



Joseph E. Kernan  
Governor

Lori F. Kaplan  
Commissioner

November 30, 2004

100 North Senate Avenue  
P.O. Box 6015  
Indianapolis, Indiana 46206-6015  
(317) 232-8603  
(800) 451-6027  
www.in.gov/idem

TO: Interested Parties / Applicant

RE: Wabash Valley Landfill / 169-19504-00058

FROM: Paul Dubenetzky  
Chief, Permits Branch  
Office of Air Quality

### Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures  
FNPER.dot 9/16/03



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November 30, 2004

Mr. Bill Meyer  
Wabash Valley Landfill  
809 Wabash Avenue  
Chesterton, Indiana 46304

Re: 169-19504-00058  
First Significant Source Modification to  
Part 70 Permit No.: T169-10186-00058

Dear Mr. Meyer:

Wabash Valley Landfill was issued a Part 70 Operating Permit T169-10186-00058 on March 9, 1999 for a municipal solid waste landfill. An application to modify the source was received on June 24, 2004. Pursuant to the provisions of 326 IAC 2-7-10.5, the following emission units are approved for construction at the source:

One (1) open flare, identified as Unit #2, to be constructed in 2004, with a maximum flow rate of 2,360 standard cubic feet per minute (scfm) of landfill gas and a maximum heat input capacity of 77.9 MMBtu per hour, and exhausting through stack #2.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).
2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.
3. Effective Date of the Permit  
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.
4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.
5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.
6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

This significant source modification authorizes construction of the new emission units. Operating conditions shall be incorporated into the Part 70 operating permit as a significant permit modification in accordance with 326 IAC 2-7-10.5(l)(2) and 326 IAC 2-7-12. Operation is not approved until the significant permit modification has been issued.

Pursuant to Contract No. A305-0-00-36, IDEM, OAQ has assigned the processing of this application to Eastern Research Group, Inc., (ERG). Therefore, questions should be directed to Yu-Lien Chu, ERG, Morrisville, North Carolina 27560, or call (919) 468-7871 to speak directly to Ms. Chu. Questions may also be directed to Duane Van Laningham at IDEM, OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call (800) 451-6027, and ask for Duane Van Laningham, or extension 3-6878, or dial (317) 233-6878.

Sincerely,

Original signed by  
Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Quality

Attachments

ERG/YC

cc: File - Wabash County  
Wabash County Health Department  
Air Compliance Section Inspector - Ryan Hillman  
Compliance Data Section  
Administrative and Development  
Technical Support and Modeling - Michele Boner  
Title V Renewal Reviewer - ERG/ST



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## PART 70 OPERATING PERMIT OFFICE OF AIR QUALITY

**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 and 326 IAC 2-1-3.2 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 Quality	Issuance Date: March 9, 1999  Expiration Date: March 9, 2004

First Minor Permit Modification No.: 169-11166-00058, issued August 18, 1999  
First Administrative Amendment No.: 169-11639-00058, issued December 16, 1999  
First Reopening No.: R 169-13524-00058, issued January 24, 2002  
Second Administrative Amendment No: 169-16947-00058, issued February 7, 2003

First Significant Source Modification No.: 169-19504-00058	
Issued by: Original signed by Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: November 30, 2004

## SECTION A

## SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). 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)]

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

Responsible Official:	Area President
Source Address:	316 Spring Valley Road, Wabash, Indiana 46992
Mailing Address:	809 Wabash Avenue, Chesterton, Indiana 46304
SIC Code:	4953
County Location:	Wabash County
Source Location 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 Not 1 of 28 Source Categories

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

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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 13,194,391 megagrams (Mg) and 20,781,841 cubic yards. This landfill was constructed in 1972 and modified in 2000 and 2003.
- (b) One (1) landfill gas collection and control system consisting of one (1) skid-mounted landfill gas blower, one (1) condensate knockout, one (1) 2,360 scfm utility-type open flare (identified as Unit #2, to be constructed in 2004, with a maximum heat input capacity of 77.9 MMBtu per hour, and exhausting through stack #2), an automatic shut-off valve, a thermal dispersion flow meter, and a Chromel-Alumel thermocouple for pilot confirmation.
- (c) Nine (9) temporary passive vent flares, each with a maximum flow rate of 50 scfm and a maximum heat input rate of 1.65 MMBtu/hr. These temporary flares are used for odor control.

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

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- (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]

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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 C SOURCE OPERATION CONDITIONS

Entire Source

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

C.1 Particulate Matter Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) pounds per hour [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3-2(c), the allowable particulate matter emissions rate from any process not already regulated by 326 IAC 6-1 or any New Source Performance Standard, and which has a maximum process weight rate less than 100 pounds per hour shall not exceed 0.551 pounds per hour.

C.2 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1. 326 IAC 4-1-3 (a)(2)(A) and (B) are not federally enforceable.

C.4 Incineration [326 IAC 4-2][326 IAC 9-1-2]

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 Operation of Equipment [326 IAC 2-7-6(6)]

All air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission unit vented to the control equipment is in operation.

C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61.140]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work

or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

- (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
- (2) If there is a change in the following:
  - (A) Asbestos removal or demolition start date;
  - (B) Removal or demolition contractor; or
  - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management  
Asbestos Section, Office of Air Quality  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

The notifications do not require a certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (e) **Procedures for Asbestos Emission Control**  
The Permittee shall comply with the emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-4 emission control requirements are mandatory for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Indiana Accredited Asbestos Inspector**  
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement that the inspector be accredited is federally enforceable.

### **Testing Requirements [326 IAC 2-7-6(1)]**

#### **C.8 Performance Testing [326 IAC 3-6]**

- (a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing methods approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

- (b) All test reports must be received by IDEM, OAQ within forty-five (45) days after the completion of the testing. An extension may be granted by the Commissioner, if the source submits to IDEM, OAQ, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

### **Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]**

#### **C.9 Compliance Schedule [326 IAC 2-7-6(3)]**

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The Permittee:

- (a) Has certified that all facilities at this source are in compliance with all applicable requirements; and
- (b) Has submitted a statement that the Permittee will continue to comply with such requirements; and
- (c) Will comply with such applicable requirements that become effective during the term of this permit.

#### **C.10 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]**

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Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment, no more than ninety (90) days after receipt of this permit. If due to circumstances beyond its control, this schedule cannot be met, the Permittee may extend compliance schedule an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

#### **C.11 Maintenance of Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]**

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- (a) In the event that a breakdown of the monitoring equipment occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem. To the extent practicable, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less frequent than required in Section D of this permit until such time as the monitoring equipment is back in operation. In the case of continuous monitoring, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less than one (1) hour until such time as the continuous monitor is back in operation.
- (b) The Permittee shall install, calibrate, quality assure, maintain, and operate all necessary monitors and related equipment. In addition, prompt corrective action shall be initiated whenever indicated.

**C.12 Monitoring Methods [326 IAC 3]**

Any monitoring or testing performed to meet the applicable requirements of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

**Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]**

**C.13 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68.215]**

If a regulated substance, subject to 40 CFR 68, is present in a process in more than the threshold quantity, 40 CFR 68 is an applicable requirement and the Permittee shall:

- (a) Submit:
  - (1) A compliance schedule for meeting the requirements of 40 CFR 68 by the date provided in 40 CFR 68.10(a); or
  - (2) As a part of the compliance certification submitted under 326 IAC 2-7-6(5), a certification statement that the source is in compliance with all the requirements of 40 CFR 68, including the registration and submission of a Risk Management Plan (RMP); and
  - (3) A verification to IDEM, OAQ, that a RMP or a revised plan was prepared and submitted as required by 40 CFR 68.
- (b) Provide annual certification to IDEM, OAQ, that the Risk Management Plan is being properly implemented.

All documents submitted pursuant to this condition shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

**C.14 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-7-5][326 IAC 2-7-6] [326 IAC 1-6]**

- (a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. This compliance monitoring plan is comprised of:
  - (1) This condition;
  - (2) The Compliance Determination Requirements in Section D of this permit;
  - (3) The Compliance Monitoring Requirements in Section D of this permit;
  - (4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and
  - (5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM, OAQ upon request and shall be subject to review and approval by IDEM, OAQ. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee and maintained on site, and is comprised of :
    - (A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this permit; and

- (B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.
- (b) For each compliance monitoring condition of this permit, appropriate response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to perform the actions detailed in the compliance monitoring conditions or failure to take the response steps within the time prescribed in the Compliance Response Plan, shall constitute a violation of the permit unless taking the response steps set forth in the Compliance Response Plan would be unreasonable.
- (c) After investigating the reason for the excursion, the Permittee is excused from taking further response steps for any of the following reasons:
- (1) The monitoring equipment malfunctioned, giving a false reading. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.
  - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied or;
  - (3) An automatic measurement was taken when the process was not operating; or
  - (4) The process has already returned to operating within "normal" parameters and no response steps are required.
- (d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5]  
[326 IAC 2-7-6]

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected facility while the corrective actions are being implemented. IDEM, OAQ shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAQ within thirty (30) days of receipt of the notice of deficiency. IDEM, OAQ reserves the authority to use enforcement activities to resolve noncompliant stack tests.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate permit conditions may be grounds for immediate revocation of the permit to operate the affected facility.

The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

## **Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

### **C.16 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]**

(a) In accordance with the compliance schedule specified in 326 IAC 2-6-3(b)(1), starting in 2004 and every three (3) years thereafter, the Permittee shall submit by July 1 an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(a) and shall meet the following requirements:

- (1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-5-4(a);
- (2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1 (32) ("Regulated pollutant, which is used only for purposes of Section 19 of this rule") from the source, for purpose of fee assessment.

The statement must be submitted to:

Indiana Department of Environmental Management  
Technical Support and Modeling Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

(b) The emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

### **C.17 Monitoring Data Availability [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)]**

(a) With the exception of performance tests conducted in accordance with Section C-Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions.

(b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.

(c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.

(d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.

(e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.

(f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

### **C.18 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]**

- (a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAQ, representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Records of required monitoring information shall include, where applicable:
  - (1) The date, place, and time of sampling or measurements;
  - (2) The dates analyses were performed;
  - (3) The company or entity performing the analyses;
  - (4) The analytic techniques or methods used;
  - (5) The results of such analyses; and
  - (6) The operating conditions existing at the time of sampling or measurement.
- (c) Support information shall include, where applicable:
  - (1) Copies of all reports required by this permit;
  - (2) All original strip chart recordings for continuous monitoring instrumentation;
  - (3) All calibration and maintenance records;
  - (4) Records of preventive maintenance shall be sufficient to demonstrate that improper maintenance did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.
- (d) All record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.19 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

- (a) To affirm that the source has met all the compliance monitoring requirements stated in this permit the source shall submit a Semi-annual Compliance Monitoring Report. Any deviation from the requirements and the date(s) of each deviation must be reported.
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015

Indianapolis, Indiana 46206-6015

- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (d) Unless otherwise specified in this permit, any semi-annual report shall be submitted within thirty (30) days of the end of the reporting period.
- (e) All instances of deviations as described in Section B- Deviations from Permit Requirements Conditions must be clearly identified in such reports.
- (f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.
- (g) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

### **Stratospheric Ozone Protection**

#### **C.20 Compliance with 40 CFR 82 and 326 IAC 22-1**

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Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with the standards for recycling and emissions reduction:

- (a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.
- (b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- (c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

## SECTION D.1

## FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)]

- (a) One (1) municipal solid waste landfill with a design capacity of 13,194,391 megagrams (Mg) and 20,781,841 cubic yards. This landfill was constructed in 1972 and modified in 2000 and 2003.
- (b) One (1) landfill gas collection and control system consisting of one (1) skid-mounted landfill gas blower, one (1) condensate knockout, one (1) 2,360 scfm utility-type open flare (identified as Unit #2, to be constructed in 2004, with a maximum heat input capacity of 77.9 MMBtu per hour, and exhausting through stack #2), an automatic shut-off valve, a thermal dispersion flow meter, and a Chromel-Alumel thermocouple for pilot confirmation.
- (c) Nine (9) temporary passive vent flares, each with a maximum flow rate of 50 scfm and a maximum heat input rate of 1.65 MMBtu/hr. These temporary flares are used for odor control.

(The information describing this process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

#### 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] [40 CFR 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 40 CFR 60.752 (b)(2) or calculate the non methane organic compound (NMOC) emission rate for the landfill using the procedures specified in 40 CFR 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. The subsequent 5-year Tier 2 report was submitted April 17, 2003)

#### D.1.3 General Provisions Relating to NESHAP [326 IAC 20-1] [40 CFR 63, Subpart AAAA]

The provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR Part 63, Subpart AAAA, or as specified by approved variances contained within the Collection and Control Design Plan.

#### D.1.4 Municipal Solid Waste Landfill NESHAP [40 CFR 63, Subpart AAAA]

The municipal solid waste landfill has a design capacity greater than 2.5 million megagrams (Mg) and has estimated uncontrolled NMOC emissions greater than 50 Mg/yr. Therefore, this landfill shall comply with 40 CFR 63, Subpart AAAA.

#### D.1.5 Operational Standards for Collection and Control Systems [40 CFR 60.753]

In order to comply with 40 CFR 60.752 (b)(2)(ii) the Permittee shall comply with the following requirements by October 17, 2005:

- (a) 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.
- (b) Operate the collection system with negative pressure at each wellhead except under the following conditions:

- (1) 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 40 CFR 60.757(f)(1).
  - (2) Use of a geomembrane or synthetic cover. The Permittee shall develop acceptable pressure limits in the design plan.
  - (3) 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 Quality (OAQ).
- (c) Operate each interior wellhead in the collection system with a landfill gas temperature less than 55°C 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.
- (1) The nitrogen level shall be determined using Method 3C, unless an alternative method is established as allowed by 40 CFR 60.752 (b)(2)(i).
  - (2) Unless an alternative test method is established as allowed by 40 CFR 60.752 (b)(2)(i), the oxygen shall be determined by an oxygen meter using Method 3A except that; the span shall be set so that the regulatory limit is between 20 and 50 percent of the span; a data recorder is not required; only two calibration gases are required, a zero and span, and ambient air may be used as the span; a calibration error check is not required; the allowable sample bias, zero drift, and calibration drift are ±10 percent.
- (d) Operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the Permittee shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The Permittee may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30 meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing.
- (e) Operate the system such that all collected gases are vented to a control system designed and operated in compliance with 40 CFR 60.752(b)(2)(iii). In the event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within one hour.
- (f) Operate the control system at all times when the collected gas is routed to the system.
- (g) If monitoring demonstrates that the operational requirements in 40 CFR 60.753(b), (c), or (d) are not met, corrective action shall be taken as specified in 40 CFR 60.755(a)(3) through (5) or 40 CFR 60.755(c). If corrective actions are taken as specified in 40 CFR 60.755, the monitored exceedance is not a violation of the operational requirements in 40 CFR 60.753.

- (a) Comply with the requirements of 40 CFR 60, Subpart WWW.
- (b) If the Permittee is required by 40 CFR 60.752(b)(2) to install a collection and control system, the Permittee shall comply with the general and continuing compliance requirements in 40 CFR 63.1960 through 40 CFR 63.1985.
- (c) For approval of collection and control systems that include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions, the Permittee must follow the procedures in 40 CFR 60.752(b)(2). If alternatives have already been approved under 40 CFR Part 60 Subpart WWW or the Federal plan, or EPA approved and effective State or tribal plan, these alternatives can be used to comply with this subpart, except that all affected sources must comply with the startup, shutdown, and malfunction (SSM) requirements in Subpart A of this part as specified in Table 1 of this subpart and all affected sources must submit compliance reports every 6 months as specified in 40 CFR 63.1980(a) and (b), including information on all deviations that occurred during the 6-month reporting period. Deviations (as defined in 40 CFR 63.1965) for continuous emission monitors or numerical continuous parameter monitors must be determined using a 3 hour monitoring block average (as defined in 40 CFR 63.1975).

### Compliance Determination Requirements

#### D.1.7 Testing Requirements [326 IAC 2-7-6(1),(6)] [40 CFR 60.754]

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- (a) Pursuant to 40 CFR 60.754(b):

After installation of a collection and control system in compliance with 40 CFR 60.755, the Permittee shall calculate the non methane organic compound (NMOC) emission rate for purposes of determining when the system can be removed using the following equation:

$$M_{\text{NMOC}} = 1.89 \times 10^{-3} Q_{\text{LFG}} C_{\text{NMOC}}$$

where,

$M_{\text{NMOC}}$  = mass emission rate of NMOC, megagrams per year

$Q_{\text{LFG}}$  = flow rate of landfill gas, cubic meters per minute

$C_{\text{NMOC}}$  = NMOC concentration, parts per million by volume as hexane

- (1) The flow rate of landfill gas,  $Q_{\text{LFG}}$ , shall be determined by measuring the total landfill gas flow rate at the common header pipe that leads to the control device using a gas flow measuring device calibrated according to the provisions of section 4 of Method 2E of appendix A of 40 CFR 60.
- (2) The average NMOC concentration,  $C_{\text{NMOC}}$ , shall be determined by collecting and analyzing landfill gas sampled from the common header pipe before the gas moving or condensate removal equipment using the procedures in Method 25C or Method 18 of appendix A of 40 CFR 60. If using Method 18 of appendix A of 40 CFR 60, the minimum list of compounds to be tested shall be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42). The sample location on the common header pipe shall be before any condensate removal or other gas refining units. The Permittee shall divide the NMOC concentration from Method 25C of appendix A of 40 CFR 60 by six to convert from  $C_{\text{NMOC}}$  as carbon to  $C_{\text{NMOC}}$  as hexane.
- (3) The Permittee may use another method to determine landfill gas flow rate and NMOC concentration if the method has been approved by the Office of Air Quality.

- (b) Pursuant to 40 CFR 60.754 (d):  
For the performance testing required in 40 CFR 60.752(b)(2)(iii)(B), Method 25 or Method 18 of appendix A of 40 CFR 60 shall be used to determine compliance with 98 weight percent efficiency or the 20 ppmv outlet concentration level, unless another method to demonstrate compliance has been approved by the Office of Air Quality (OAQ) as provided by 40 CFR 60.752(b)(2)(i)(B). If using Method 18 of appendix A, the minimum list of compounds to be tested shall be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42). The following equation shall be used to calculate efficiency:

$$\text{Control Efficiency} = (\text{NMOC}_{\text{in}} - \text{NMOC}_{\text{out}}) / (\text{NMOC}_{\text{in}})$$

where,

$\text{NMOC}_{\text{in}}$  = mass of NMOC entering the control device

$\text{NMOC}_{\text{out}}$  = mass of NMOC exiting control device

#### D.1.8 Compliance Determination [40 CFR 63.1960]

Pursuant to 40 CFR 63.1960, compliance with 40 CFR 63, Subpart AAAA is determined by the following:

- (a) The same way it is determined for 40 CFR 60, Subpart WWW, including performance testing, monitoring of the collection system, continuous parameter monitoring, and other credible evidence.
- (b) Continuous parameter monitoring data, collected under 40 CFR 60.756(b)(1), (c)(1), and (d) of Subpart WWW, are used to demonstrate compliance with the operating conditions for control systems. If a deviation (as defined in 40 CFR 63.1965) occurs, the Permittee has failed to meet the control device operating conditions described in 40 CFR 60, Subpart WWW and has deviated from the requirements of this subpart.
- (c) The Permittee must develop and implement a written SSM plan according to the provisions in 40 CFR 63.6(e)(3). A copy of the SSM plan must be maintained on site. Failure to write, implement, or maintain a copy of the SSM plan is a deviation from the requirements of this subpart.

### **Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

#### D.1.9 Monitoring [40 CFR 60.756]

Except as provided in 40 CFR 60.752(b)(2)(i)(B),

- (a) The Permittee seeking to comply with 40 CFR 60.752(b)(2)(ii)(A) for an active gas collection shall install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead and:
- (1) Measure the gauge pressure in the gas collection header on a monthly basis as provided in 40 CFR 60.755(a)(3);
  - (2) Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as provided in 40 CFR 60.755(a)(5); and
  - (3) Monitor temperature of the landfill gas on a monthly basis as provided in 40 CFR 60.755(a)(5).
- (b) The Permittee seeking to comply with 40 CFR 60.752(b)(2)(iii) using an enclosed combustor shall calibrate, maintain, and operate according to the manufacturer's specifications, the following equipment:

- (1) A temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of  $\pm 1$  percent of the temperature being measured expressed in degrees Celsius of  $\pm 0.5$  EC, whichever is greater. A temperature monitoring device is not required for boilers or process heaters with design heat input capacity greater than 44 megawatts.
  - (2) A device that records flow to or bypass of the control device. 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 (15) minutes; or secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection 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.
- (c) The Permittee seeking to comply with 40 CFR 60.752(b)(2)(iii) using an open flare shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment:
- (1) 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
  - (2) A device that records flow to or bypass of the flare.

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. 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.

- (d) The Permittee seeking to comply with 40 CFR 60.752(b)(2)(iii) using a device other than an open flare or an enclosed combustor shall provide information satisfactory to the Office of Air Quality (OAQ) as provided in 40 CFR 60.752(b)(2)(i)(B) describing the operation of the control device, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Office of Air Quality (OAQ) shall review the information and either approve it, or request that additional information be submitted. The Office of Air Quality (OAQ) may specify additional monitoring procedures.
- (e) The Permittee seeking to install a collection system that does not meet the specifications in 40 CFR 60.759 or seeking to monitor alternative parameters to those required by 40 CFR 60.753 through 40 CFR 60.756 shall provide information satisfactory to the Office of Air Quality (OAQ) as provided in 40 CFR 60.752(b)(2)(i)(B) and (C) describing the design and operation of the collection system, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Office of Air Quality (OAQ) may specify additional appropriate monitoring procedures.
- (f) The Permittee seeking to demonstrate compliance with 40 CFR 60.755(c), shall monitor surface concentrations of methane according to the instrument specifications and procedures provided in 40 CFR 60.755(d). 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.

- (a) Except as provided in 40 CFR 60.752(b)(2)(i)(B), the specified methods below shall be used to determine whether the gas collection system is in compliance with 40 CFR 60.752(b)(2)(i).
- (1) For the purpose of calculating the maximum expected gas generation flow rate from the landfill to determine compliance with 60.752(b)(2)(ii)(A)(1), one of the following equations shall be used. The  $k$  and  $L_o$  kinetic factors should be those published in the most recent Compilation of Air Pollution Emission Factors (AP-42) or other site-specific values demonstrated to be appropriate and approved by the Office of Air Quality (OAQ). If  $k$  has been determined as specified in 40 CFR 60.754(a)(4), the value of  $k$  determined from the test shall be used. A value of no more than 15 years shall be used for the intended use period of the gas mover equipment. The active life of the landfill is the age of the landfill plus the estimated number of years until closure.

For sites with unknown year-to-year solid waste acceptance rate:

$$Q_m = 2L_o R (e^{-kc} - e^{-kt})$$

where,

$Q_m$  = maximum expected gas generation flow rate, cubic meters per year

$L_o$  = methane generation potential, cubic meters per megagram solid waste

$R$  = average annual acceptance rate, megagrams per year

$k$  = methane generation rate constant, year<sup>-1</sup>

$t$  = age of the landfill at equipment installation plus the time the owner or operator intends to use the gas mover equipment or active life of the landfill, whichever is less. If the equipment is installed after closure,  $t$  is the age of the landfill at installation, years.

$c$  = time since closure, years (for an active landfill  $c = 0$  and  $e^{-kc} = 1$ )

For sites with known year-to-year solid waste acceptance rate:

$$Q_M = \sum_{i=1}^n 2 k L_o M_i (e^{-kt_i})$$

where,

$Q_M$  = maximum expected gas generation flow rate, cubic meters per year

$k$  = methane generation rate constant, year<sup>-1</sup>

$L_o$  = methane generation potential, cubic meters per megagram solid waste

$M_i$  = mass of solid waste in the  $i^{\text{th}}$  section, megagrams

$t_i$  = age of the  $i^{\text{th}}$  section, years

If a collection and control system has been installed, actual flow data may be used to project the maximum expected gas generation flow rate instead of, or in conjunction with, the equations in 40 CFR 60.755(a)(1)(i) and (ii). If the landfill is still accepting waste, the actual measured flow data will not equal the maximum expected gas generation rate, so calculations using the equations in 40 CFR 60.755(a)(1)(i) or (ii) or other methods shall be used to predict the maximum expected gas generation rate over the intended period of use of the gas control system equipment.

- (2) For the purposes of determining sufficient density of gas collector for compliance with 40 CFR 60.752 (b)(2)(ii)(A)(2), the Permittee shall design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the Office of Air Quality (OAQ), capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards.

- (3) For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with 40 CFR 60.752(b)(2)(ii)(A)(3), the Permittee shall measure gauge pressure in the gas collection header at each individual well, monthly. If a positive pressure exists, action shall be initiated to correct the exceedance within five (5) calendar days, except for the three conditions allowed under 40 CFR 60.753(b). If negative pressure cannot be achieved without excess air infiltration within fifteen (15) calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval.
  - (4) The Permittee is not required to expand the system as required in 40 CFR 60.755(a)(3) during the first 180 days after gas collection system start-up.
  - (5) For the purpose of identifying whether excess air infiltration into the landfill is occurring, the Permittee shall monitor each well monthly for temperature and nitrogen or oxygen as provided in 40 CFR 60.753(c). If a well exceeds one of these operating parameters, action shall be initiated to correct the exceedance within five (5) calendar days. If correction of the exceedance cannot be achieved within fifteen (15) calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval.
  - (6) If the Permittee seeks to demonstrate compliance with 40 CFR 60.752(b)(2)(ii)(A)(4) through the use of a collection system not conforming to the specifications provided in 40 CFR 60.759 shall provide information satisfactory to the Office of Air Quality (OAQ) as specified in 40 CFR 60.752 (b)(2)(i)(C) demonstrating that off-site migration is being controlled.
- (b) For purposes of compliance with 40 CFR 60.753(a), the Permittee shall place each well or design component of a controlled landfill as specified in the approved design plan as provided in 40 CFR 60.752(b)(2)(i). Each well shall be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of five (5) years or more if active or two (2) years or more if closed or at final grade.
  - (c) The following procedures shall be used for compliance with the surface methane operational standard as provided in 40 CFR 60.753 (d):
    - (1) After installation of the collection system, the Permittee shall monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals (or a site-specific established spacing) for each collection area on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in 40 CFR 60.755(d).
    - (2) The background concentration shall be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from perimeter wells.
    - (3) Surface emission monitoring shall be performed in accordance with section 4.3.1 of Method 21 of appendix A of 40 CFR60, except that the probe inlet shall be placed within five(5) to ten(10) centimeters of the ground. Monitoring shall be performed during typical meteorological conditions.

- (4) Any reading of 500 parts per million or more above background at any location shall be recorded as a monitored exceedance and the actions specified in 40 CFR 60.755(c)(4)(i) through (v) should be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of 40 CFR 60.753(d).

The location of each monitored exceedance shall be marked and the location recorded.

Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance shall be made and the location shall be re-monitored within ten (10) calendar days of detecting the exceedance.

If the re-monitoring of the location shows a second exceedance, additional corrective action shall be taken and the location shall be monitored again within ten (10) days of the second exceedance. If re-monitoring shows a third exceedance for the same location, the action specified in paragraph 40 CFR 60.755(c)(4)(v) of this section shall be taken, and no further monitoring of that location is required until the action specified in 40 CFR 60.755(c)(4)(v) has been taken.

Any location that initially showed an exceedance but has a methane concentration less than 500 ppm methane above background at the 10-day re-monitoring specified in 40 CFR 60.755(c)(4)(ii) or (iii) shall be re-monitored one (1) month from the initial exceedance. If the one (1)-month re-monitoring shows a concentration less than 500 parts per million above background, no further monitoring of that location is required until the next quarterly monitoring period. If the one (1)-month re-monitoring shows an exceedance, the actions specified in 40 CFR 60.755(c)(4)(iii) or (v) shall be taken.

For any location where monitored methane concentration equals or exceeds 500 parts per million above background three times within a quarterly period, a new well or other collection device shall be installed within 120 calendar of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to the Office of Air Quality (OAQ) for approval.

- (5) The Permittee shall implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.
- (d) The Permittee seeking to comply with the provisions of 40 CFR 60.755(c) shall comply with the following instrumentation specifications and procedures for surface emission monitoring devices:
- (1) The portable analyzer shall meet the instrument specifications provided in section 3 of Method 21 of appendix A of 40 CFR 60, except the "methane" shall replace all references to volatile organic compound (VOC).
  - (2) The calibration gas shall be methane, diluted to a nominal concentration of 500 parts per million in air.
  - (3) To meet the performance evaluation requirements in section 3.1.3 of Method 21 of appendix A of 40 CFR 60, the instrument evaluation procedures of section 4.4 of Method 21 of appendix A of 40 CFR 60 shall be used.

- (4) The calibration procedures provided in section 4.2 of Method 21 of appendix A of 40 CFR 60 shall be followed immediately before commencing a surface monitoring survey.
- (e) The provisions of 40 CFR 60.755 shall apply at all times, except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction, shall not exceed five (5) days for collection systems and shall not exceed one (1) hour for treatment or control devices.

**Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

**D.1.11 Non Methane Organic Compound (NMOC) Rate Calculation [40 CFR 60.754]**

Pursuant to 40 CFR 60.754 the Permittee shall:

- (a) Calculate the non methane organic compound (NMOC) emissions rate using either the equation provided in 40 CFR 60.754(a)(1)(i) or the equation provided in 40 CFR 60.754(a)(1)(ii). Both equations may be used if the actual year-to-year solid waste acceptance rate is known, as specified in 40 CFR 60.754(a)(1)(i), for part of the life of the landfill and the actual year-to-year solid waste acceptance rate is unknown, as specified in paragraph 40 CFR 60.754(a)(1)(ii), for part of the life of the landfill. The values to be used in both equations are 0.05 per year for  $k$ , 170 cubic meters per megagram for  $L_o$ , and 4,000 parts per million by volume as hexane for the  $C_{NMOC}$ . For landfills located in geographical areas with a thirty year annual average precipitation of less than 25 inches, as measured at the nearest representative official meteorological site, the  $k$  value to be used is 0.02 per year.

The following equation shall be used if the actual year-to-year solid waste acceptance rate is known:

$$M_{NMOC} = \sum_{i=1}^n 2 k L_o M_i (e^{-kt_i}) (C_{NMOC}) (3.6 \times 10^{-9})$$

where,

$M_{NMOC}$  = Total NMOC emission rate from the landfill, megagrams per year  
 $k$  = methane generation rate constant, year<sup>-1</sup>  
 $L_o$  = methane generation potential, cubic meters per megagram solid waste  
 $M_i$  = mass of solid waste in the  $i^{th}$  section, megagrams  
 $t_i$  = age of the  $i^{th}$  section, years  
 $C_{NMOC}$  = concentration of NMOC, parts per million by volume as hexane  
 $3.6 \times 10^{-9}$  = conversion factor

The mass of the nondegradable solid waste may be subtracted from the total mass of solid waste in a particular section of the landfill when calculating the value for  $M_i$  if documentation of the nature and amount of such wastes is maintained.

The following equation shall be used if the actual year-to-year solid waste acceptance rate is unknown:

$$M_{NMOC} = 2 L_o R (e^{-kc} - e^{-kt})(C_{NMOC})(3.6 \times 10^{-9})$$

where,

$M_{NMOC}$  = mass emission rate of NMOC, megagrams per year  
 $L_o$  = methane generation potential, cubic meters per megagram solid waste

R = average annual acceptance rate, megagrams per year  
k = methane generation rate constant, year<sup>-1</sup>  
t = age of landfill, years  
C<sub>NMOC</sub> = concentration of NMOC, parts per million by volume as hexane  
c = time since closure, years. For active landfill c = 0 and e<sup>-kc</sup> = 1  
3.6 x 10<sup>-9</sup> = conversion factor

The mass of the nondegradable solid waste may be subtracted from the total mass of solid waste in a particular section of the landfill when calculating the value for M<sub>i</sub> if documentation of the nature and amount of such wastes is maintained.

- (b) Tier 1. The Permittee shall compare the calculated NMOC mass emission rate to the standard of 50 megagrams per year.

If the NMOC emission rate calculated in 40 CFR 60.754(a)(1) is less than 50 megagrams per year, then the landfill owner shall submit an emission rate report as provided in 40 CFR 60.757(b)(1), and shall recalculate the NMOC mass emission rate annually as required under 40 CFR 60.752(b)(1). If the calculated NMOC emission rate is equal to or greater than 50 megagrams per year, then the Permittee shall either comply with 40 CFR 60.752(b)(2), or determine a site-specific NMOC concentration and recalculate the NMOC emission rate using the procedures provided in 40 CFR 60.754(a)(3).

Tier 2. The Permittee shall determine the NMOC concentration using the following sampling procedure. The Permittee shall install at least two sample probes per hectare of landfill surface that has retained waste for at least 2 years. If the landfill is larger than 25 hectares in area, only 50 samples are required. The sample probes should be located to avoid known areas of nondegradable solid waste. The Permittee shall collect and analyze one sample of landfill gas from each probe to determine the NMOC concentration using Method 25C of appendix A of 40 CFR 60 or Method 18 of appendix A of 40 CFR 60. If using Method 18 of appendix A of 40 CFR 60, the minimum list of compounds to be tested shall be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42). If composite sampling is used, equal volumes shall be taken from each sample probe. If more than the required number of samples are taken, all samples shall be used in analysis. The Permittee shall divide the NMOC concentration from Method 25C of appendix A by six to convert from C<sub>NMOC</sub> as carbon to C<sub>NMOC</sub> as hexane.

The Permittee shall recalculate the NMOC mass emission rate using the equations provided in 40 CFR 60.754(a)(1)(i) and (a)(1)(ii) and using the average NMOC concentration from the collected samples instead of the default value in the equation provided in 40 CFR 60.754(a)(1).

If the resulting mass emission rate calculated using the site-specific NMOC concentration is equal to or greater than 50 megagrams per year, then the Permittee shall either comply with 40 CFR 60.752(b)(2), or determine the site-specific methane generation rate constant and recalculate the NMOC emission rate using the site-specific methane generation rate using the procedure specified in 40 CFR 60.754(a)(4).

If the resulting NMOC mass emission rate is less than 50 megagrams per year, the Permittee shall submit a periodic estimate of the emission rate report as provided in 40 CFR 60.757(b)(1) and retest the site-specific NMOC concentration every five (5) years using the methods in 40 CFR 60.754(a)(3).

Tier 3. The site-specific methane generation rate constant shall be determined using the procedures provided in Method 2E of appendix A of 40 CFR 60. The Permittee shall estimate the NMOC mass emission rate using equations in 40 CFR 60.754(a)(1)(i) or

(a)(1)(ii) and using a site-specific methane generation rate constant  $k$ , and the site-specific NMOC concentration as determined in 40 CFR 60.754(a)(3) instead of the default values provided in 40 CFR 60.754(a)(1). The Permittee shall compare the resulting NMOC mass emission rate to the standard of 50 megagrams per year.

If the NMOC mass emission rate as calculated using the site-specific methane generation rate and concentration of NMOC is equal to or greater than 50 megagrams per year, the Permittee shall comply with 40 CFR 60.752(b)(2).

If the NMOC mass emission rate is less than 50 megagrams per year, then the Permittee shall submit a periodic emission rate report as provided in 40 CFR 60.757(b)(1) and shall recalculate the NMOC mass emission rate annually, as provided in 40 CFR 60.757(b)(1) using the equations in 40 CFR 60.754(a)(1) and using the site-specific methane generation rate constant and NMOC concentration obtained in 40 CFR 60.754(a)(3). The calculation of the methane generation rate constant is performed only once, and the value obtained from this test shall be used in all subsequent annual NMOC emission rate calculations.

The Permittee may use other methods to determine the NMOC concentration or a site-specific  $k$  as an alternative to the methods required in 40 CFR 60.754(a)(3) and (a)(4) if the method has been approved by the Administrator.

- (c) When calculating emissions for PSD purposes, the owner or operator of each municipal solid waste landfill subject to 40 CFR 60.754 shall estimate the NMOC emission rate for comparison to the PSD major source and significance levels in 40 CFR 51.166 or 40 CFR 52.21 using AP-42 or other approved measurement procedures. If a collection system, which complies with the provisions of 40 CFR 60.752(b)(2) is already installed, the Permittee shall estimate the NMOC emission rate using the procedures provided in 40 CFR 60.754(b).

The Permittee's initial NMOC (Tier 1) report was submitted on January 14, 1998. The Permittee's Tier 2 analysis was submitted on April 21, 1998.

#### D.1.12 Reporting Requirements [40 CFR 60.757]

Pursuant to 40 CFR 60.757, except as provided in 40 CFR 60.752(b)(2)(i)(B), the Permittee shall:

- (a) Submit an initial design capacity report to the Office of Air Quality (OAQ) no later than 90 days after October 8, 1997. An amended design capacity report shall be submitted to the Office of Air Quality (OAQ) providing notification of any increase in the design capacity of the landfill. (The Permittee's initial design capacity report was submitted on January 15, 1998.)
- (b) Submit a non methane organic compound (NMOC) emission rate report to the Office of Air Quality initially and annually thereafter, except as provided for in 40 CFR 60.757(b)(1)(ii) or (b) (3). The Office of Air Quality (OAQ) may request such additional information as may be necessary to verify the reported NMOC emission rate. The report should contain an annual or 5-year estimate of the non methane organic compound (NMOC) emission rate using the formula and procedures provided in 40 CFR 60.754 (a) or (b), as applicable. The initial NMOC emission rate report may be combined with the initial design capacity report required in 40 CFR 60.757(a) and shall be submitted no later than indicated in paragraphs 40 CFR 60.757(b)(1)(i)(A) and (B). June 10, 1996, for landfills that commenced construction, modification, or reconstruction on or after May 30, 1991, but before March 12, 1996, or ninety days after the date of commenced construction, modification, or reconstruction for landfills that commence construction, modification, or reconstruction on or after March 12, 1996. Subsequent NMOC emission rate reports shall be submitted annually thereafter, except as provided in 40 CFR 60.757(b)(1)(ii) and (b)(3). If the estimated NMOC emission rate as reported in the

annual report to the Office of Air Quality (OAQ) is less than 50 megagrams per year in each of the next five (5) consecutive years, the Permittee may elect to submit an estimate of the NMOC emission rate for the next five (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 five (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 Office of Air Quality (OAQ). This estimate shall be revised at least once every five (5) years. If the actual waste acceptance rate exceeds the estimated waste acceptance rate in any year reported in the five (5) year estimate, a revised five (5) year estimate shall be submitted to the Office of Air Quality. The revised estimate shall cover the five (5) year period beginning with the year in which the actual waste acceptance rate exceeded the estimated waste acceptance rate. The NMOC emission rate report shall include all the data, calculations, sample reports, and measurements used to estimate the annual or five (5) year emission rate. The Permittee is exempted from the requirements of 40 CFR 60.757(b)(1) and (2) after the installation of a collection and control system in compliance with 40 CFR 60.752 (b)(2), during such time as the system is in operation and in compliance with 40 CFR 60.753 and 60.755.

- (c) Submit a collection and control system design plan to the Office of Air Quality (OAQ) within one (1) year of the first non methane organic compound (NMOC) emission rate report, required under 40 CFR 60.757(b), in which NMOC emission rate exceeds 50 megagrams (Mg) per year; except if the Permittee elects to recalculate the NMOC emission rate after Tier 2 sampling and analysis as provided in 40 CFR 60.754(a)(3) and the resulting rate is less than 50 megagrams per year, annual periodic reporting shall be resumed, using the Tier 2 determined site-specific NMOC concentration, until the calculated emission rate is equal to or greater than 50 megagrams per year or the landfill is closed. The revised NMOC emission rate report, with the recalculated emission rate based on NMOC sampling and analysis, shall be submitted within 180 days of the first calculated exceedance of 50 megagrams per year. If the Permittee elects to recalculate the NMOC emission rate after determining a site-specific methane generation rate constant (k), as provided in Tier 3 in 40 CFR 60.754(a)(4), and the resulting NMOC emission rate is less than 50 megagrams per year, annual periodic reporting shall be resumed. The resulting site-specific methane generation rate constant (k) shall be used in the emission rate calculation until such time as the emissions rate calculation results in an exceedance. The revised NMOC emission rate report based on the provisions of 40 CFR 60.754(a)(4) and the resulting site-specific methane generation rate constant (k) shall be submitted to the Office of Air Quality (OAQ) within one (1) year of the first calculated emission rate exceeding 50 megagrams per year.
- (d) Submit a closure report to the Office of Air Quality (OAQ) within thirty days of waste acceptance cessation. The Office of Air Quality (OAQ) may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of 40 CFR 258.60. If a closure report has been submitted to the Office of Air Quality (OAQ), no additional wastes may be placed into the landfill without filing a notification of modification as described under 40 CFR 60.7(a)(4).
- (e) Submit an equipment removal report to the Office of Air Quality (OAQ) thirty (30) days prior to removal or cessation of operation of the control equipment. The equipment removal report shall contain all of the following items: a copy of the closure report submitted in accordance with 40 CFR 60.757(d), a copy of the initial performance test report demonstrating that the fifteen (15) year minimum control period has expired, and dated copies of three (3) successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year. The Office of Air Quality (OAQ) may request such additional information as may be necessary to verify that all of the conditions for removal in 40 CFR 60.752(b)(2)(v) have been met.

- (f) Annual reports of the following recorded information. The initial annual report shall be submitted within 180 days of installation and start-up of the collection and control system, and shall include the initial performance test report required under 40 CFR 60.8. For enclosed combustion devices and flares, reportable exceedances are defined under 40 CFR 60.758(c).
- (1) Value and length of time for exceedance of applicable parameters monitored under 40 CFR 60.756(a), (b), (c), and (d).
  - (2) Description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow as specified under 40 CFR 60.756.
  - (3) Description and duration of all periods when the control device was not operating for a period exceeding one (1) hour and length of time the control device was not operating.
  - (4) All periods when the collection system was not operating in excess of five (5) days.
  - (5) Location of each exceedance of the 500 parts per million methane concentration as provided in 40 CFR 60.753(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month.
  - (6) Date of installation and the location of each well or collection system expansion added pursuant to 40 CFR 60.755(a)(3), (b), and (c)(4).
- (g) The Permittee seeking to comply with 40 CFR 40.752(b)(2)(iii) shall include the following information with the initial performance test report required under 40 CFR 60.8:
- (1) A diagram of the collection system showing collection system positioning including all wells, horizontal collectors, surface collectors, or other gas extraction devices, including the locations of any areas excluded from collection and the proposed sites for the future collection system expansion.
  - (2) The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based.
  - (3) The documentation of the presence of asbestos or nondegradable material for each area from which collection wells have been excluded based on the presence of asbestos or nondegradable material.
  - (4) The sum of the gas generation flow rates for all areas from which collection wells have been excluded based on nonproductivity and the calculations of gas generation flow rate for each excluded area.
  - (5) The provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the landfill
  - (6) The provision for the control of off-site migration.
- (h) A summary of the above information shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit.

The Permittee's Tier 1 analysis was submitted on January 14, 1998. The Permittee's Tier 2 analysis was submitted on April 21, 1998.

#### D.1.13 Record Keeping Requirements [326 IAC 12] [40 CFR 60.758]

Pursuant to 40 CFR 60.758:

- (a) Except as provided in 40 CFR 60.752(b)(2)(i)(B), the Permittee subject to 40 CFR 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 40 CFR 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 four (4) hours. Either paper copy or electronic formats are acceptable.
- (b) Except as provided in 40 CFR 60.752(b)(2)(i)(B), the Permittee of a controlled landfill shall keep up-to-date, readily accessible records for the life of the control equipment of the data listed in (a) through (d) below as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring shall be maintained for a minimum of five (5) years. Records of control device vendor specifications shall be maintained until removal.
  - (1) Where the Permittee subject to the provisions of 40 CFR 60.758 seeks to demonstrate compliance with 40 CFR 60.752(b)(2)(ii):  
The maximum expected gas generation flow rate as calculated in 40 CFR 60.755(a)(1). The Permittee may use another method to determine the maximum gas generation flow rate, if the method has been approved by the Office of Air Quality (OAQ).  
  
The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in 40 CFR 60.759(a)(1).
  - (2) Where the Permittee subject to the provisions of 40 CFR 60.758 seeks to demonstrate compliance with 40 CFR 60.752(b)(2)(iii) through use of an enclosed combustion device other than a boiler or process heater with a design heat input capacity greater than 44 megawatts:  
  
The average combustion temperature measured at least every fifteen (15) minutes and averaged over the same time period of the performance test.  
  
The percent reduction of NMOC determined as specified in 40 CFR 60.752(b)(2)(iii)(B) achieved by the control device.
  - (3) Where the Permittee subject to the provisions of 40 CFR 60.758 seeks to demonstrate compliance with 40 CFR 60.752(b)(2)(iii)(B)(1) through use of a boiler or process heater of any size: a description of the location at which the collected gas vent stream is introduced into the boiler or process heater over the same time period of the performance testing.
  - (4) Where the Permittee subject to the provisions of 40 CFR 60.758 seeks to demonstrate compliance with 40 CFR 60.752(b)(2)(iii)(A) through use of an open flare, the flare type (i.e., steam-assisted, air-assisted, or nonassisted), all visible emission readings, heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations made during the performance test as specified in 40 CFR 60.18; continuous records of the flare pilot flame or flare flame monitoring and records of all periods of operations during which the pilot flame of the flare flame is absent.

- (c) Except as provided in 40 CFR 60.752(b)(2)(i)(B), the Permittee of a controlled landfill subject to the provisions of this subpart shall keep for 5 years up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in 40 CFR 60.756 as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded.
- (1) The following constitute exceedances that shall be recorded and reported under 40 CFR 60.757(f):
- For enclosed combustors except for boilers and process heaters with design heat input capacity of 44 megawatts (150 million British thermal unit per hour) or greater, all 3-hour periods of operation during which the average combustion temperature was more than 28°C below the average combustion temperature during the most recent performance test at which compliance with 40 CFR 60.752(b)(2)(iii) was determined.
- For boilers or process heaters, whenever there is a change in the location at which the vent stream is introduced into the flame zone as required under 40 CFR 60.758(b)(3)(i) of this section
- (2) The Permittee subject to 40 CFR 60.758 shall keep up-to-date, readily accessible continuous records of the indication of flow to the control device or the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under 40 CFR 60.756.
- (3) The Permittee subject to the provisions of 40 CFR 60.758 who uses a boiler or process heater with a design heat input capacity of 44 megawatts or greater to comply with 40 CFR 60.752(b)(2)(iii) shall keep an up-to-date, readily accessible record of all periods of operation of the boiler or process heater. (Examples of such records could include records of steam use, fuel use, or monitoring data collected pursuant to other State, local, Tribal or Federal regulatory requirements.)
- (4) The Permittee seeking to comply with the provisions of 40 CFR 60.758 by use of an open flare shall keep up-to-date, readily accessible continuous records of the flame or flare pilot flame monitoring specified under 40 CFR 60.756(c), and up-to-date, readily accessible records of all periods of operation in which the flame or flare pilot flame is absent.
- (d) Except as provided in 40 CFR 60.752(b)(2)(i)(B), the Permittee subject to the provisions of this subpart shall keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector.
- (1) The Permittee subject to the provisions of 40 CFR 60.758 shall keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors as specified in 40 CFR 60.755 (b).
- (2) The Permittee subject to the provisions of 40 CFR 60.758 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 40 CFR 60.759 (a)(3)(i) as well as any non-productive areas excluded from collection as provided in 40 CFR 60.759 (a)(3)(ii).

- (e) Except as provided in 40 CFR 60.752(b)(2)(i)(B), the Permittee subject to the provisions of this subpart shall keep for at least 5 years up-to-date, readily accessible records of all collection and control system exceedances of the operational standards in 40 CFR 60.753, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance.
- (f) Landfill owners or operators who convert design capacity from volume to mass or mass to volume to demonstrate that landfill design capacity is less than 2.5 million megagrams or 2.5 million cubic meters, as provided in the definition of "design capacity", shall keep readily accessible, on-site records of the annual recalculation of site-specific density, design capacity, and the supporting documentation. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.

D.1.14 Record Keeping and Reporting Requirements for NESHAP for Municipal Solid Waste Landfills  
[40 CFR 63.1980]

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Pursuant to 40 CFR 63.1980, the Permittee shall:

- (a) Keep records and reports as specified in 40 CFR 60, Subpart WWW, or in the Federal plan, EPA approved State plan or tribal plan that implements 40 CFR 60, Subpart Cc, whichever applies to this landfill, with one exception: The Permittee must submit the report described in 40 CFR 60.757(f) every 6 months within thirty (30) days after the end of each reporting period. These reports are due every March 30<sup>th</sup> and every September 30<sup>th</sup>. Compliance with this condition fulfills the requirement in Condition D.1.12(f).
- (b) Keep records and reports as specified in the general provisions of 40 CFR 60 and 40 CFR 63 as shown in Table 1 of 40 CFR 63, Subpart AAAA. Applicable records in the general provisions include items such as SSM plans and the SSM plan reports.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**PART 70 OPERATING PERMIT  
SEMI-ANNUAL COMPLIANCE MONITORING REPORT**

Source Name: Wabash Valley Landfill  
Source Address: 316 Spring Valley Road, Wabash, Indiana 46992  
Mailing Address: 809 Wabash Avenue, Chesterton, Indiana 46304  
Part 70 Permit No.: T169-10186-00058

**Months:** \_\_\_\_\_ **to** \_\_\_\_\_ **Year:** \_\_\_\_\_

This report is an affirmation that the source has met all the compliance monitoring requirements stated in this permit. This report shall be submitted semi-annually. Any deviation from the compliance monitoring requirements and the date(s) of each deviation must be reported. Additional pages may be attached if necessary. This form can be supplemented by attaching the Emergency/Deviation Occurrence Report. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

NO DEVIATIONS OCCURRED THIS REPORTING PERIOD

THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD.

Compliance Monitoring Requirement (e.g. Permit Condition D.1.3)	Number of Deviations	Date of each Deviation

Form Completed By: \_\_\_\_\_  
Title/Position: \_\_\_\_\_  
Date: \_\_\_\_\_  
Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

## Indiana Department of Environmental Management Office of Air Quality

### Technical Support Document (TSD) for a Part 70 Significant Source Modification and a Part 70 Significant Permit Modification

#### Source Background and Description

Source Name:	Wabash Valley Landfill
Source Location:	316 Spring Valley Road, Wabash, Indiana 46992
County:	Wabash
SIC Code:	4953
Operation Permit No.:	T169-10186-00058
Operation Permit Issuance Date:	March 9, 1999
Significant Source Modification No.:	T169-19504-00058
Significant Permit Modification No.:	T169-19668-00058
Permit Reviewer:	ERG/YC

The Office of Air Quality (OAQ) has reviewed a modification application from Wabash Valley Landfill, Inc. relating to the construction and operation of the following emission units:

One (1) open flare, identified as Unit #2, to be constructed in 2004, with a maximum flow rate of 2,360 standard cubic feet per minute (scfm) of landfill gas and a maximum heat input capacity of 77.9 MMBtu per hour, and exhausting through stack #2.

#### History

Wabash Valley Landfill is a municipal solid waste landfill and was issued a Part 70 permit (T169-10186-00058) on March 9, 1999. This landfill is currently controlled by nine (9) passive vent flares and one (1) 1,200 scfm open flare. On June 24, 2004, the source submitted an application to the OAQ requesting to replace the existing 1,200 scfm open flare with a new 2,360 scfm open flare.

The source stated that this existing landfill site was expanded in 2003 from 4,049,682 Mg to 13,194,391 Mg (= 20,781,841 cubic yards). The amended design capacity report was submitted to IDEM on December 17, 2003. Before the expansion in 2003, this landfill had NMOC emissions greater than 50 Mg/yr and was subject to the requirements of NSPS, Subpart WWW. When this source was expanded in 2003, the emissions from this landfill site were controlled by an existing collection and control system, including one (1) existing 1,200 scfm open flare. Therefore, the modification in 2003 is in compliance with the requirements of NSPS, Subpart WWW.

In addition, Condition D.1.10 - Temporary Operating Conditions for nine (9) additional temporary passive vent flares (which was permitted to install and operate prior to the installation of the 1,200 scfm open flare in the first Administrative Amendment #169-11639-00058, issued December 16, 1999) will be removed from the revised permit because these flares were never installed. These flares were removed from the rest of the permit as part of the second Administrative Amendment #169-16947-00058, issued February 7, 2003.

In the letter received on September 14, 2004, the Permittee requested the revised permit to include the following language:

- (a) The subsequent 5-year Tier 2 report, which is required by NSPS, Subpart WWW, was submitted on April 17, 2003.
- (b) The semi-annual report required NESHAP, Subpart AAAA will be due every March 30<sup>th</sup> and every September 30<sup>th</sup>.

### Enforcement Issue

There are no enforcement actions pending.

### Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
#2	2,360 scfm flare	30	1.0	2,360	1,400

### Recommendation

The staff recommends to the Commissioner that the Part 70 Significant Source Modification and the Part 70 Significant Permit 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 application for the purposes of this review was received on June 24, 2004. Additional information was received on September 14, 2004 and September 16, 2004.

### Emission Calculations

See Appendix A of this document for detailed emissions calculations (pages 1 and 2).

### Potential To Emit of 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	5.27
PM-10	5.27
SO <sub>2</sub>	5.19
VOC	5.49
CO	126
NO <sub>x</sub>	23.2

**HAP's	Potential To Emit (tons/year)
Hydrogen Chloride	2.47
Other HAPs	Negligible
TOTAL	2.47

**Justification for Modification**

This modification is being performed through a Part 70 Significant Source Modification pursuant to 326 IAC 2-7-10.5(f) as the potential to emit CO is greater than 100 tons per year. The permit modification is being performed through a Significant Permit Modification pursuant to 326 IAC 2-7-12(d) because this is a modification under provisions of Title I of CAA.

**County Attainment Status**

The source is located in Wabash County.

Pollutant	Status
PM-10	Attainment
SO <sub>2</sub>	Attainment
NO <sub>2</sub>	Attainment
1- hour Ozone	Attainment
8- hour Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx 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 NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD) and 326 IAC 2-2.
- (b) Wabash County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (c) Fugitive Emissions  
Since this type of operation is not in 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 applicability.

**Source Status**

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

Pollutant	Emissions (tons/year)
PM	2.45
PM-10	2.45
SO <sub>2</sub>	2.60
VOC	0.33
CO	64.2
NOx	11.8

- (a) 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 in one of the 28 listed source categories.

- (b) These emissions are from the Technical Support Document (TSD) for MSM #163-11149-00058, issued on June 19, 1999.

**Potential to Emit of Modification After Issuance**

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

Process/facility	Potential to Emit (tons/year)						
	PM	PM-10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
New 2,360 scfm open flare	5.27	5.27	5.19	5.95	126	23.2	2.47
Landfill expansion in 2003	--	--	--	(fugitive)	--	--	11.0**
PTE of the Existing Nine (9) Passive Vent Flares*	1.01	1.01	0.99	1.05	24.1	4.42	0.47
Total PTE of the Entire Source After this Modification	6.28	6.28	6.18	7.00	150	27.6	13.9
PSD Significant Thresholds	250	250	250	250	250	100	NA

Note : (\*) See the calculations on page 2 of Appendix A.  
(\*\*) According to the TSD addendum for T169-10186-00058, issued on March 9, 1999, the potential to emit HAP before control was 12.7 tons/yr before the expansion in 2003. The potential to emit HAP after the expansion in 2003 is estimated to be 12.7 tons/yr x 13.2 million Mg / 4.05 million Mg = 41.4 tons/yr. Since the LFG is controlled by flares, the PTE of HAP after control is 41.4 tons/yr x [25% un-collected + 75% collected x (1-98% control efficiency)] = 11.0 tons/yr.

- (a) This modification to an existing minor source is not major because the potential to emit of this modification is less than the PSD significant thresholds of 250 tons/yr. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable. The source will remain a PSD minor source after this modification.

**Federal Rule Applicability**

- (a) The existing municipal solid waste landfill is subject to the requirements of the New Source Performance Standard for Municipal Solid Waste Landfills (326 IAC 12 and 40 CFR 60.750-759, Subpart WWW) because this landfill site commenced modification and accepting waste after May 30, 1991. The requirements of 40 CFR 60, Subpart WWW previously applied to this landfill and are contained in the source's Title V permit #169-10186-00058, issued on March 9, 1999.

The NMOC emissions from this source have exceeded 50 Mg/yr. Therefore, this source is subject to the collection and control system requirements in 40 CFR 60.752(b)(2). The source submitted a collection and control system design plan to IDEM, OAQ on April 15, 2004. Pursuant to 40 CFR 60.752(b)(2)(ii), the landfill gas emitted from a landfill with NMOC emissions greater than 50 Mg/yr is required to be routed to a control system in either:

- (1) an open flare;

- (2) a control system or enclosed combustor designed to reduce NMOC by 98%; or
- (3) a treatment system that processes the collected gas for subsequent sale or use. This landfill is currently controlled by one (1) 1,200 scfm open flare and nine (9) passive vent flares. The source proposed to replace the existing 1,200 scfm flare with one (1) 2,360 scfm open flare.

Pursuant to T169-10186-00058, issued on March 9, 1999 and 40 CFR 60.756, the source shall install, calibrate, maintain, and operate open flares according to the manufacturer's specifications the following equipment:

- (1) 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
- (2) A device that records flow to or bypass of the flare. 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. 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.

According to the draft Title V renewal for this source, the Permittee is required to comply with the above monitoring conditions for flares by October 17, 2005.

- (b) This source has accepted waste since November 8, 1987, has a design capacity greater than 2.5 million megagrams, and has uncontrolled NMOC emissions greater than 50 megagrams per year (Mg/yr). Therefore, the source is subject to the requirements of National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Municipal Solid Waste Landfills (40 CFR 63.1930 - 63.1952, Subpart AAAA). This landfill site does not include a bioreactor, as defined in 40 CFR 63.1990.

Since this NESHAP was promulgated on January 16, 2003 and was not included in the source's Title V permit (T169-10186-00058, issued March 9, 1999), the conditions for the requirement of 40 CFR 63, Subpart AAAA will be added into this source modification and permit modification. The additional conditions are listed as the following:

- (1) Pursuant to 40 CFR 63.1955, the Permittee shall:
  - (A) Comply with the requirements of 40 CFR 60, Subpart WWW.
  - (B) If the source is required by 40 CFR 60.752(b)(2) to install a collection and control system, the source shall comply with the general and continuing compliance requirements in 40 CFR 63.1960 through 40 CFR 63.1985.
  - (C) For approval of collection and control systems that include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions, the Permittee must follow the procedures in 40 CFR 60.752(b)(2). If alternatives have already been approved under 40 CFR part 60 subpart WWW or the Federal plan, or EPA approved and effective State or tribal plan, these alternatives can be used to comply with this subpart, except that all affected sources must comply with the startup, shutdown, and malfunction (SSM) requirements in Subpart A of this part as specified in Table 1 of this subpart and all affected sources must submit compliance reports every 6 months as specified in 40 CFR 63.1980(a) and (b), including information on all deviations that occurred during the 6-month

reporting period. Deviations (as defined in 40 CFR 63.1965) for continuous emission monitors or numerical continuous parameter monitors must be determined using a 3 hour monitoring block average (as defined in 40 CFR 63.1975).

- (2) Pursuant to 40 CFR 63.1960, compliance with 40 CFR 63, Subpart AAAA is determined by the following:
  - (A) The same way it is determined for 40 CFR 60, Subpart WWW, including performance testing, monitoring of the collection system, continuous parameter monitoring, and other credible evidence.
  - (B) Continuous parameter monitoring data, collected under 40 CFR 60.756(b)(1), (c)(1), and (d) of subpart WWW, are used to demonstrate compliance with the operating conditions for control systems. If a deviation (as defined in 40 CFR 63.1965) occurs, the Permittee has failed to meet the control device operating conditions described in 40 CFR 60, Subpart WWW and has deviated from the requirements of this subpart.
  - (C) The Permittee must develop and implement a written SSM plan according to the provisions in 40 CFR 63.6(e)(3). A copy of the SSM plan must be maintained on site. Failure to write, implement, or maintain a copy of the SSM plan is a deviation from the requirements of this subpart.
- (3) Pursuant to 40 CFR 63.1980, the Permittee has the following record keeping and reporting requirements:
  - (A) The Permittee shall keep records and reports as specified in 40 CFR 60, Subpart WWW, or in the Federal plan, EPA approved State plan or tribal plan that implements 40 CFR 60, Subpart Cc, whichever applies to this landfill, with one exception: The Permittee must submit the annual report described in 40 CFR 60.757(f) every 6 months.
  - (B) The Permittee shall keep records and reports as specified in the general provisions of 40 CFR part 60 and 40 CFR 63 as shown in Table 1 of 40 CFR 63, Subpart AAAA. Applicable records in the general provisions include items such as SSM plans and the SSM plan reports.
- (c) This modification does not involve a pollutant-specific emissions unit as defined in 40 CFR 64.1:
  - (1) With the potential to emit before controls equal to or greater than the major source threshold;
  - (2) That is subject to an emission limitation or standard; and
  - (3) Uses a control device as defined in 40 CFR 64.1 to comply with that emission limitation or standard.

Therefore, the requirements of 40 CFR 64 (Compliance Assurance Monitoring) are not applicable to this modification.

### **State Rule Applicability - 2,360 scfm Open Flare**

#### **326 IAC 2-2 (PSD)**

This source was constructed in 1972 and modified in 2000 and 2003. This source is an existing PSD minor source and is not in one of the 28 source categories. The potential to emit PM and all

criteria pollutants from this modification is less than 250 tons/yr. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable.

**326 IAC 2-4.1 (New Sources of Hazardous Air Pollutants)**

This landfill is subject to the requirements of 40 CFR 63, Subpart AAAA. Therefore, the requirements of 326 IAC 2-4.1 (MACT) are not applicable to this modification.

**326 IAC 5-1 (Opacity Limitations)**

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

**326 IAC 9-1-2 (Carbon Monoxide Emission Requirements)**

This source is not among the listed source categories in 326 IAC 9-1-2. Therefore, the requirements of 326 IAC 9-1-2 are not applicable.

**326 IAC 10-1-3 (Nitrogen Oxide Emission Requirements)**

This source is not located in Clark or Floyd County. Therefore, the requirements of 326 IAC 10-1-3 are not applicable.

**Compliance Requirements**

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this modification are as below:

1. The proposed 2,360 scfm open flare is subject to the requirements of 40 CFR 60, Subpart WWW. Pursuant to 40 CFR 60.756, the source shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment:
  - (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

- (b) A device that records flow to or bypass of the flare. 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. 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.

This monitoring conditions are necessary to ensure compliance with 40 CFR 60.752 (b)(2)(ii) and 40 CFR 63, Subpart AAAAA.

### Proposed Changes

Bold language has been added, language with a line through it has been deleted. The mailing address for this source has been changed to "809 Wabash Avenue, Chesterton, Indiana 46304". This change has been made throughout the permit.

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

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

Responsible Official:	<del>Dan Magoun</del> <b>Area President</b>
Source Address:	316 Spring Valley Road, Wabash, Indiana 46992
Mailing Address:	<del>P.O. Box 406, Wabash,</del> <b>809 Wabash Avenue, Chesterton,</b> Indiana 46992- <del>46304</del>
SIC Code:	4953
County Location:	Wabash County
<del>County</del> <b>Source Location</b> 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 <b>Not 1 of 28 Source Categories</b>

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

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- (a) One (1) municipal solid waste landfill with a design capacity of ~~4.049682 million megagrams~~ **13,194,391 megagrams (Mg)** and ~~5.1721652 million~~ **20,781,841** cubic yards ~~meters~~. **This landfill was constructed in 1972 and modified in 2000 and 2003.**
- (b) One (1) landfill gas collection and control system consisting of one (1) skid-mounted landfill gas blower, one (1) condensate knockout, one (1) ~~4200~~ **2,360** scfm utility-type open flare (**identified as Unit #2, to be constructed in 2004, with a maximum heat input capacity of 77.9 MMBtu per hour, and exhausting through stack #2**), an automatic shut-off valve, a thermal dispersion flow meter, and a Chromel-Alumel thermocouple for pilot confirmation.

**SECTION D.1**

**FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]**

- (a) One (1) municipal solid waste landfill with a design capacity of ~~4.049682 million megagrams~~**13,194,391 megagrams (Mg)** and ~~5.1721652 million~~**20,781,841 cubic yards**. **This landfill was constructed in 1972 and modified in 2000 and 2003.**
- (b) One (1) landfill gas collection and control system consisting of one (1) skid-mounted landfill gas blower, one (1) condensate knockout, one (1) ~~4200~~ **2,360** scfm utility-type open flare **(identified as Unit #2, to be constructed in 2004, with a maximum heat input capacity of 77.9 MMBtu per hour, and exhausting through stack #2)**, an automatic shut-off valve, a thermal dispersion flow meter, and a Chromel-Alumel thermocouple for pilot confirmation.
- (c) Nine (9) temporary passive vent flares, each with a maximum flow rate of 50 scfm and a maximum heat input rate of 1.65 MMBtu/hr. These temporary flares are used for odor control.

(The information describing this process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**D.1.2 Municipal Solid Waste Landfill NSPS [326 IAC 12] [40 CFR 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 40 CFR 60.752 (b)(2) or calculate the non methane organic compound (NMOC) emission rate for the landfill using the procedures specified in 40 CFR 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. **The subsequent 5-year Tier 2 report was submitted April 17, 2003).**

**D.1.3 General Provisions Relating to NESHAP [326 IAC 20-1] [40 CFR 63, Subpart AAAA]**

The provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR Part 63, Subpart AAAA, or as specified by approved variances contained within the Collection and Control Design Plan.

**D.1.4 Municipal Solid Waste Landfill NESHAP [40 CFR 63, Subpart AAAA]**

The municipal solid waste landfill has a design capacity greater than 2.5 million megagrams (Mg) and has estimated uncontrolled NMOC emissions greater than 50 Mg/yr. Therefore, this landfill shall comply with 40 CFR 63, Subpart AAAA.

**D.1.35 Operational Standards for Collection and Control Systems [40 CFR 60.753]**

In order to comply with 40 CFR 60.752 (b)(2)(ii) the Permittee shall **comply with the following requirements by October 17, 2005:**

.....

**D.1.6 Municipal Solid Waste Landfill NESHAP [326 IAC 20] [40 CFR 63, Subpart AAAA]**

Pursuant to 40 CFR 63.1955, the Permittee shall:

- (a) Comply with the requirements of 40 CFR 60, Subpart WWW.
- (b) If the Permittee is required by 40 CFR 60.752(b)(2) to install a collection and control system, the Permittee shall comply with the general and continuing compliance requirements in 40 CFR 63.1960 through 40 CFR 63.1985.
- (c) For approval of collection and control systems that include any alternatives to the operational standards, test methods, procedures, compliance measures,

monitoring, recordkeeping or reporting provisions, the Permittee must follow the procedures in 40 CFR 60.752(b)(2). If alternatives have already been approved under 40 CFR Part 60 Subpart WWW or the Federal plan, or EPA approved and effective State or tribal plan, these alternatives can be used to comply with this subpart, except that all affected sources must comply with the startup, shutdown, and malfunction (SSM) requirements in Subpart A of this part as specified in Table 1 of this subpart and all affected sources must submit compliance reports every 6 months as specified in 40 CFR 63.1980(a) and (b), including information on all deviations that occurred during the 6-month reporting period. Deviations (as defined in 40 CFR 63.1965) for continuous emission monitors or numerical continuous parameter monitors must be determined using a 3 hour monitoring block average (as defined in 40 CFR 63.1975).

**D.1.47 Testing Requirements [326 IAC 2-7-6(1),(6)] [40 CFR 60.754]**

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**D.1.8 Compliance Determination [40 CFR 63.1960]**

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Pursuant to 40 CFR 63.1960, compliance with 40 CFR 63, Subpart AAAA is determined by the following:

- (a) The same way it is determined for 40 CFR 60, Subpart WWW, including performance testing, monitoring of the collection system, continuous parameter monitoring, and other credible evidence.
- (b) Continuous parameter monitoring data, collected under 40 CFR 60.756(b)(1), (c)(1), and (d) of Subpart WWW, are used to demonstrate compliance with the operating conditions for control systems. If a deviation (as defined in 40 CFR 63.1965) occurs, the Permittee has failed to meet the control device operating conditions described in 40 CFR 60, Subpart WWW and has deviated from the requirements of this subpart.
- (c) The Permittee must develop and implement a written SSM plan according to the provisions in 40 CFR 63.6(e)(3). A copy of the SSM plan must be maintained on site. Failure to write, implement, or maintain a copy of the SSM plan is a deviation from the requirements of this subpart.

**D.1.59 Monitoring [40 CFR 60.756]**

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**D.1.610 Compliance Provisions [40 CFR 60.755]**

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**D.1.711 Non Methane Organic Compound (NMOC) Rate Calculation [40 CFR 60.754]**

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**D.1.812 Reporting Requirements [40 CFR 60.757]**

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**D.1.913 Record Keeping Requirements [326 IAC 12] [40 CFR 60.758]**

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**D.1.10 Temporary Operating Conditions**

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- ~~(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.~~

#### **D.1.14 Record Keeping and Reporting Requirements for NESHAP for Municipal Solid Waste Landfills [40 CFR 63.1980]**

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**Pursuant to 40 CFR 63.1980, the Permittee shall:**

- (a) Keep records and reports as specified in 40 CFR 60, Subpart WWW, or in the Federal plan, EPA approved State plan or tribal plan that implements 40 CFR 60, Subpart Cc, whichever applies to this landfill, with one exception: The Permittee must submit the report described in 40 CFR 60.757(f) every 6 months within thirty (30) days after the end of each reporting period. These reports are due every March 30<sup>th</sup> and every September 30<sup>th</sup>.**
- (b) Keep records and reports as specified in the general provisions of 40 CFR 60 and 40 CFR 63 as shown in Table 1 of 40 CFR 63, Subpart AAAA. Applicable records in the general provisions include items such as SSM plans and the SSM plan reports.**

In accordance with the credible evidence rule (62 Fed. Reg. 8314, Feb 24, 1997); Section 113(a) of the Clean Air Act, 42 U.S. C. § 7413 (a); and a letter from the United States Environmental Protection Agency (USEPA) to IDEM, OAQ dated May, 18 2004, all permits must address the use of credible evidence; otherwise, USEPA will object to the permits. The following language will be incorporated into the Significant Permit Modification to address credible evidence:

#### **B.27 Credible Evidence [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [62 FR 8314]**

**Notwithstanding the conditions of this permit that state specific methods that may be used to demonstrate compliance with, or a violation of, applicable requirements, any person (including the Permittee) may also use other credible evidence to demonstrate compliance with, or a violation of, any term or condition of this permit.**

#### **Conclusion**

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 169-19504-00058. The operation of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Permit Modification No. 169-19668-00058.

**Indiana Department of Environmental Management  
Office of Air Quality**

**Addendum to the Technical Support Document  
for a Part 70 Significant Source Modification  
and a Part 70 Significant Permit Modification**

**Source Background and Description**

Source Name:	Wabash Valley Landfill
Source Location:	316 Spring Valley Road, Wabash, Indiana 46992
County:	Wabash
SIC Code:	4953
Operation Permit No.:	T169-10186-00058
Operation Permit Issuance Date:	March 9, 1999
Significant Source Modification No.:	169-19504-00058
Significant Permit Modification No.:	169-19668-00058
Permit Reviewer:	ERG/YC

On September 30, 2004, the Office of Air Quality (OAQ) had a notice published in the Wabash Plain Pealer, Wabash, Indiana, stating that Wabash Valley Landfill had applied for a Part 70 Significant Source Modification and a Part 70 Significant Permit Modification to replace the existing 1,200 scfm open flare with a 2,360 scfm open flare. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On October 26, 2004 and November 2, 2004, Wabash Valley Landfill (referred to as "the Permittee") submitted comments on the proposed Significant Source Modification and the Significant Permit Modification. The summary of the comments is as follows (bolded language has been added, the language with a line through it has been deleted):

**Comment 1:**

The Permittee stated that Condition D.1.12(f) requires submission of the annual report as described in 40 CFR 60.757(f) and Condition D.1.14(a) requires submission of an identical report every six months. The Permittee stated that Condition D.1.12(f) is redundant and should be removed from the permit. Otherwise, the Permittee requested that language should be added to Condition D.1.14(a) to state that the semi-annual reporting requirement of Condition D.1.14(a) subsumes the annual reporting requirement of Condition D.1.12(f).

**Response to Comment 1:**

Condition D.1.12(f) was established based on the reporting requirements in NSPS, Subpart WWW. Condition D.1.14(a) was established based on the reporting requirements in NESHAP, Subpart AAAA. Both conditions are applicable requirements for this source and shall be included in the Part 70 permit. However, the Permittee is required to comply with the more stringent requirement. For clarification purpose, Condition D.1.14 has been revised as follows:

D.1.14 Record Keeping and Reporting Requirements for NESHAP for Municipal Solid Waste Landfills  
[40 CFR 63.1980]

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Pursuant to 40 CFR 63.1980, the Permittee shall:

- (a) Keep records and reports as specified in 40 CFR 60, Subpart WWW, or in the Federal plan, EPA approved State plan or tribal plan that implements 40 CFR 60, Subpart Cc, whichever applies to this landfill, with one exception: The Permittee must submit the report described in 40 CFR 60.757(f) every 6 months within thirty (30) days after the end of each reporting period. These reports are due every March 30<sup>th</sup> and every September 30<sup>th</sup>. **Compliance with this condition fulfills the requirement in Condition D.1.12(f).**

**Comment 2:**

The Permittee stated that the NSPS, Subpart WWW discussion in the History section of the Technical Support Document (TSD) is not technically correct. The Permittee requested the second paragraph of the History section be revised as follows:

“The source stated that this existing landfill site was expanded in 2003 from 4,049,682 Mg to 13,194,391 Mg (= 20,781,841 cubic yards). The amended design capacity report was submitted to IDEM on December 17, 2003. **Also, on April 17, 2003, a Tier II NMOC emission rate report was submitted to IDEM. This report showed NMOC emissions of at least 50 Mg/year. Therefore, in accordance with 40 CFR 60.752(b)(2)(i), a landfill gas collection and control system design plan was submitted to IDEM on April 15, 2004. Finally, in accordance with 40 CFR 60.752(b)(2)(ii), a landfill gas collection and control system must be installed no later than October 17, 2005 to control emissions of NMOC.** Before the expansion in 2003, this landfill had NMOC emissions greater than 50 Mg/yr and was subject to the requirements of NSPS, Subpart WWW. When this source was expanded in 2003, the emissions from this landfill site were controlled by an existing collection and control system, including one (1) existing 1,200 scfm open flare. Therefore, the modification in 2003 is in compliance with the requirements of NSPS, Subpart WWW.”

**Response to Comment 2:**

According to the additional information provided, this existing landfill is not required to install a collection and control system until October 17, 2005. Since the NMOC emissions from this landfill are greater than 50 Mg/yr, this landfill is still subject to the requirements of 40 CFR 63, Subpart AAAA. Therefore, the additional information provided will not affect any condition in the proposed significant source modification and the significant permit modification.

No changes have been made to the TSD because the OAQ prefers that the Technical Support Document reflects the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision.

**Comment 3:**

The Permittee stated that the potential to emit fugitive VOC and HAP emissions from the landfill are more accurately estimated using US EPA's Landfill Air Emission Estimation Model. The table “**Potential to Emit of Modification After Issuance**” in the TSD should be updated as follows:

	Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
New 2,360 scfm open flare	5.27	5.27	5.19	5.95	126	23.2	2.47
Landfill expansion in 2003 <b>Landfill Fugitive Emissions</b>	--	--	--	(fugitive) <b>42.3</b>	--	--	<del>11.0**</del> <b>6.95</b>
PTE of the Existing Nine (9) Passive Vent Flares*	1.01	1.01	0.99	1.05	24.1	4.42	0.47
Total PTE of the Entire Source After this Modification	6.28	6.28	6.18	<del>7.00</del> <b>49.3</b>	150	27.6	<del>13.9</del> <b>9.89</b>
PSD Significant Thresholds	250	250	250	250	250	100	NA

Note : (\*) See the calculations on page 2 of Appendix A.

(\*\*) According to the TSD addendum for T169-10186-00058, issued on March 9, 1999, the potential to emit HAP before control was 12.7 tons/yr before the expansion in 2003. The potential to emit HAP after the expansion in 2003 is estimated to be 12.7 tons/yr x 13.2 million Mg / 4.05 million Mg = 41.4 tons/yr. Since the LFG is controlled by flares, the PTE of HAP after control is 41.4 tons/yr x [25% un-collected + 75% collected x (1-98% control efficiency)] = 11.0 tons/yr.

**Response to Comment 3:**

When preparing the TSD for this modification, IDEM, OAQ did not have sufficient information to estimate the potential to emit VOC and HAPs from the expanded landfill accurately. Therefore, information in the TSD for T169-10186-00058, issued on March 9, 1999, was used to estimate the potential HAP emissions from the expanded landfill. IDEM, OAQ has reviewed the model results submitted by the Permittee based on the site specific MNOC concentration and agrees that the PTE of HAP for this landfill is 6.95 tons/yr and the total PTE of the entire source after this modification is 9.89 tons/yrs. However, fugitive VOC emissions are not counted for PSD determinations. Therefore, the table “**Potential to Emit of Modification After Issuance**” in the TSD shall be revised as follows:

	Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
New 2,360 scfm open flare	5.27	5.27	5.19	5.95	126	23.2	2.47
Landfill expansion in 2003	--	--	--	(fugitive)	--	--	<del>11.0**</del> <b>6.95**</b>
PTE of the Existing Nine (9) Passive Vent Flares*	1.01	1.01	0.99	1.05	24.1	4.42	0.47
Total PTE of the Entire Source After this Modification	6.28	6.28	6.18	7.00	150	27.6	<del>13.9</del> <b>9.89</b>
PSD Significant Thresholds	250	250	250	250	250	100	NA

Note : (\*) See the calculations on page 2 of Appendix A.

(\*\*) According to the TSD addendum for T169-10186-00058, issued on March 9, 1999, the potential to emit HAP before control was 12.7 tons/yr before the expansion in 2003. The potential to emit HAP after the expansion in 2003 is estimated to be 12.7 tons/yr x 13.2 million Mg / 4.05 million Mg = 41.4 tons/yr. Since the LFG is controlled by flares, the PTE of HAP

after control is  $41.4 \text{ tons/yr} \times [25\% \text{ un-collected} + 75\% \text{ collected} \times (1 - 98\% \text{ control efficiency})] = 11.0 \text{ tons/yr}$ . This is based on output submitted by the source on October 26, 2004, using the EPA LandGEM Model .

These changes do not affect rule applicability for this landfill and do not affect any proposed permit conditions. Changes to the table above are only documented in this addendum. No changes have been made to the TSD because the OAQ prefers that the Technical Support Document reflect the permit that was on public notice.

#### Comment 4:

The Permittee stated that the methodology for the NOx and CO emission calculations in the Appendix A of TSD is incorrect for both the passive vent flares and the 2,360 scfm open flare. The Permittee stated that there are no engines at this source and the correct emission calculation methodology should be listed as follows:

(Emission Factor, lbs/MMBtu) x (Design Capacity, MMBtu/hr) x (8760 hr/year) x  
(one ton/2000 lbs)

#### Response to Comment 4:

IDEM, OAQ agrees that the methodology listed for the NOx and CO emission calculations in the Appendix A of TSD is incorrect. The correct methodology in pages 1 and 2 of Appendix A of TSD shall be revised as follows:

NOx/CO Emissions (tons/yr) = **Max. Capacity (MMBtu/hr) x Emission Factor (lbs/hr/unit lbs/MMBtu) x 8760 (hr/yr) x 1 tons/2000 lbs x 6 engines**

However, the potential to emit of the flares in Appendix A of the TSD was calculated using the correct methodology and the PTE numbers are correct. Changes to the methodology are only documented in this addendum. No changes have been made to Appendix A to TSD because the OAQ prefers that the Technical Support Document reflect the permit that was on public notice.

#### Comment 5:

The Permittee requested Condition C.16 (Emission Statement) be revised to change the emission statement submittal schedule to be triennially, according to the revised 326 IAC 2-6-3.

#### Response to Comment 5:

The revised 326 IAC 2-6 was published in the April 1, 2004 Indiana Register. This source is located in Wabash County and has potential to emit less than the emission thresholds in 326 IAC 2-6-3(a). Pursuant to the revised 326 IAC 2-6-3(a)(2) and (b)(1), the Permittee shall submit an emission statement triennially by July 1 starting in 2004. Therefore, Condition C.16 has been revised as follows:

C.16 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6-3(a)]  
~~[326 IAC 2-7-19 (e)]~~

(a) **In accordance with the compliance schedule specified in 326 IAC 2-6-3(b)(1), starting in 2004 and every three (3) years thereafter, the Permittee shall submit by July 1 an annual emission statement certified pursuant to the requirements of 326 IAC 2-6-3, that must be received by July 1 of each year and must comply with the minimum requirements covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(a) and. The annual emission statement shall meet the following requirements and be used for the purpose of a Part 70 fee assessment:**

- (1) Indicate **estimated** actual emissions of ~~criteria~~ **all** pollutants from the source listed in 326 IAC 2-5-4(a);

- (2) Indicate **estimated** actual emissions of ~~other~~ regulated pollutants ~~from the source as defined by 326 IAC 2-7-1 (32) ("Regulated pollutant, which is used only for purposes of Section 19 of this rule")~~ from the source, for purpose of fee assessment.

- ~~(b) The annual emission statement covers the twelve (12) consecutive month time period starting January 1 and ending December 31. The annual emission statement must be submitted to:~~

Indiana Department of Environmental Management  
Technical Support and Modeling Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

- ~~(e)~~(b) The ~~annual~~ emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

**Appendix A: Emission Calculations  
Combustion Emissions  
From the 2,360 scfm Open Flare**

**Company Name: Wabash Valley Landfill  
Address: 316 Spring Valley Rd., Wabash, IN 46992  
SSM: 169-19504-00058  
Reviewer: ERG/YC  
Date: September 15, 2004**

Fuel Input  
MMBtu/hr

Flow Rate  
scfm

77.9

2,360

Emission Factor in lb/MMBtu	Pollutant						
	PM <sup>a</sup> 17.0 (lbs/MMscf)	PM10 <sup>a</sup> 17.0 (lbs/MMscf)	SO <sub>2</sub> <sup>b</sup> 49.6 (ppmv)	NOx <sup>a</sup> 0.068 (lbs/MMBtu)	CO <sup>a</sup> 0.37 (lbs/MMBtu)	NMOC <sup>d</sup> 1,955 (ppmv)	HCl <sup>e</sup> 42.0 (ppmv)
<b>Potential to Emit in tons/yr</b>	<b>5.27</b>	<b>5.27</b>	<b>5.19</b>	<b>23.2</b>	<b>126</b>	<b>5.49</b>	<b>2.47</b>

<sup>a</sup> Emission factors are from AP-42, Chapter 2.4 - MSW Landfills, Table 2.4-5 (11/98).

Assume PM emissions are equal to PM10 emissions.

<sup>b</sup> The total inlet concentration of sulfur content compounds in AP-42, Chapter 2.4 - Municipal Solid Waste Landfills - Table 2.4-1 (AP-42, 11/98).

<sup>c</sup> NOx and CO emission factors are provided by the flare manufacturer.

<sup>d</sup> The NMOC concentration is provided by the source based on the Tier 2 test results in 2003.

<sup>e</sup> The default chlorinated compounds concentration in AP-42, Chapter 2.4 - Municipal Solid Waste Landfills (AP-42, 11/98).

### Methodology

PM/PM10 Emissions (tons/yr) = Flow Rate (scfm) x 60 (min/hr) 1 MMdscf/1,000,000 dscf x Methane % x Emission Factor (lbs/MMdscf Methane) x 8760 (hr/yr) x 1 ton/2000 lbs

SO<sub>2</sub> Emissions (tons/yr) = Flow Rate (scfm) x Emission Factor (ppmv) /1,000,000 x 1 atm / Gas Constant (0.73 atm-cf/lb mole-R) / Temp (68F+ 460)  
x Mole weight of SO<sub>2</sub> (64 lbs/lbs mole) x 60 min/hr x 8760 hr/yr x 1 ton/2000 lbs

NOx/CO Emissions (tons/yr) = Emission Factor (lbs/hr/unit) x 8760 (hr/yr) x 1 tons/2000 lbs x 6 engines

NMOC Emissions (tons/yr) = Flow Rate (scfm) x Emission Factor (ppmv) /1,000,000 x 1 atm / Gas Constant (0.73 atm-cf/lb mole-R) / Temp (68F+ 460)  
x Mole weight of Hexane ( 86 lbs/lbs mole) x 60 min/hr x 8760 hr/yr x 1 ton/2000 lbs x (1-98% control efficiency)

HCl Emissions (tons/yr) = Flow Rate (scfm) x Emission Factor (ppmv) /1,000,000 x 1 atm / Gas Constant (0.73 atm-cf/lb mole-R) / Temp (68F+ 460)  
x Mole weight of HCl ( 36 lbs/lbs mole) x 60 min/hr x 8760 hr/yr x 1 ton/2000 lbs

**Appendix A: Emission Calculations  
Combustion Emissions  
From Nine (9) Passive Vent Flares**

**Company Name: Wabash Valley Landfill  
Address: 316 Spring Valley Rd., Wabash, IN 46992  
SSM: 169-19504-00058  
Reviewer: ERG/YC  
Date: September 15, 2004**

Fuel Input  
MMBtu/hr

Flow Rate  
scfm

14.9

450 (9 units total)

Emission Factor in lb/MMBtu	Pollutant						
	PM <sup>a</sup> 17.0 (lbs/MMscf)	PM10 <sup>a</sup> 17.0 (lbs/MMscf)	SO <sub>2</sub> <sup>b</sup> 49.6 (ppmv)	NOx <sup>a</sup> 0.068 (lbs/MMBtu)	CO <sup>a</sup> 0.37 (lbs/MMBtu)	NMOC <sup>d</sup> 1,955 (ppmv)	HCl <sup>e</sup> 42.0 (ppmv)
<b>Potential to Emit in tons/yr</b>	<b>1.01</b>	<b>1.01</b>	<b>0.99</b>	<b>4.42</b>	<b>24.1</b>	<b>1.05</b>	<b>0.47</b>

<sup>a</sup> Emission factors are from AP-42, Chapter 2.4 - MSW Landfills, Table 2.4-5 (11/98).

Assume PM emissions are equal to PM10 emissions.

<sup>b</sup> The total inlet concentration of sulfur content compounds in AP-42, Chapter 2.4 - Municipal Solid Waste Landfills - Table 2.4-1 (AP-42, 11/98).

<sup>c</sup> NOx and CO emission factors are provided by the flare manufacturer.

<sup>d</sup> The NMOC concentration is provided by the source based on the Tier 2 test results in 2003.

<sup>e</sup> The default chlorinated compounds concentration in AP-42, Chapter 2.4 - Municipal Solid Waste Landfills (AP-42, 11/98).

### Methodology

PM/PM10 Emissions (tons/yr) = Flow Rate (scfm) x 60 (min/hr) 1 MMdscf/1,000,000 dscf x Methane % x Emission Factor (lbs/MMdscf Methane) x 8760 (hr/yr) x 1 ton/2000 lbs

SO<sub>2</sub> Emissions (tons/yr) = Flow Rate (scfm) x Emission Factor (ppmv) /1,000,000 x 1 atm / Gas Constant (0.7032 atm-cf/lb mole-R) / Temp (68F+ 460)  
x Mole weight of SO<sub>2</sub> (64 lbs/lbs mole) x 60 min/hr x 8760 hr/yr x 1 ton/2000 lbs

NOx/CO Emissions (tons/yr) = Emission Factor (lbs/hr/unit) x 8760 (hr/yr) x 1 tons/2000 lbs x 6 engines

NMOC Emissions (tons/yr) = Flow Rate (scfm) x Emission Factor (ppmv) /1,000,000 x 1 atm / Gas Constant (0.7032 atm-cf/lb mole-R) / Temp (68F+ 460)  
x Mole weight of Hexane ( 86 lbs/lbs mole) x 60 min/hr x 8760 hr/yr x 1 ton/2000 lbs x (1-98% control efficiency)

HCl Emissions (tons/yr) = Flow Rate (scfm) x Emission Factor (ppmv) /1,000,000 x 1 atm / Gas Constant (0.7032 atm-cf/lb mole-R) / Temp (68F+ 460)  
x Mole weight of HCl ( 36 lbs/lbs mole) x 60 min/hr x 8760 hr/yr x 1 ton/2000 lbs