

Facility Name: **Oak Grove Sanitary/Speedway Landfill**

City: Winder

County: Barrow

AIRS #: 04-13-013-00068

Application #: 15342 & 15689

Date SIP Application Received: May 10, 2004, October 8, 2004, and updated Nov 2005

Date Title V Application Received: NA

Permit No: 4953-013-0068-V-01-1

<b>Program</b>	<b>Review Engineers</b>	<b>Review Managers</b>
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## **Introduction**

This narrative is being provided to assist the reader in understanding the content of the referenced SIP permit to construct and operate and Section 502(b)(10) change to the Part 70 source. Complex issues and unusual items are explained in simpler terms and/or greater detail than is sometimes possible in the actual permit. This permit is being issued pursuant to: (1) Sections 391-3-1-.03(1), 391-3-1-.03(2), and 391-3-1-.03(10). of the Georgia Rules for Air Quality Control, (2) Part 70 of Chapter I of Title 40 of the Code of Federal Regulations, and (3) Title V of the Clean Air Act Amendments of 1990. The following narrative is designed to accompany the permit and is presented in the same general order as the permit amendment. This narrative is intended only as an adjunct for the reviewer and has no legal standing.

**I. Facility Description**

A. Existing Permits

Table 1 below lists the current Title V permit, all administrative amendments and minor and significant modifications to that permit, and any 502(b)(10) changes. Comments are listed in Table 2 below.

**Table 1: Current Title V Permit and Amendments**

Permit/Amendment Number	Date of Issuance	Comments	
		Yes	No
4953-013-0068-V-01-0	October 15, 2001		?

**Table 2: Comments on Specific Permits**

Permit Number	Comments
NA	None

B. Regulatory Status

1. PSD/NSR/RACT

The facility is considered a minor source with respect to PSD/NSR regulations.

2. Title V Major Source Status by Pollutant

**Table 3: Title V Major Source Status**

Pollutant	Is the Pollutant Emitted?	If emitted, what is the facility's Title V status for the Pollutant?		
		Major Source Status	Major Source Requesting SM Status	Non-Major Source Status
PM	✓			✓
PM <sub>10</sub>	✓			✓
SO <sub>2</sub>	✓			✓
VOC	✓			✓
NO <sub>x</sub>	✓			✓
CO	✓			✓
TRS	✓			✓
H <sub>2</sub> S	✓			✓

**Table 3: Title V Major Source Status**

Pollutant	Is the Pollutant Emitted?	If emitted, what is the facility's Title V status for the Pollutant?		
		Major Source Status	Major Source Requesting SM Status	Non-Major Source Status
Individual	✓			✓
Total HAPs	✓			✓

**II. Proposed Modification**

A. Description of Modification

The Oak Grove Landfill has been operating a gas collection and control system (GCCS) with 31 vertical gas extraction wells until December 2003. For this, the landfill had a 1500 scfm flare and blower system which was operating at 78% of the available capacity. As indicated by Application No. 15342, the landfill added 18 additional extraction wells to the landfill gas (LFG) collection system in January 2004. Therefore, additional flow capacity was needed to operate the additional wells at the optimum level. As indicated in application No. 15342, Republic, the owner of the landfill, was to install a 3000 scfm candlestick flare by June 2004. Also, to provide temporary additional flow capacity, the landfill facility proposed to operate a rental flare, which was to be in operation for 180 days until the permanent replacement flare was operational.

The facility also proposed to install a horizontal gas collection trench to minimize landfill gas migration from the Southeast of Oak Grove Landfill. The application indicates that this trench will start just to the Southwest of the closed portion of the landfill, and will run along the perimeter of the landfill for 1800 linear feet. The horizontal trench will be connected to the existing active GCCS, which collects and burns the gas generated at the landfill.

SIP Application No. 15689, and the 502(b)(10) notifications dated October 4, 2004 and October 6, 2004, indicate that the 1500 scfm flare and blower system located at the southeast of the landfill site was replaced in June 2004 by a 3000 scfm flare and blower system (as described above in application No.15342). Further, it indicated that there were 57 gas collection wells then on site and facility proposed to install 10 additional gas extraction wells, within the next several months.

It was anticipated by the Permittee that, with the installation of the 3000 scfm flare and blower system, the supplemental flare, which was to run only for 180 days, would no longer be required. However, Republic later determined that the additional capacity provided by a second blower and flare system is optimizing the operation of the system. The extraction wells installed on the west side of the landfill were operating much better with the supplemental system in place. Therefore, the Permittee requested to retain a 700 scfm secondary (supplemental system) flare and blower system as part of the LFG extraction system.

The Permittee by their letter dated October 6, 2004 requested EPD to authorize the installation and operation of the following:

1. A 1800 linear foot of horizontal LFG collection trench along the top of the southern and western landfill perimeter berm to help minimize off-site migration of LFG.

2. Ten (10) new LFG extraction wells and associated lateral piping and wellheads that were not in the originally approved LFG extraction system. These wells were needed, as determined by their consultant, to assist with the control of LFG migration and odor. Note that the facility had already increased the capacity of the GCCS from 31 to 57 extraction wells.
3. Increase in the LFG extraction/processing capacity of the primary site blower/flare system from 1500 scfm to 3000 scfm. This change was needed to accommodate gas flow from additional wells and the horizontal trench, along with increased LFG generation rate.
4. Addition of a 700-scfm secondary blower/flare system to the LFG extraction system to further improve LFG extraction capacity and balance system pressures and flows.

The flare chronology at Oak Grove landfill, as indicated by the facility during an inspection by the Stationary Source Compliance Program on September 8, 2005, is below:

1. Before July 2004 – one flare with 1500 scfm capacity
2. July 2004 – replaced flare with new No. 1 with 3000 scfm capacity
3. October 2004 – replaced temporary flare with new temporary flare with 3000 scfm capacity
4. January 6-10, 2005 – conducted performance test on new flare No. 1
5. April 2005 – decided to purchase 3000 scfm temporary flare
6. July 29, 2005 - conducted performance test on 3000 scfm temporary flare (now permanent flare No. 2)

A small increase in emissions is expected as a result of the new flare and blower system. The proposed flare will reduce NMOC emissions by 98 percent by weight, per regulatory requirement. A small increase in emissions is expected as a result of the gas collection trench.

The Permittee has now submitted an updated application dated November 1, 2005 which provides information regarding final changes already made to upgrade the blower/flare systems, and construct wells and trenches. Descriptions of actual changes are below:

**1. Upgrade of Original Flare:** a) A single 1500 scfm Perennial Energy landfill gas flare system located in the southwest corner of the site was replaced with a 3000 scfm flare and blower system in July 2004, b) During January 2004, an additional 18 wells were added to the LFG collection system for a total of 49 wells.

**2. Installation of additional Flare:** A permanent 3000 scfm blower and flare system has been installed at the northwest end of the landfill to replace the 700 scfm temporary flare system.

**3. Installation of additional LFG Extraction Wells:** 13 additional LFG extraction wells, which were not a part

of the approved GCCS design plan, were installed in 2004. An additional 19 wells were installed in June 2005. Only two of these wells are a part of the approved GCCS design plan. Note that 6 wells out of these 19 wells are not yet subject to NSPS, as indicated by the Permittee, as the waste has not yet been in place for 5 years as required by Subpart WWW.

Note that the facility has already increased the capacity of the GCCS from 31 to 57 extraction wells as indicated above. The installation and operation of this equipment as listed above, which is part of GCCS, must be approved. [Note that the Speedway landfill area has 75 GCCS wells and Oak Grove landfill has 85 GCCS wells as indicated by the facility during inspection on September 8, 2005.]

The Permittee has indicated, in their updated application, that the initial performance test for the new 3000 scfm flare was completed in January 2005 and report accepted by the Davison. The initial performance test for the second 3000 scfm flare, which became a permanent fixture at the site in April 2005, has been completed and submitted to the Division. As per their application, each flare is required to reduce NMOC emissions by at least 98 percent (by weight), in accordance with Subpart WWW.

The current Title V permit of the Oak Grove Sanitary/Speedway Landfill contains the Subpart WWW requirements for the GCCS including flares. Table 3.1 of initial Title V permit does not list any flares. This permit amendment will include the flares in Table 3.1. All the existing and additional flares, used as pollution control devices, are required to be operated in accordance with Subpart WWW. No other process changes or modifications are being made that are reflected in this narrative. The installation of the above equipment qualifies as a 502(b)(10) change because the existing Title V permit will not be modified; the Subpart WWW requirements for new flares are being added.

**B. Emissions Change**

The Permittee has indicated that a change in emissions is expected as a result of the upgraded and additional blower and flare assemblies. The changes in stack emissions for priority air pollutants are summarized below.

**Table 4: Emissions Change Due to Modification**

<b>Pollutant</b>	<b>Is the Pollutant Emitted?</b>	<b>Net Actual Emissions Increase (Decrease) (tpy)</b>	<b>Net Potential Emissions Increase (Decrease) (tpy)</b>
PM	✓	10.9	10.9
PM <sub>10</sub>	✓	10.9	10.9
SO <sub>2</sub>	✓	3.7	3.7
VOC	✓	0	0
NO <sub>x</sub>	✓	25.5	25.5
CO	✓	28.7	28.7
TRS			
H <sub>2</sub> S			
Individual HAP	✓	-	-
Total HAPs	✓	0.5	0.5

**Note:** No increase in emissions is expected as a result of the installation of the gas collection trench and additional extraction wells. The net actual emissions increase calculation was not provided by the Permittee. It is assumed that this will be equal to increase in potential emissions as the flares are operated continuously. A small increase in emissions is expected as a result of the new flare and blower system, and as a result of the gas collection trench.

C. Title I Modification

- PSD/NSR Applicability

The facility is a non-major source under PSD/NSR regulations. Therefore, this change is not subject to PSD or NSR. This permit amendment will not result in any such increase in emissions of air pollutants due to which the modification may be subjected to PSD review.

- NSPS Modification

The installation of additional flare/blower systems, extraction wells, and trenches and the replacement of a flare with a higher capacity is not an NSPS modification. The landfill is currently subject to this NSPS found in 40 CFR Part 60 Subpart WWW.

- NESHAP Modification

This change is not a modification under 40 CFR Part 61.

### **III. Facility Wide Requirements**

#### **A. Emission and Operating Caps**

No new facility-wide emissions or operating caps are applicable.

#### **B. Applicable Rules and Regulations**

There will not be any change in applicable rules and regulations associated with this modification. The installation of the flare/blower with larger capacity, the additional flare/blower, the additional extraction wells, and the additional horizontal LFG collection trenches are part of the GCCS, which is necessary to control emissions of LFG from the permitted landfill. Therefore, all facility wide applicable rules and regulations of 40 CFR Part 60, Subpart WWW, specified in Part 2.0 of the current permit, will continue to be applicable to this landfill facility after this modification.

The landfill is subject to 40 CFR Part 60 Subpart WWW. The Title V permit already addresses the applicable requirements of Subpart WWW regarding the gas collection system, open flares, and surface methane monitoring. The installation and operation of this equipment must therefore be in accordance with these rules. This 502(b)(10) change will incorporate the requirements of Subpart WWW as they apply to the new equipment.

The Landfill MACT, 40 CFR Part 63 Subpart AAAA was published in the Federal Register (Vol. 68, No. 11/Thursday, January 16, 2003). This NESHAP is applicable to any open landfill that accepted waste after November 8, 1987, that has estimated uncontrolled NMOC emissions exceeding 50 Mg/yr, and which meets one of the following criteria: (1) is a major source, (2) is collocated with a major source, or (3) is an area source with capacity greater than 2.5 million cubic meters (3.2 million cubic yards). Since the Oak Grove Sanitary/Speedway Landfill accepted waste after November 8, 1987, is an area source with capacity over 2.5 million cubic meters, and has estimated NMOC exceeding 50 Mg/yr, it was subject to MACT standards effective January 16, 2003.

The MACT contains "startup, shutdown, and malfunction (SSM) requirements" that apply to affected landfills. The rule requires that the Permittee develop and implement a written SSM plan that describes in detail the procedures for operating and maintaining the collection and control system and the continuous monitoring system (CMS) during periods of SSM [Section 63.6(e)(3)]. There are also record keeping and reporting requirements for SSM incidents. Since the initial Title V permit was issued in Oct 2001, this requirement was not included in the Title V permit. Therefore, conditions related to these requirements are included in this permit amendment.

#### **C. Compliance Status**

The facility has not submitted any electronic Title V permit application or certificate and signature page. Therefore, it is assumed per record, that the facility is in compliance.

D. Operational Flexibility

Oak Grove Sanitary Landfill has not requested any operational flexibility in the 502(b)(10) request applications.

E. Permit Conditions

None applicable.

**IV. Regulated Equipment Requirements**

This modification involves the installation of additional equipment to their GCCS, which will not result in any increase in emissions of air pollutants, but will result in a decrease in emissions. All the equipment installed by the facility, which is part of the GCCS, is required to be installed and operated in accordance with the NSPS.

**A. Brief Process Description**

The proposed changes will be made to the existing landfill gas collection and control system. The replacement of the existing flare (FL01), which is of 1500 scfm capacity with a new flare (FLR # 1) of 3000 scfm capacity, and the installation of an additional 3000 scfm capacity flare (FLR # 2), are needed to accommodate increasing gas flow from the additional wells and the horizontal trench. This will result in increased LFG generation rate. Landfill gas will be routed to the flares via the existing landfill gas collection and control system (GCCS), as per Subpart WWW. The flares are required to be equipped with devices to monitor the presence of a continuous flame and gas flow to, or bypass of, the flare as required in 60.756(c).

**B. Equipment List for the New or Modified Process (es)**

Emission Units		Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	Applicable Requirements / Standards	Corresponding Permit Conditions	ID No.	Description
LF01	Landfill	40 CFR Part 60 Subpart A 40 CFR Part 60 Subpart WWW 40 CFR Part 61 Subpart A 40 CFR Part 61 Subpart M 40 CFR Part 63 Subpart A 40 CFR Part 63 Subpart AAAA	2.2.1, 2.2.2, 2.2.3, 2.2.4, 3.3.1, 3.3.2, 3.3.3, 3.3.4, 3.3.5, 4.2.1, 4.2.2, 5.2.1- 5.2.9, 5.3.1, 5.3.2, 6.1.7, 6.1.8, 6.2.1 -6.2.14, 6.2.15, 6.2.16, 6.1.7, 6.1.8	FLR#1,  FLR#2,  SPDWY	Gas Collection and Control System (GCCS), including two flare(s) each of 3000-scfm capacity. Candlestick flare of 2500 scfm capacity

\* Generally applicable requirements contained in this permit may also apply to emission units listed above. This landfill consists of Oak Grove landfill and Speedway landfill. SPDWY flare is for Speedway landfill area.

**C. Equipment & Rule Applicability**

- Emission and Operating Caps

No new emission or operating caps are associated with the proposed modification.

- Applicable Rules and Regulations -

The proposed new flares will be subject to the standards of 40 CFR Part 60 Subpart WWW, as are the existing flare(s). An open flare is required to be designed and operated in accordance with 40 CFR 60.18. Sections 60.758(b)(4), 60.758 (c)(2), and 60.758 (c)(4) of Subpart WWW also regulate the operation of open flares. Initial stack testing is required to determine compliance. A device to continuously monitor and record temperature is required by 60.576(b)(1).

On and after January 16, 2004, the Permittee is required to comply with the provisions of 40 CFR Part 63 Subpart A- "General Provisions" for the National Emission Standards for Hazardous Air Pollutants (NESHAP) as specified in Table 1 and applicable provisions of 40 CFR Part 63 Subpart A- "National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste landfills." According to the rule, the Permittee must develop and implement a written startup, shutdown and malfunction (SSM) plan, according to § 60.6(e)(3), and maintain a copy of the SSM plan on site.

**D. Compliance Status**

According to EPD's records, the facility is currently operating in compliance with its permits and all applicable air quality rules.

**E. Operational Flexibility**

Oak Grove Sanitary landfill has not requested any operational flexibility.

**F. Permit Conditions**

New Condition 3.3.4 requires that the Permittee to design, construct/install, and operate any gas collection and control system, including the new flare(s), extraction wells, and collection trenches, in accordance with the provisions of the Federal Rule 40 CFR Part 60 Subpart WWW- "Standards of Performance for Municipal Solid Waste Landfills."

New Condition 3.3.5 requires the Permittee to develop and implement a SSM plan as per requirements of 40 CFR Part 63 Subpart A. The landfill has complied with this requirement. The facility must keep this plan on site.

**V. Testing Requirements** (with Associated Record Keeping and Reporting)

A. Individual Equipment:

The emission reduction performance of an open flare can be demonstrated to comply with Subpart WWW by using a flare that meets certain design and operating parameters of 60.752(b)(2)(iii)(A). Flares meeting the specifications in 40 CFR 60.18 are presumed to achieve 98 percent control, and a VOC destruction performance test is not required. However, 60.18 requires the Permittee to conduct an initial performance test for visible emissions and to calculate the exit velocity from that flare.

The latest information submitted indicates that initial performance tests on all flares were completed and results submitted to the Division for approval. In view of this, no testing of flares is required by this permit.

B. Equipment Groups (all subject to the same test requirements):

None applicable.

**VI. Monitoring Requirements** (with Associated Record Keeping and Reporting)

The Oak Grove Sanitary/Speedway Landfill is subject to Subpart WWW and the existing permit contains monitoring sufficient to comply with Title V periodic monitoring requirements.

The landfill uses open flares to control NMOC emissions. Subpart WWW requires that a heat-sensing device be used to continuously monitor the presence of a flame within an open flare. The landfill is also required to monitor for the bypass flow of the control device by either installing a continuous (at least one reading every 15 minutes) flow monitor or by securing the bypass line valve is closed and conducting a monthly inspection.

For each wellhead in the collection system, the landfill is required to install a sample port and a temperature-measuring device or access port. Once each month, the landfill is required to determine the gauge pressure, the temperature, and oxygen or nitrogen concentration in each wellhead.

The landfill is required to monitor methane concentrations on the surface of the landfill once per quarter.

Existing Conditions No. 5.2.1 through 5.2.9 already require the above monitoring without specifying the open flare, collection well or part of the landfill. Therefore, no new monitoring condition is required to be added for the new flare(s) and collection wells.

A. Individual Equipment:

No new monitoring requirements are associated with the proposed 502(b)(10) change.

B. Equipment Groups (all subject to the same monitoring requirements):

No new monitoring requirements are associated with the proposed 502(b)(10) change.

## **VII. Other Record Keeping and Reporting Requirements**

According to 40 CFR 60.758(c)(4), the Permittee is required to record all pilot flame or flame monitoring data and all periods when a pilot flame was absent. Reporting of this was not included in the permit. Therefore, new Condition No. 6.1.8 has been included, which requires the Permittee to report any period during which flame or pilot flame of each operating flares, as required by Condition 6.2.16, is absent.

According to 40 CFR 60.758(d), the Permittee is required to keep, for the life of the collection system, an up-to-date and accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector. The Permittee is also required to keep such records of the installation date and location of all newly installed collectors, as specified under § 60.755(b). Therefore, a new Condition No. 6.2.15, for the above has been included.

Similarly, the Permittee is also required to keep, up-to-date, readily accessible continuous records of the flame or pilot monitoring specified under § 60.756(c) for each open flare (aka candlestick flare), and up-to-date, readily accessible records of all periods of operation in which flame or pilot flame was absent. Therefore, a new Condition No. 6.2.16, for the above has been included.

Condition 6.2.17 requires the Permittee to report any SSM event in which the actions taken were not consistent with the written SSM plan as required per Condition 3.3.5, and the source exceeds the relevant standards. Condition 6.2.18 requires the Permittee to submit a SSM deviation report semi-annually.

## **VIII. Specific Requirements**

### **A. Operational Flexibility**

Not Applicable.

### **B. Alternative Requirements**

Not Applicable.

### **C. Insignificant Activities**

None listed in the 502(b)(10) change applications.

### **D. Temporary Sources**

The Permittee is operating temporary rental flares, which will be in operation till the new permanent flares are installed and operating. A Condition No. 7.5.1, authorizing the Permittee to install and operate these temporary flare(s), not exceeding 180 days, for the control of LFG, in accordance with the provisions of the Federal Rule 40 CFR Part 60 Subpart WWW-“Standards of Performance for Municipal Solid Waste Landfills.” [40 CFR 60.752(b)], has been included in the amendment.

### **E. Short-Term Activities**

None listed in the 502(b)(10) change applications.

F. Compliance Schedule/Progress Reports

Not Applicable.

G. Emissions Trading

Not Applicable.

H. Acid Rain Requirements

I. Prevention of Accidental Releases

Not addressed in the 502(b)(10) change applications.

J. Stratospheric Ozone Protection Requirements

Not addressed in the 502(b)(10) change applications.

K. Pollution Prevention

None Applicable.

L. Specific Conditions

None Applicable.

**IX. General Provisions**

Generic provisions have been included in this permit to address the requirements in 40 CFR Part 70 that apply to all Title V sources, and the requirements in Chapter 391-3-1 of the Georgia Rules for Air Quality Control that apply to all stationary sources of air pollution.

The following Conditions, No. 8.23 through 8.2.6, are added to the permit, as per requirements of U.S. EPA. These are in the latest Title V template and are not there in the current permit.

- 1) Condition No. 8.23 for “Solvent Metal Cleaning”,
- 2) Condition No. 8.24 for “Incinerators”,
- 3) Condition No. 8.25 for “Volatile Organic Liquid Handling and Storage” and
- 4) Condition No. 8.26 for “Use of Any Credible Evidence or Information