §60.18 and/or  Route the landfill gas to a gas treatment system prior to being sent offsite for sale of reuse	15A NCAC 2D .0524 <b>40 CFR Part 60, Subpart WWW</b>
HAPs	Operational standards, startup and shut down plan, malfunction requirements	15A NCAC 2D .1111 <b>40 CFR Part 63, Subpart AAAAA</b>
Odorous emissions	Suitable control equipment <b>State Enforceable Only</b>	15A NCAC 2D .1806
Toxic air pollutants	Facility wide toxics evaluation <b>State Enforceable Only</b>	15A NCAC 2Q .0705 <b>(Last MACT, N. C. toxics evaluation)</b>
	Modeled emission rates <b>State Enforceable Only</b>	15A NCAC 2D .1100
Fugitive dust emissions	Included in the General Conditions Item MM	15A NCAC 2D .0540

a. **Changes occurring at this facility since the last renewal in July 2005 (Revision T01):**

- i. *Modification for revision T02 (November 7, 2005):*  
The North Wake County Landfill was issued a Notice of Violation on March 4, 2005 from the Division of Air Quality Compliance Section for failure on the part of the landfill to demonstrate facility wide compliance with the North Carolina air toxics program in accordance with 15A NCAC 2Q .0705 because the compliance date for the last MACT for this facility had passed (January 16, 2004). The application provided a facility wide toxics modeling demonstration.
- ii. *Modification for revision T03 (July 25, 2007):*  
A 502(b)(10) modification was issued to North Wake County landfill for the installation of a temporary flare at the landfill. The flare was used for less than 30 days, until the boiler maintenance period was over, and then removed from the site.
- iii. *Modification for revision T04 (October 14, 2008):*  
A Minor modification was issued to North Wake County landfill for the installation of a temporary flare at the landfill. The flare was used for less than 30 days, until the boiler maintenance period was over, and then removed from the site.

iv. *Modification for revision T05 (April 23, 2009):*

A Minor modification was issued to North Wake County Landfill to install a new larger permanent utility flare (CD-3) rated at 2,800 scfm to replace the existing smaller utility flare. This replacement was supposed to alleviate the need to bring a “temporary flare” onsite whenever one of the offsite boilers is down for maintenance or repair. The existing smaller flare (1,250 scfm, CD-1) was to be removed after the successful operation of the new larger flare. Also, the description for the existing emergency generator was revised

v. *Modification for revision T06 (October 21, 2009):*

A Minor modification was issued to North Wake County Landfill to reincorporate flare CD-1 back onto the air permit. The new ID number for this flare is CD-1A. This request was due to the fact that the new permanent flare (CD-3) did not have the blower capacity that is large enough to control the entire landfill. The applicant reconnected flare (CD-1) and its associated blower to the gas collection system without notifying the DAQ and receiving approval to reconnect the flare. A notice of violation for operating an unpermitted control device was issued to the facility on August 4, 2009. This revision was issued to bring the facility back into compliance with the permit.

**b. Applicable Regulatory Requirements:**

This landfill and associated equipment are subject to the following regulations:

- 15A NCAC 2D .0524
- 15A NCAC 2Q .0705
- 15A NCAC 2D .1100
- 15A NCAC 2D .1806
- 15A NCAC 2D .1111
- 15A NCAC 2D .0540 (Included in the General Conditions)

\* Removed regulation 15A NCAC 2D .0516 and 2D .0521 from the permit for the control devices (flares) per current guidance.

***No regulatory review is required for the regulations listed above. Compliance Assurance Monitoring (CAM) does not apply because these sources are regulated by both an NSPS and MACT that were promulgated after 1990 and control the pollutants that would be subject to the CAM.***

- c. Since the last permit modification and/or renewal for this facility, the regulatory language included in Title V permits for Municipal Solid Waste Landfills has been revised to place more of the NSPS requirements into the body of the permit. This new revised language will be placed into this permit along with the revised General Conditions (Revision 3.1).
- d. North Wake County Landfill requested in a letter to Mr. Patrick Butler of the DAQ Raleigh Regional Office requesting that this landfill be allowed to perform annual surface monitoring in accordance with 40 CFR §60 .756(f).

Per this regulation “Any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring.” The permit will be revised to reflect this request after verifying the last three consecutive quarterly monitoring reports.

V.

**Changes to existing permit No. 08890T06 per application (9200593.09C)**

Old Page No.	New Page No.	Condition No.	Changes
<b>Cover Letter</b>			
Page 1	Page 1	Heading and body of letter	Revised: issue date, permit number, “complete application received date”, added “Renewal” to first paragraph, removed the minor modification paragraph
Page 2	Page 2	Heading and body of letter	Revised: date of letter, effective date of permit,
Page 3	Page 3	“Changes to Permit” table	Revised the “changes to the Permit” table to reflect this modification
<b>Body of Permit</b>			
Page 1	Page 1	Cover page	Revised: Permit No., “replaces permit” No., effective date of permit, permit issue date, application No., complete application date
Page 2	Page 2	Table of Contents	Added “Attachment B”
All pages	All pages	Heading	Changed permit revision to T07
Page 3	Page 3	Body of Permit	Removed “Part I” and the subsequent paragraphs prior to Section 1 of the permit
Page 4	Page 4	Specific Limitations and Conditions	Updated 15A NCAC 2D .524, Subpart WWW language in monitoring, recordkeeping and reporting
Pages 9-18	Pages 13-22	General Conditions	Added most current General Conditions

**VI.** A Professional Engineers Seal **is not** required for this renewal application because there are no new sources being added.

**VII.** A zoning consistency determination **is not** required for this renewal application.

**VIII.** An application fee **is not** required for this renewal application.

**IX.** The appropriate number of application copies was received by the DAQ Raleigh Central Office on September 28, 2009.

**X.** The application was signed by an authorized official as defined by 15A NCAC 2Q .0304(j).

**XI.** **PSD does not apply** for this renewal.

**XII. Public Notice**

A thirty-day public notice and EPA review period **is required**.

**Public notice:** The 30 day public notice period was from \_\_\_\_\_ through \_\_\_\_\_. \_\_\_\_ public comments were received for this permit application.

**EPA 45-Day review Period:** The DAQ sent copies of the appropriate information to the USEPA on \_\_\_\_\_. The EPA 45-day review period was from \_\_\_\_\_ through \_\_\_\_\_. The USEPA \_\_\_\_\_ comments on the renewal permit for this facility.

**XIII.** This facility **is not** subject to 15A NCAC 2Q .0508(g) “Prevention of Accidental Releases” because it does not store any of the listed 112(r) chemicals in quantities above the thresholds.

**XIV. Ozone Nonattainment:**

Wake County is designated as attainment for the 8-hour ozone standard. Nonattainment does not apply.

**XV. Recommendations:**

This application renewal for the North Wake County Landfill, located at 9004 Deponie Drive, Raleigh, North Carolina, has been reviewed by the DAQ to determine compliance with all procedures and requirements. The Raleigh Regional Office made comments on draft permit and review. The DAQ has determined that this facility is complying or will achieve compliance as specified in the permit with all applicable requirements. The Raleigh Regional Office concurs.

**Issue permit No. 08890T07.**