

Mr. Dan Magoun
Wabash Valley Landfill
P.O. Box 406
Wabash, Indiana 46992

Re: 169-11639
First Administrative Amendment to
First Minor Source Modification No. 169-11149 to
Part 70 169-10186-00058

Dear Mr. Magoun:

Wabash Valley Landfill was issued a Minor Source Modification, No. 169-11149, to their Part 70 permit, No. 169-10186-00058, on September 16, 1999, for the installation and operation of a landfill gas collection and control system with a 1200 scfm utility-type open flare. A Minor Permit Modification, No. 169-11166, to incorporate Minor Source Modification No. 169-11149 into their issued Part 70 permit was issued on August 18, 1999. A letter requesting an amendment to Minor Source Modification No. 169-11149 to install and operate nine (9) passive vent flares on a temporary basis until such time as the permanent 1200 scfm open flare is installed was received on December 8, 1999. The source has estimated that the permanent 1200 scfm open flare should be installed and operational by July, 2000, at which time the source will cease use of the nine (9) temporary passive vent flares.

Pursuant to the provisions of 326 IAC 2-7-11, Minor Source Modification No. 169-11149 and Part 70 Permit No. 169-10186-00058 are hereby administratively amended to allow Wabash Valley Landfill to install and operate the nine (9) passive vent flares, each with a maximum flow rate of 50 scfm, until such time as the permanent 1200 scfm open flare is installed and operational or until July 1, 2000. The source shall physically remove the nine (9) temporary passive vent flares from operation upon start of operation of the 1200 scfm open flare. If installation of the 1200 scfm flare is not completed by July 1, 2000, the source shall notify the Office of Air Management in writing and request an extension of the approval to operate the nine (9) temporary passive vent flares.

Temporary Operating Conditions

1. The Permittee shall install and operate the nine (9) temporary 50 scfm passive vent flares only until the 1200 scfm open flare is in operation or until July 1, 2000. The nine (9) temporary 50 scfm passive vent flares shall be physically removed from operation at such time as the permanent 1200 scfm open flare is operational.
2. The Permittee shall install, calibrate, maintain, and operate according to the manufacturer's specifications a heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame at each passive vent flare and a device that records flow to or bypass of the passive vent flares.
3. The Permittee shall either install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device at least every fifteen minutes; or secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration.

Reviewer: Rachel Meredith

4. A visual inspection of the seal or closure of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

All other conditions of the Part 70 Permit and Minor Source Modification shall remain unchanged and in effect. Please attach a copy of this amendment to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Rachel Meredith, at (800) 451-6027, press 0 and ask for Rachel Meredith or extension (3-5691), or dial (317) 233-5691.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

Attachments

RLM

cc: File - Wabash County
U.S. EPA, Region V
Wabash County Health Department
Air Compliance Section Inspector - Ryan Hillman
Compliance Data Section - Karen Nowak
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michele Boner

PART 70 OPERATING PERMIT OFFICE OF AIR MANAGEMENT

**Wabash Valley Landfill
316 Spring Valley Road
Wabash, Indiana 46992**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T169-10186-00058	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Management	Issuance Date: March 9, 1999

First Minor Permit Revision No.: 169-11166

Issuance Date: August 18, 1999

First Administrative Amendment No.: 169-11639	Affected pages: 4, 26, and 40a
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary municipal solid waste landfill.

Responsible Official: Dan Magoun
Source Address: 316 Spring Valley Road, Wabash, Indiana 46992
Mailing Address: P.O. Box 406, Wabash, Indiana 46992
SIC Code: 4953
County Location: Wabash County
County Status: Attainment for all criteria pollutants
Source Status: Part 70 Permit Program
Minor Source, under PSD
Major Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

- (a) One (1) municipal solid waste landfill with a design capacity of 4.049682 million megegrams (Mg) and 5.1721652 million cubic meters.
- (b) one (1) landfill gas collection and control system consisting of one (1) skid-mounted landfill gas blower, one (1) condensate knockout, one (1) 1200 scfm utility-type open flare, an automatic shut-off valve, a thermal dispersion flow meter, and a Chromel-Alumel thermocouple for pilot confirmation. Pending installation and operation of the 1200 scfm utility-type open flare, nine (9) temporary passive vent flares will be utilized for the landfill gas collection and control system.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

- (a) One (1) 55 gallon reservoir, covered, Krystal Kleen parts cleaning machine with an annual throughput on 330 gallons per year.

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)] A municipal solid waste landfill with a design capacity of 4.049682 million megagrams (Mg) and 5.1721652 million cubic meters. This landfill is equipped with a landfill gas collection and control system consisting of one (1) skid-mounted landfill gas blower, one (1) condensate knockout, one (1) 1200 scfm utility-type open flare, an automatic shut-off valve, a thermal dispersion flow meter, and a Chromel-Alumel thermocouple for pilot confirmation. Pending installation and operation of the 1200 scfm utility-type open flare, nine (9) temporary passive vent flares will be utilized for the landfill gas collection and control system. (The information describing this process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 General Provisions Relating to NSPS [326 IAC 12-1][40 CFR Part 60, Subpart A]

The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the facility described in this section except when otherwise specified in 40 CFR Part 60, Subpart WWW.

D.1.2 Municipal Solid Waste Landfill NSPS [326 IAC 12] [40CFR 60.752, Subpart WWW]

The municipal solid waste landfill has a design capacity greater than 2.5 million megagrams (Mg) and shall either comply with 40CFR 60.752 (b)(2) or calculate the non methane organic compound (NMOC) emission rate for the landfill using the procedures specified in 40CFR 60.754. (The Permittee's Tier 1 analysis was submitted on January 14, 1998, and the Tier 2 analysis was submitted on April 21, 1998.)

D.1.3 Operational Standards for Collection and Control Systems [40CFR 60.753]

In order to comply with 40CFR 60.752 (b)(2)(ii) the Permittee shall:

- (1) Operate the collection system such that gas is collected from each area, cell, or group of cells in the municipal solid waste landfill in which solid waste has been in place for five years if active or 2 years or more if closed or at final grade.
- (2) Operate the collection system with negative pressure at each wellhead except under the following conditions:
 - (a) Fire or increased well temperature. The Permittee shall record instances when positive pressure occurs in efforts to avoid a fire. These records shall be submitted with the annual reports as provided in 40CFR 60.757(f)(1).
 - (b) Use of a geomembrane or synthetic cover. The Permittee shall develop acceptable pressure limits in the design plan.
 - (c) A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes shall be approved by the Office of Air Management (OAM).
- (3) Operate each interior wellhead in the collection system with a landfill gas temperature less than 55EC and with either a nitrogen level less than 20 percent or an oxygen level less than 5 percent. The Permittee may establish a higher operating temperature, nitrogen, or oxygen value at a particular well. A higher operating value demonstration shall show supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens.

D.1.10 Temporary Operating Conditions

- (a) The Permittee shall install and operate the nine (9) temporary 50 scfm passive vent flares only until the 1200 scfm open flare is in operation or until July 1, 2000. The nine (9) temporary 50 scfm passive vent flares shall be physically removed from operation at such time as the permanent 1200 scfm open flare is operational.
- (b) The Permittee shall install, calibrate, maintain, and operate according to the manufacturer's specifications a heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame at each passive vent flare and a device that records flow to or bypass of the passive vent flares.
- (c) The Permittee shall either install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device at least every fifteen minutes; or secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration.
- (d) A visual inspection of the seal or closure of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

Indiana Department of Environmental Management Office of Air Management

Technical Support Document (TSD) for an Administrative Amendment to a Part 70 Minor Source Modification

Source Background and Description

Source Name:	Wabash Valley Landfill
Source Location:	316 Spring Valley Road, Wabash, Indiana 46992
County:	Wabash County
SIC Code:	4953
Operation Permit No.:	T169-10186-00058
Operation Permit Issuance Date:	March 9, 1999
Source Modification No.:	169-11149-00058
Source Modification Issue Date:	September 16, 1999
Administrative Amendment No.:	169-11639-00058
Amendment Reviewer:	Rachel Meredith

The Office of Air Management (OAM) has reviewed a source modification application from Wabash Valley Landfill relating to the construction of nine (9) temporary passive vent flares to Wabash Valley Landfill's landfill gas collection and control system.

History

Wabash Valley Landfill was issued a Minor Source Modification, No. 169-11149, to their Part 70 permit, No. 169-10186-00058, on September 16, 1999, for the installation and operation of a landfill gas collection and control system with a 1200 scfm utility-type open flare. A letter requesting an amendment to the minor source modification to install and operate nine (9) passive vent flares on a temporary basis until such time as the permanent 1200 scfm open flare is installed was received on December 8, 1999. The source has estimated that the permanent 1200 scfm open flare should be installed and operational by July, 2000, at which time the source will cease use of the nine (9) temporary passive vent flares.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the Part 70 minor source modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An administratively complete application for the purposes of this review was received on

December 8, 1999.

Potential To Emit of the Source Before Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA.”

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM-10	less than 100
SO ₂	less than 100
VOC	less than 100
CO	less than 100
NO _x	less than 100

HAP's	Potential To Emit (tons/year)
Toluene	less than 10
TOTAL HAPS	less than 25
TOTAL	less than 25

Pursuant to 326 IAC 2-7-2(a)(2), the provisions of 326 IAC 2-7 are applicable to this source because the source is subject to a standard under Section 111 of the CAA (40 CFR § 60 Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills).

Potential to Emit Before Modification After Amendment Issuance

The table below summarizes the potential to emit from this amendment based on the source’s potential to emit before Minor Source Modification No. 169-11149, reflecting all limits, of the significant emission units after controls. The nine (9) passive vent flares in this amendment will not operate at the same time as the open flare in Minor Source Modification No. 169-11149. The control equipment is considered federally enforceable only after issue of this Amendment. Because the nine (9) vent flares are temporary units, compliance monitoring conditions detailed in “Compliance Requirements” on page 4 of this TSD are included with this Amendment.

Pollutant	Limited PTE (tons/year)
PM	0.00
PM-10	0.92
SO ₂	0.99
VOC	0.12
CO	24.07
NO _x	4.42

See Flare Emissions, page 6, for detailed emissions calculations.

This modification to an existing minor stationary source is not major because the emission increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Justification for Modification

This amendment to allow the use of nine (9) temporary passive vent flares pending installation of the permanent 1200 scfm open flare permitted in Minor Source Modification No. 169-11149, is being incorporated as an administrative amendment pursuant to 326 IAC 2-7-11(8) revising the descriptive information for the landfill gas collection system flare from one 1200 scfm open flare to nine (9) 50 scfm passive vent flares. The potential to emit from this amendment falls below the thresholds established in 326 IAC 2-7-10.5 (d)(4).

Wabash Valley Landfill is installing the landfill gas collection and control system as part of a Remedial Action Plan under 326 IAC 10-20-17(d)(4). In accordance with the schedule established in Wabash Valley Landfill's Remedial Action Plan, the landfill gas and collection system installation is to begin in January of 2000. However, the 1200 scfm open flare will not be ready for operation until approximately July, 2000. In order to comply with the terms of the Remedial Action Plan under 326 IAC 10-20-17 (d)(4) as agreed to by the source and IDEM - Office of Solid and Hazardous Waste, the source is requesting use of the temporary passive vent flares until such time as the permanent open flare is ready for operation.

County Attainment Status

The source is located in Wabash County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. Wabash County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Wabash County has been classified as attainment or unclassifiable for all pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (c) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive PM emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
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PM	less than 100
PM-10	less than 100
SO ₂	less than 100
VOC	less than 100
CO	less than 100
NOx	less than 100

- (1) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the 28 listed source categories.
- (2) These emissions are based upon calculations from the Part 70 permit (T163-10186-000058) issued March 9, 1999.

Federal Rule Applicability

The landfill and the landfill gas collection system permitted in Minor Source Modification No. 169-11149 is subject to the New Source Performance Standard, 326 IAC 12, (40 CFR 60.750, Subpart WWW). However, the landfill gas collection system is being installed prior to the requirement in New Source Performance Standard, 40 CFR 60.750, Subpart WWW. Therefore, at such time as the source would have been required to install the gas collection system, the gas collection system shall comply with 40 CFR 60.750, Subpart WWW.

There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs), 40CFR 63, applicable to this source.

State Rule Applicability - Entire Source

There are no changes in State Rule Applicability - Entire Source from the Minor Source Modification No. 169-11149, issued on September 16, 1999.

State Rule Applicability - Individual Facilities

There are no state rules for individual facilities applicable to the flare associated with the landfill gas collection and control system.

Compliance Requirements

The following temporary operating condition shall satisfy compliance monitoring requirements for the nine (9) temporary passive vent flares:

1. The Permittee shall install, calibrate, maintain, and operate according to the manufacturer's specifications a heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame at each passive vent flare and a device that records flow to or bypass of the passive vent flares.
2. The Permittee shall either install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device at least every fifteen minutes; or secure the bypass line valve in the closed position with a car-seal or a lock-and-key type

configuration.

3. A visual inspection of the seal or closure of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 187 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Part 70 Application Form GSD-08.

- (a) The nine (9) passive vent flares will emit levels of air toxics less than 10 tons per year for a single pollutant and 25 tons per year for any combination of pollutants.

Conclusion

The operation of the flares associated with the landfill gas collection and control system shall be subject to the conditions of the attached **First Administrative Amendment No. 169-11639-00058 to Minor Source Modification No. T169-11149-00058.**

Flare Emissions

LFG Heating Value: 550 Btu/scf (based on the heating value of the methane content of landfill gas)

Maximum Flare Capacity: 450 scfm total (9 flares @ 50 scfm each)

Heat Input Capacity:

$$\frac{450\text{cf}}{\text{m}} * \frac{60\text{ m}}{1\text{hr}} * \frac{550\text{Btu}}{\text{cf}} * \frac{\text{MM}}{10^6} = 14.85 \text{ MMBtu/hr}$$

Emission Factors:

$$\text{PM}_{10} = 0.00102 \text{ lb/hr/dscfm} [225 \text{ scfm (methane)} * 8\% \text{ (Moisture)} = 207 \text{ dscfm}]$$

$$\text{NO}_x = 0.068 \text{ lb/MMBtu}$$

$$\text{CO} = 0.37 \text{ lb/MMBtu}$$

$$\text{SO}_2 = 0.60 \text{ lb/hr}$$

Potential Emissions in Tons Per Year:

$$\text{PM}_{10} = 207 \text{ dscfm} * \frac{0.00102 \text{ lb/hr}}{\text{dscfm}} = .21 \text{ lb/hr} = 0.92 \text{ tons/yr}$$

$$\text{NO}_x = \frac{0.068 \text{ lb}}{\text{MMBtu}} * \frac{14.85\text{MMBtu}}{\text{hr}} * \frac{8760\text{hr}}{\text{yr}} * \frac{\text{ton}}{2000\text{lbs}} = 4.42 \text{ tons/yr}$$

$$\text{CO} = \frac{0.37\text{lb}}{\text{MMBtu}} * \frac{14.85\text{MMBtu}}{\text{hr}} * \frac{8760\text{hr}}{\text{yr}} * \frac{\text{ton}}{2000\text{lbs}} = 24.07 \text{ tons/yr}$$

$$\text{SO}_2 = 4500 \text{ scfm} * \frac{60 \text{ min}}{1 \text{ hr}} * \frac{49.6 \text{ ppmv}}{1,000,000} * \frac{0.997}{1} * \frac{64.07}{\text{MW SO}_2} * \frac{\text{lb-mole ER}}{.7302 \text{ ft}^3\text{-atm}} * \frac{1 \text{ atm}}{520\text{ER}} = 0.23 \text{ lb/hr}$$

$$\frac{.23 \text{ lb}}{\text{hr}} * \frac{8760\text{hr}}{\text{yr}} * \frac{\text{ton}}{2000\text{lbs}} = 0.99 \text{ tons/yr}$$

NO_x and CO emission factors taken from AP-42 (9/97), table 2.4-2. The PM10 emission factor taken from AP-42, 2.4-5, Emission Rates for Secondary Compounds Exiting Control Devices. SO₂ emissions calculated according to AP-42, 2.4.4.2 using total reduced sulfur content default value of 49.6 ppmv.

VOC Emissions from the Landfill Gas

$$450 \text{ scfm} * \frac{\text{lb-mole ER}}{0.7302 \text{ ft}^3\text{-atm}} * \frac{1 \text{ atm}}{520\text{ER}} * \frac{232 \text{ ppmv}}{1,000,000} * \frac{86 \text{ lb}}{\text{lb-mole}} * \frac{60 \text{ min}}{1 \text{ hour}} = 1.42 \text{ lb/hr VOC from landfill gas}$$

98% destruction efficiency (from the landfill gas control system) * 6.23 tons/year = 0.12 tons/year