

<b>NORTH CAROLINA DIVISION OF AIR QUALITY</b>		<b>Region:</b> Raleigh Regional Office	
Air Permit Review- 1 <sup>st</sup> Time Title V		<b>County:</b> Person	
<b>Permit Issue Date:</b> XXX, 2008		<b>NC Facility ID:</b> 7300079	
		<b>Inspector's Name:</b> Steven Carr	
		<b>Date of Last Inspection:</b> 03/27/2008	
		<b>Compliance Code:</b> 3/In Compliance - Inspection	
<b>Facility Data</b>		<b>Permit Applicability (this application only)</b>	
<b>Applicant (Facility's Name):</b> Upper Piedmont Regional Landfill		<b>SIP:</b> 15A NCAC 2D .0516, .0521, .0524, .1806, and 2Q .0501(c)(1)	
<b>Facility Address:</b> Upper Piedmont Regional Landfill 9650 Oxford Road Rougemont, NC 27572		<b>NSPS:</b> 40 CFR Part 60, Subpart WWW	
<b>SIC:</b> 4953 / Refuse Systems		<b>NESHAP:</b> N/A (not yet triggered)	
<b>NAICS:</b> 562212 / Solid Waste Landfill		<b>PSD:</b> N/A	
		<b>PSD Avoidance:</b> N/A	
		<b>NC Toxics:</b> N/A (not yet triggered)	
		<b>112(r):</b> N/A	
		<b>Other:</b> N/A	
<b>Facility Classification: Before:</b> None <b>After:</b> Title V			
<b>Fee Classification: Before:</b> None <b>After:</b> Title V			
<b>Contact Data</b>			
<b>Facility Contact</b>	<b>Authorized Contact</b>	<b>Technical Contact</b>	
Steven Nichting General Manager (336) 364-3699 9650 Oxford Road Rougemont NC, 27572 NichtingS@repsrv.com	Drew Isenhour Area President (828) 464-2414 1220 Commerce Street, SW Conover NC, 28613 isenhourd@repsrvnc.com	Raymond Hoffman, P.E. Area Engineer (828) 464-2414 1220 Commerce Street, SW Conover NC, 28613 Hoffmanrj@repsrvnc.com	
		<b>Application Data</b>	
		<b>Application Number:</b> 7300079.07A	
		<b>Date Received:</b> 10/11/2007	
		<b>Application Type:</b> Greenfield Facility	
		<b>Application Schedule:</b> TV-1st Time	
		<b>Existing Permit Data</b>	
		<b>Existing Permit Number:</b> None	
		<b>Existing Permit Issue Date:</b> N/A	
		<b>Existing Permit Expiration Date:</b> None	
<b>Consultant:</b> Carlson Environmental Consultants, PC		<b>Phone:</b> (704) 283-9765	
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<b>Review Engineer:</b> Booker Pullen		<b>Comments / Recommendations:</b>	
<b>Regional Engineer:</b> Charles McEachern		<b>Issue:</b> 09847T00	
<b>Review Engineer's Signature:</b>		<b>Permit Issue Date:</b> XXX, 2008	
<b>Begin Date:</b> September 15, 2008		<b>Permit Expiration Date:</b> XX, 2013	
		<b>Note:</b> This facility has a voluntary gccs (not required by NSPS Subpart WWW at this time).	

### I. Introduction/Description:

The Republic Services of North Carolina, LLC, dba Upper Piedmont Environmental is requesting a 1<sup>st</sup> Time Title V Permit for the Upper Piedmont Regional Landfill. This is an existing municipal solid waste landfill that is located on SR NC158 between the towns of Roxboro and Oxford in Person County. The landfill began accepting waste in 1997. This landfill is owned by Republic Services of North Carolina, LLC and is operated by Upper Piedmont Environmental. The landfill currently accepts municipal solid waste from counties within 60 statute miles of Person County. This is a Subtitle D, lined municipal solid waste landfill.

On July 12, 2007, Upper Piedmont Regional Landfill received a permit from the NC Division of Solid Waste to operate Cell 4B of its landfill. With the opening of cell 4B, the facility's design capacity exceeds the 2.5 million megagrams by weight and 2.5 million cubic meters by volume threshold for 40 CFR Part 60, Subpart WWW. This facility applied for a Title V permit on October 11, 2007 which was within 90 days of crossing the size and volume threshold for Title V applicability. The application was considered complete on that date. This application will be processed as a one step significant modification in accordance with 15A NCAC 2Q .0501(c)(1).

**II. Purpose of this application (7300079.07A):**

- A. Apply for a first time Title V permit. This facility does not currently have an air permit.
- B. Add one municipal solid waste landfill (ES-01) with associated open flare (2000 scfm, CD-01).
- C. Add to the Insignificant Activities list:
  - 1. Two leachate storage tanks (IES-03A and IES-03B)
  - 2. Solar flares (IES-06) – these flares are ignited by solar energy and used to control odor.
  - 3. New and used oil storage tanks (IES-07)
  - 4. New and used hydraulic fluid tanks (IES-08)
  - 5. Storage drums (fifty five gallon capacity, IES-09)

**III. Changes to existing Title V Permit: N/A**

**IV. Statement of Compliance:**

The DAQ has reviewed the compliance status of this facility. This facility does not currently own an air permit, however, an inspection was performed by Mr. Steve Carr of the Raleigh Regional Office and he states that the facility appeared to be in compliance with the North Carolina regulations for landfills. The applicant has certified that the facility will be in compliance with all applicable requirements at the time of permit issuance and will continue to comply with these requirements. The applicant has also certified that the facility will be in compliance with any applicable requirements taking effect during the term of the permit and will meet such requirements on a timely basis.

**V. Summary Of The Emission Sources at this facility:**

Emission Source ID	Emission Source Description	Control Device	Control Device Description
ES-01 NSPS	Municipal solid waste landfill	CD-GCCS1	One landfill gas collection and control system including:
		CD-01	One landfill gas open flare (2000 scfm capacity)

**VI. Source-by Source Evaluation:**

**A. Municipal solid waste landfill (ID Nos. ES-01) with associated control equipment:**

- **One gas collection and control system (CD-GCCS1),**
- **One open landfill gas utility flare (2000 scfm capacity, CD-01)**

**1. Description:** This facility is a Municipal Solid Waste Landfill (ID No. ES-01). They are requesting the addition of a gas collection (CD-GCCS) and control system (CD-01) with this application.

**2. Applicable Regulatory Requirements for this modification:** The flare will be subject to 20% visible emissions.

This landfill is subject to 40 CFR Part 60, Subpart WWW because the facility was built after May 30, 1991. Since the landfill currently has a design plan capacity that is greater than 2.5 million Mg by weight, and 2.5 million cubic meters by volume, it is subject to the Title V of the Clean Air Act.

This landfill is not required at this time to install a gas collection and control system per NSPS, Subpart WWW because the calculated NMOC emissions (using EPA LandGem calculated through 2013) is less than 50 Mg per year. The facility is also planning to perform a Tier II test to determine the site specific data for this facility.

This facility is not a major source of HAPs (10/25). Instead it is classified as an area source landfill that is not subject to 40 CFR Part 63, Subpart AAAAA “National Emissions Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills” because the facility is not required at this time to install a gas collection and control system per NSPS, Subpart WWW due to the NMOC annual emission rate. [40 CFR 63, §1935(a)(3)]

Regulated Pollutant	Limits/Standards	Applicable Regulation
Sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
Visible emissions	20 percent opacity	15A NCAC 2D .0521
Nonmethane organic compounds (NMOC)	Route landfill gas to a flare designed in accordance with 40 CFR Part 60, §60.18	15A NCAC 2D .0524 <b>40 CFR Part 60, Subpart WWW</b>
Odorous emissions	Apply suitable odor control measures <b>"State-enforceable only"</b>	15A NCAC 2D .1806

**a. 15A NCAC 2D .0516 "Sulfur Dioxide Emissions From Combustion Sources" (Utility flare, CD-01)**

Regulation Analysis:

- i. Sulfur dioxide emissions from any source of combustion that is discharged from any vent, stack, or chimney shall not exceed **2.3 pounds per million Btu heat input**. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

The open flare (ID No. CD-01) is subject to this rule because it is a source of combustion and it discharges sulfur dioxide into the atmosphere due to combustion.

At a maximum volumetric flow rate of 2000 scfm, the molar flow rate of LFG into the flare can be calculated as shown blow. For this calculation, natural gas processing standards of 60 degrees F (520 Rankine (R)) and 1 atmosphere have been used.

**Heat release of the flare:**

The maximum heat release is calculated using a heating value of 550 Btu/scf of landfill gas

The flare maximum rating is 2000 scfm of landfill gas

Methane concentration of 50% was assumed by the applicant with 50% being CO<sub>2</sub>, N<sub>2</sub> and some other small constituents

$$\frac{2000 \text{ "standard" cubic feet}}{\text{minute}} \times \frac{550 \text{ Btu}}{\text{"standard" cubic foot}} \times \frac{60 \text{ minutes}}{\text{hour}} \times \frac{1 \text{ mmBtu}}{1 \times 10^6 \text{ Btu}} = \frac{66.0 \text{ mmBtu}}{\text{hour}}$$

**Allowable emission rate is 66 mmBtu/hour x 2.3 lbs SO<sub>2</sub>/mmBtu heat input = 151.8 lbs SO<sub>2</sub>/hour**

The emissions of sulfur oxides, particularly sulfur dioxide (SO<sub>2</sub>), from the flare are dependent on the inlet concentration of sulfur-bearing compounds in the LFG. The calculation for the estimated SO<sub>2</sub> emissions from the flare is based on the assumption that all of the total reduced sulfur (TRS) in the landfill gas is oxidized to SO<sub>2</sub>. Since site specific TRS data are not currently available, the TRS concentration (46.9 ppmv) from AP-42 will be used.

The following equation from AP-42, fifth edition Section 2.4.4.1 "Emissions", Revised November 1998, is used to calculate the individual air pollutant flow rate (m<sup>3</sup>/hour) as part of the methane generation from the landfill.

$$Q_p = 2.0 \times Q_{CH_4} \left( \frac{C_p}{1 \times 10^6} \right)$$

Where: Q<sub>p</sub> = Emission rate of pollutants, m<sup>3</sup>/hour

Q<sub>CH<sub>4</sub></sub> = 1000 scfm (methane is only 50% of the maximum LFG flow into the flare)

C<sub>p</sub> = default concentration of total reduced sulfur (TRS) in landfill gas, Section 2.4.4.2

Multiplication factor = 2.0 assumes 50% landfill gas is methane

$$Q_p = 2.0 \times \frac{1000 \text{ ft}^3 \text{ CH}_4}{\text{minute}} \times \left( \frac{46.9 \text{ parts}}{1 \times 10^6} \right) \times \frac{1 \text{ m}^3}{35.315 \text{ ft}^3} \times \frac{60 \text{ minutes}}{\text{hour}} = \frac{0.16 \text{ m}^3 \text{ SO}_2}{\text{hour}}$$

The following equation from AP-42, fifth edition, Section 2.4.4.1 "Emissions", Revised November 1998, is used to calculate the uncontrolled emission rate of individual air pollutants present in landfill gas.

$$UM_p = Q_p \left[ \frac{MW_p \times 1 \text{ atmosphere}}{(8.205 \times 10^{-5} \text{ m}^3 - \text{atmosphere} / \text{gmol}^{-0} \text{K}) \times (1000 \text{ g} / \text{kg})(273 + T)^0 \text{K}} \right]$$

Where:  $UM_p$  = Uncontrolled mass emissions of pollutants, kg/hr  
 $MW_p$  = Molecular weight of pollutant, g/mol ( $\text{SO}_2 = 64.06 \text{ g/gmole}$ )  
 $Q_p$  = Emission rate of pollutant,  $\text{m}^3/\text{hour}$  ( $0.16 \text{ m}^3/\text{hr}$ )  
 $T^0$  = Default AP-42 temperature of the landfill gas (25 degrees C)

$$UM_p = \frac{0.16 \text{ m}^3 \text{ SO}_2}{\text{hour}} \times \left[ \frac{64.06 \text{ g} / \text{gmole} \times 1 \text{ atmosphere}}{\left( \frac{8.205 \times 10^{-5} \text{ m}^3 - \text{atmosphere}}{\text{gmol}^{-0} \text{K}} \right) \times \frac{1000 \text{ g}}{\text{kg}} \times (273 + 25^0 \text{C})^0 \text{K}} \right] = \frac{0.42 \text{ kg SO}_2}{\text{hour}}$$

$$Q_{\text{sulfur dioxide}} = \frac{0.42 \text{ kg SO}_2}{\text{hour}} \times \left( \frac{2.2 \text{ lbs}}{\text{kg}} \right) = \frac{0.92 \text{ lbs}}{\text{hour}}$$

Potential emissions of sulfur dioxide have been calculated to be 0.92 lbs per hour. This value is much lower than the allowable sulfur dioxide emission rate or 151.8 lbs per hour. Compliance is indicated.

**Testing** [15A NCAC 2Q .0508(f)]

- ii. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(4) and General Condition JJ found in Section 3 of the Permit. If the results of this test are above the limit given in Section VI. A. 2. a. i. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.
- iii. Monitoring/recordkeeping/reporting [15A NCAC 2Q .0508(f)]  
 No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from the open flare (ID No. CD-01) when firing landfill gas.

**b. 15A NCAC 2D .0521 "Control Of Visible Emissions"**

Regulation Analysis:

- i. The flare (ID No. CD-01) will be installed after July 1, 1971 is therefore subject to 15A NCAC 2D .0521(d). Per this regulation visible emissions shall not be more than **20 percent opacity** when averaged over a six-minute period except that six-minute periods averaging more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period.

Compliance is indicated with this regulation because the firing of landfill gas under normal operation will have negligible visible emissions.

**Testing** [15A NCAC 2D .0501(c)(8)]

- ii. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(8) and General Condition JJ found in Section 3 of the Permit. If the results of this test are above the limit given in Section VI. A. 2. b. i. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

**Monitoring** [15A NCAC 2Q .0508(f)]

- iii. No monitoring, recordkeeping, or reporting is required for visible emissions from the open flare (ID Nos. CD-01) while firing landfill gas.

**c. 15A NCAC 2D .0524, 40 CFR Part 60, Subpart WWW "New Source Performance Standards"**

**Regulation Analysis**

- i. The Upper Piedmont Regional Landfill was modified after May 1, 1991, and is subject to 40 CFR Part 60, Subpart WWW. It is subject to Title V because the design capacity of the landfill is greater than 2.5 million megagrams (2.75 million tons) by mass and 2.5 million cubic meters by volume.

This landfill generated the NMOC calculation using the EPA LandGEM model. The maximum NMOC emission rate through the year 2013 was calculated to be 40.1 Mg/year (44.2 tons/year). Upper Piedmont Regional Landfill is planning to perform a Tier 2 test in the Spring of 2009 to obtain site specific data to be used in future calculation. EPA Region IV has allowed late Tier 2 tests for sites up to the date the site has to start its LFG system for NSPS purposes as long as the facility follows the NSPS timeline by applying for a Title V permit and submitting a gas collection and control system design plan in accordance with Subpart WWW.

**Design Capacity (by volume) of Upper Piedmont landfill = greater than 2.5 million cubic meters**

**Design Capacity (by mass) of Upper Piedmont landfill = greater than 2.5 million Mg using a waste density of 1600 pounds per cubic yard.**

**Testing** [15A NCAC 2Q .0524, 40 CFR §60.754]

- ii. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0524, 40 CFR §60.754 and General Condition JJ located in Section 3 of the Permit. If the results of this test are above the limits given in 40 CFR Part 60, Subpart WWW, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524, Subpart WWW.
- iii. **Standards For Air Emissions From Municipal Solid Waste Landfills** [40 CFR Part 60, §60.752]
  - (A) When this facility's landfill has a design capacity equal to or greater than 2.5 million megagrams by mass and 2.5 million cubic meters, **with a calculated NMOC emission rate equal to or greater than 50 megagrams per year**, they shall submit a gas collection and control system design plan prepared by a professional engineer who is registered in the State of North Carolina, within one year of the annual report that shows that NMOC emissions will exceed 50 Mg per year.
    - (1) The collection and control system design plan shall include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions of §§60.753 through 60.758 proposed by the owner or operator.
    - (2) The collection and control system design plan shall either conform with specifications for active collection systems in §60.759 or include a demonstration to the Administrator's satisfaction of the sufficiency of the alternative provisions to §60.759.

- (B) After the approval of the collection and control system design plan, the owner and operator shall install a collection and control system that captures the gas generated within the landfill as required by paragraphs (b)(2)(ii)(A) or (B) and (b)(2)(iii) of this section within 30 months after the first annual report in which the emission rate equals or exceeds 50 megagrams per year, unless Tier 2 or Tier 3 sampling demonstrates that the emission rate is less than 50 megagrams per year, as specified in §60.757(c)(1) or 2.
- (1) An active collection system shall:
- (a) Collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been placed for a period of 5 years or more if active; or 2 years or more if closed or at final grade.
  - (b) Collect gas at a sufficient extraction rate and be designed to minimize off-site migration of subsurface gas.
  - (c) Route all the collected gas to a control system that complies with the requirements in either paragraph (b)(2)(iii) (A), (B) or (C) of Section 60.752.
  - (d) The control device shall be operated within the parameter ranges established during the initial or most recent performance test. The operating parameters to be monitored are specified in §60.756.

**Monitoring/Recordkeeping** [40 CFR Part 60, §60.756 and §60.758]

- iv. Except as provided in §60.752(b)(2)(i)(B), each owner or operator of an MSW landfill subject to the provisions of §60.752(b) shall keep for at least 5 years up-to-date, readily accessible, on-site records of the design capacity report which triggered §60.752(b), the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.
- v. Each owner or operator subject to the provisions of this subpart shall keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as provided in §60.759(a)(3)(i) as well as any nonproductive areas excluded from collection as provided in §60.759(a)(3)(ii).

**Reporting** [40 CFR Part 60, §60.757]

- vi. This facility is subject to the requirements of this 40 CFR Part 60, Subpart WWW and shall submit an NMOC emission rate report to the Regional Office annually, except as provided for in paragraphs (b)(1)(ii) or (b)(3) of 40 CFR §60.757. The Regional Office may request such additional information as may be necessary to verify the reported NMOC emission rate.

The NMOC emission rate report shall contain an annual or 5-year estimate of the NMOC emission rate calculated using the formula and procedures provided in §60.754(a) or (b), as applicable.

- xiv. The Permittee shall submit a **summary report** of monitoring and recordkeeping activities by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

**c. 15A NCAC 2D .1806 "Control And Prohibition Of Odorous Emissions" (State-enforceable only)**

The Permittee shall not operate the facility without implementing management practices or installing and operating odor control equipment sufficient to prevent odorous emissions from the facility from causing or contributing to objectionable odors beyond the facility's boundary.

**B. Roads and Landfill Operations:**

- Paved and unpaved roads
- Landfill earth moving operations

1. **Description:** Fugitive dust emissions will be generated from the facility roadways and landfill operations.
2. **Applicable Regulatory Requirements for this modification:**

Regulated Pollutant	Limits/Standards	Applicable Regulation
PM	Work practice standards with written compliance plan (General Condition "MM) - <b>State Enforceable Only</b>	15A NCAC 2D .0540

**Fugitive Dust Control Requirement [15A NCAC 2D .0540] - STATE ENFORCEABLE ONLY**

As required by 15A NCAC 2D .0540 "Particulates from Fugitive Dust Emission Sources," the Permittee shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary. If substantive complaints or excessive fugitive dust emissions from the facility are observed beyond the property boundaries for six minutes in any one hour (using Reference Method 22 in 40 CFR, Appendix A), the owner or operator may be required to submit a fugitive dust plan as described in 2D .0540(f).

"Fugitive dust emissions" means particulate matter from process operations that does not pass through a process stack or vent and that is generated within plant property boundaries from activities such as: unloading and loading areas, process areas stockpiles, stock pile working, plant parking lots, and plant roads (including access roads and haul roads).

**All facility roads are watered on a daily schedule depending on season and need. During dry periods, the water truck operates full-time. The landfill monitors vehicular speeds to prevent dust emissions.**

***Note: The fugitive dust emissions from haul roads, landfill operations will not be included as permitted emission sources. Fugitive dust emissions are subject to General Condition MM.***

**C. Facility Information:**

This application (7300079.07A) for a 1<sup>st</sup> Time Title V air permit for Upper Piedmont Regional landfill was evaluated over a five year period (length of the permit before renewal in the year 2013 ) by the applicant. I sent an email to the consultant (Kris Carlson of Carlson Environmental Consulting, PC) to ask what the future plans for this landfill will be. He responded as follows: "I talked to Ray Hoffman of Republic yesterday and the current plan is to do the Tier 2 test in the Spring of 2009. Republic will be submitting a GCCS Design Plan for the site by October 5, 2008. As you know, EPA Region IV has allowed late Tier 2 tests for sites up to the date the site has to start its LFG system for NSPS purposes. Which in this case is April 5, 2010. As long as the site continues down the path of the NSPS."

Per the EPA Applicability Determination Index website, EPA has allowed landfills to perform Tier 2 testing after the initial 6 month period if the facility continues on the time line to receive a Title V Air Permit and the procedures to install a gas collection and control system. This facility is currently not required to install the gas collection and control system per 40 CFR Part 60, Subpart WWW because the NMOC emissions are less than 50 Mg per year. Therefore, they are not subject to the landfill MACT, Subpart AAAA or the last MACT facility wide toxics evaluation at this time.

The following language will be placed into the permit to give time frames for submittal of the gas collection and control system, and the submittal of the facility-wide toxics evaluation:

**C. Facility Information: Continued**

**Standards For Air Emissions From Municipal Solid Waste Landfills** [40 CFR Part 60, §60.752]

When the municipal solid waste landfill design capacity becomes equal to or greater than 2.5 million megagrams by mass and 2.5 million cubic meters, **with a calculated NMOC emission rate equal to or greater than 50 megagrams per year**, the owner or operator shall submit a gas collection and control system design plan prepared by a professional engineer who is registered in the State of North Carolina, within one year of the annual report that shows that NMOC emissions will exceed 50 Mg per year:

1. The collection and control system design plan shall include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions of §§60.753 through 60.758 proposed by the owner or operator.
2. The collection and control system design plan shall either conform with specifications for active collection systems in §60.759 or include a demonstration to the Administrator's satisfaction of the sufficiency of the alternative provisions to §60.759.
3. If the calculated NMOC emission rate is equal to or greater than 50 megagrams per year, the owner and operator shall install a collection and control system that captures the gas generated within the landfill as required by paragraphs (b)(2)(ii)(A) or (B) and (b)(2)(iii) of §60.752 within 30 months after the first annual report in which the emission rate equals or exceeds 50 megagrams per year, unless Tier 2 or Tier 3 sampling demonstrates that the emission rate is less than 50 megagrams per year, as specified in §60.757(c)(1) or (2).
  - (A) An active collection system shall:
    - i. Collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been placed for a period of 5 years or more if active; or 2 years or more if closed or at final grade.
    - ii. Collect gas at a sufficient extraction rate and be designed to minimize off-site migration of subsurface gas.
    - iii. Route all the collected gas to a control system that complies with the requirements in either paragraph (b)(2)(iii) (A), (B) or (C) of §60.752.
    - iv. The control device shall be operated within the parameter ranges established during the initial or most recent performance test. The operating parameters to be monitored are specified in §60.756.

**Monitoring/Recordkeeping** [40 CFR Part 60, §60.756 and §60.758]

Except as provided in §60.752(b)(2)(i)(B), each owner or operator of an MSW landfill subject to the provisions of §60.752(b) shall keep for at least 5 years up-to-date, readily accessible, on-site records of the design capacity report which triggered §60.752(b), the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.

Each owner or operator subject to the provisions of this subpart shall keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as provided in §60.759(a)(3)(i) as well as any nonproductive areas excluded from collection as provided in §60.759(a)(3)(ii).

**Reporting** [40 CFR Part 60, §60.757]

This facility is subject to the requirements of 40 CFR Part 60, Subpart WWW and shall submit an NMOC emission rate report to the Regional Office **annually**, except as provided for in paragraphs (b)(1)(ii) or (b)(3) of 40 CFR §60.757.

If the estimated NMOC emission rate as reported in the annual report to the Administrator is **less than 50 megagrams** per year in each of the next 5 consecutive years, the owner or operator may elect to submit an estimate of the NMOC emission rate for the next 5-year period in lieu of the annual report. This estimate shall include the current amount of solid waste-in-place and the estimated waste acceptance rate for each year of the 5 years for which an NMOC emission rate is estimated. All data and calculations upon which this estimate is based shall be provided to the Administrator. This estimate shall be revised at least once every 5 years. If the actual waste acceptance rate exceeds the estimated waste acceptance rate in any year reported in the 5-year estimate, a revised 5-year estimate shall be submitted to the Administrator. The revised estimate shall cover the 5-year period beginning with the year in which the actual waste acceptance rate exceeded the estimated waste acceptance rate.

**C. Facility Information: Continued**

The NMOC emission rate report shall include all the data, calculations, sample reports and measurements used to estimate the annual or 5-year emissions. The Regional Office may request such additional information as may be necessary to verify the reported NMOC emission rate.

The Permittee shall submit a **summary report** of monitoring and recordkeeping activities by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

**40 CFR Part 63, Subpart AAAAA.**

When this facility becomes subject to 40 CFR Part 63, Subpart AAAAA, (when landfill is required by 40 CFR Part 60, Subpart WWW to install a gas collection and control system) it will also become subject to 15A NCAC 2Q .0700 "Toxic Air Pollutant Procedures". At that time, this landfill will be subject t to a facility-wide toxics analysis and/or modeling demonstration.

Facility-wide Potential Emissions Summary

Description	NMOC (tpy)	VOCs (tpy)	HAPs (tpy)	NOx (tpy)	CO (tpy)	SO <sub>2</sub> (tpy)	PM10 (tpy)	PM <sub>2.5</sub> (tpy)
Landfill (ES-01)	44.2	17.3	12.11	-----	-----	-----	-----	-----
Gas collection & control system (GCCS-1 & CD-01)	0.265	0.26	0.06	19.66	106.96	4.16	4.82	4.82
Leachate storage tanks (IES-03)	-----	0.68	0.68	-----	-----	-----	105.44	13.95
<b>Total</b>	44.47	18.24	12.85	19.66	106.96	4.16	4.82	4.82

- VII. A Professional Engineers Seal **is not** required at this time for this landfill. A PE seal will be required when this facility submits its design plan in accordance with NSPS Subpart WWW.
- VIII. A consistency determination was received by the DAQ on October 17, 2007 from Mr. Paul Murphy of the Person County Planning and Zoning Agency. Mr. Murphy stated that they had received a copy of the air permit application and that the proposed operation is consistent with the local zoning and subdivision ordinances.
- IX. An application fee **is not** required. This application was submitted because of NSPS, Subpart WWW requirements.
- X. The appropriate number of copies of the application were received by the DAQ on October 11, 2007.
- XI. The application did contain the Reduction and Recycling Form.
- XII. The application **was** signed by an authorized official as defined by 15A NCAC 2Q .0304(j).
- XIII. **MACT (40 CFR Part 63, Subpart AAAAA):**  
 The EPA promulgated a NESHAP (MACT) for municipal solid waste landfills on January 16, 2003. This MACT applies to landfills that are major for HAPs (10 tons per year of a single HAP or 25 tons per year of all HAP in aggregate) or to a landfill that has a mass  $\geq 2.5$  million megagrams and a volume of  $\geq 2.5$  million as well as an NMOC emission rate that exceeds 50 megagrams per year. Since Upper Piedmont Regional Landfill **does not** meet the major source definition and/or the NMOC emissions are less than 50 Mg per year, it **is not subject** to MACT at this time.

**XIV. Air Toxics:**

In accordance with 15A NCAC 2Q .0705, existing facilities (those in operation before October 1, 1993) that may be subject to a MACT standard under section 112 of the Clean Air Act Amendments, must comply with the Toxic Air Pollutant Standards (15A NCAC 2D .1100) by the deadline that the facility is required to comply with the applicable NESHAP. The date by which this landfill is required to install the collection and control system under NSPS, Subpart WWW, represents the date that the facility must submit a toxics evaluation to demonstrate compliance with the North Carolina Air Toxics Program. Upper Piedmont Regional Landfill **is not** subject to the LAST MCT toxics requirements at this time.

**XV. Public Notice**

A thirty-day public notice **is required** for this one-step Significant Modification.

**Public notice:** The 30 day public notice period was from \_\_\_\_ through \_\_\_\_2008. No public comments were received for this permit application.

**EPA 45-Day review Period:** The DAQ sent copies of the appropriate information to the USEPA prior to the public notice. The EPA 45-day review period was from \_\_\_\_2008 through \_\_\_\_, 2008. The USEPA \_\_\_\_ have any comments on this modification.

**XVI. NonAttainment:**

Person County is not currently designated as nonattainment for the eight-hour ozone standard.

**XVII. Prevention of Significant Deterioration (PSD)**

This facility is a minor source for PSD. The modifications in this permit will not increase emissions into the atmosphere that are greater than the PSD thresholds (250 tpy). Therefore, PSD does not apply.

**For PSD Increment tracking purposes, the PSD Minor Source Baseline date was triggered in Person County for PM10 and SO<sub>2</sub> on December 30, 1985.**

The SO<sub>2</sub>, and PM<sub>10</sub> increment calculation will use the potential emissions of each of the sources on an annual basis divided by 8760 hours per year. This calculation also includes the fugitive dust emissions from the haul roads and landfill operations. Fugitive dust emissions from paved roads were estimated using AP-42, Equation (1), Section 13.2.13 (dated November 2006) and fugitive dust emissions from paved roads were estimated using AP-42, Equation (2), Section 13.2.2.2 (dated November 2006). AP-42 Sections 13.2.3, 13.2.4, and 11.9 were used to calculate the PM10 and PM2.5 emissions from municipal solid waste earth moving operations.

Potential emissions from application (including haul roads and landfill operations) after limitations and controls:

Description	SO <sub>2</sub> (tpy)	PM10 (tpy)	PM <sub>2.5</sub> (tpy)
Landfill (ES-01)	-----	-----	-----
Gas collection & control system (GCCS-1 & CD-01, at maximum gas flow rate into flare)	4.16	4.82	4.82
Haul roads and landfill operations (with water suppression)	-----	47.64	6.69
Leachate storage tanks (IES-03)	-----	-----	-----
<b>Total</b>	4.16	52.46	11.51

Total annual PM10 = 52.46 tons per year

$$\frac{52.46 \text{ tons NOx}}{\text{year}} \times \frac{2000 \text{ lbs NOx}}{1 \text{ ton NOx}} \times \frac{1 \text{ year}}{8760 \text{ hours}} = \frac{11.98 \text{ lbs PM10}}{\text{hour}} \text{ PSD increment}$$

Total SO<sub>2</sub> = 4.16 tons per year

$$\frac{4.16 \text{ tons } SO_2}{\text{year}} \times \frac{2000 \text{ lbs } SO_2}{1 \text{ ton } NO_x} \times \frac{1 \text{ year}}{8760 \text{ hours}} = \frac{0.95 \text{ lbs } SO_2}{\text{hour}} \text{ PSD increment}$$

For PSD increment tracking purposes, PM10 emissions from this landfill are increased by 11.98 **pounds per hour**.

For PSD increment tracking purposes, SO<sub>2</sub> emissions from this landfill are increased by **0.95 pounds per hour**. Since the emission rate is less than 1.0 lb per hour, this **will not** be listed in the cover letter.

**XVIII.** This facility is not subject to 15A NCAC 2Q .0508(g) "Prevention of Accidental Releases" because it does not store chemicals that are subject to this regulation in quantities great enough to cross the threshold limits.

**XIX. Recommendations**

This application modification issued under section 15A NCAC 2Q .0501(c)(1) for Upper Piedmont Regional Landfill, located at 9650 Oxford Road in Rougemont, Person County, North Carolina, has been reviewed by the DAQ to determine compliance with all procedures and requirements. The Raleigh Regional Office made comments (Jenny Kelvington) on the initial application, and on the draft permit. 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. 09847T00.**