



Joseph E. Kernan
Governor

Lori F. Kaplan
Commissioner

May 13, 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: New Paris Pike Landfill / 177-17944-00106
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, 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 4-21.5-3-7 and IC 13-15-6-1(b) or IC 13-15-6-1(a) 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.

For an **initial Title V Operating Permit**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **thirty (30)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(b).

For a **Title V Operating Permit renewal**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **fifteen (15)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(a).

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.

Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of an initial Title V operating permit, permit renewal, or modification within sixty (60) days of the end of the forty-five (45) day EPA review period. Such an objection must be based only on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impracticable to raise such issues, or if the grounds for such objection arose after the comment period.

To petition the U.S. EPA to object to the issuance of a Title V operating permit, contact:

U.S. Environmental Protection Agency
401 M Street
Washington, D.C. 20406

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.



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NEW CONSTRUCTION and PART 70 OPERATING PERMIT OFFICE OF AIR QUALITY

**New Paris Pike Landfill
City of Richmond, Sanitary District
5242 New Paris Pike Road
Richmond, Indiana 47374**

(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.

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17. **This permit also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-7-10.5, applicable to those conditions.**

| | |
|---|--|
| Operation Permit No. T 177-17944-00106 | |
| Issued by: Original signed by Janet G. McCabe, Assistant Commissioner Office of Air Quality | Issuance Date: May 13, 2004 Expiration Date: May 13, 2009 |



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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)] [326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary municipal solid waste landfill with a design capacity of 6,680,588 megagrams.

| | |
|------------------------------|--|
| Responsible Official: | Landfill Manager |
| Source Address: | 5242 New Paris Pike Road, Richmond, Indiana 47374 |
| Mailing Address: | 5242 New Paris Pike Road, Richmond, Indiana 47374 |
| General Source Phone Number: | (765)983-7450 or (765) 983-7457 |
| SIC Code: | 4953 |
| County Location: | Wayne |
| Source Location Status: | Attainment for all criteria pollutants |
| Source Status: | Part 70 Permit Program Minor Source, under PSD Minor 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)]

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

- (a) An existing stationary municipal solid waste landfill, identified as emissions unit # 1, with a maximum design capacity of 6,680,588 megagrams, constructed in 1968 and modified in 2003.
- (b) A proposed landfill gas collection and control system, identified as emissions unit # 2, with a maximum capacity of 1,000 scfm of landfill gas, to be constructed between December 1, 2003 and May 1, 2004 and to be brought into operation on June 1, 2004, using a 850 scfm utility open flare as control and exhausting to stack FL # 2.

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

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

- (a) Paved and unpaved roads and parking lots with public access. [326 IAC 6-4]

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

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

- (a) It is a 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 B

GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Permit Term [326 IAC 2-7-5(2)] [326 IAC 2-1.1-9.5]

This permit is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date.

B.3 Enforceability [326 IAC 2-7-7]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.4 Termination of Right to Operate [326 IAC 2-7-10] [326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

B.5 Severability [326 IAC 2-7-5(5)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

This permit does not convey any property rights of any sort or any exclusive privilege.

B.7 Duty to Provide Information [326 IAC 2-7-5(6)(E)]

- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ, may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34). Upon request, the Permittee shall also furnish to IDEM, OAQ, copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)(C)]

- (a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification.
- (c) A responsible official is defined at 326 IAC 2-7-1(34).

B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]

- (a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. The initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in letter form no later than July 1 of each year to:

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

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

- (b) The annual compliance certification report 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) The annual compliance certification report shall include the following:
- (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
 - (2) The compliance status;
 - (3) Whether compliance was continuous or intermittent;
 - (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and
 - (5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ, may require to determine the compliance status of the source.

The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit, including the following information on each facility:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

- (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date 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

The PMP extension notification does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) The Permittee shall implement the PMPs, including any required record keeping, as necessary to ensure that failure to implement a PMP does not cause or contribute to an exceedance of any limitation on emissions or potential to emit.
- (c) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ,. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMP does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation, Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for the unit.

B.11 Emergency Provisions [326 IAC 2-7-16]

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:
 - (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
 - (2) The permitted facility was at the time being properly operated;
 - (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
 - (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section), or
Telephone Number: 317-233-5674 (ask for Compliance Section)

Facsimile Number: 317-233-5967

- (5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

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

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and
- (C) Corrective actions taken.

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

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
 - (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
 - (e) IDEM, OAQ, may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4-(c)(9) be revised in response to an emergency.
 - (f) Failure to notify IDEM, OAQ, by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a deviation from 326 IAC 2-7 and any other applicable rules.
 - (g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
 - (h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.

B.12 Permit Shield [326 IAC 2-7-15] [326 IAC 2-7-20] [326 IAC 2-7-12]

- (a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed in compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The

Indiana statutes from IC 13 and rules from 326 IAC, referenced in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

- (b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.
- (c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.
- (d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:
 - (1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;
 - (2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;
 - (3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and
 - (4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.
- (f) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).
- (g) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]
- (h) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5]

-
- (a) All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either
 - (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deleted

by this permit.

- (b) All previous registrations and permits are superseded by this permit.

B.14 Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)]

- (a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provisions), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported 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

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. A deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report.

The Quarterly Deviation and Compliance Monitoring Report does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination
[326 IAC 2-7-5(6)(C)] [326 IAC 2-7-8(a)] [326 IAC 2-7-9]

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)] The notification by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ, determines any of the following:
- (1) That this permit contains a material mistake.
 - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
 - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]
- (c) Proceedings by IDEM, OAQ, to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ, at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ, may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.16 Permit Renewal [326 IAC 2-7-4]

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ, and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Request for renewal shall be submitted to:

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

- (b) Timely Submittal of Permit Renewal [326 IAC 2-7-4(a)(1)(D)]

(1) A timely renewal application is one that is:

(A) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(B) 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.

(2) If IDEM, OAQ, upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

- (c) Right to Operate After Application for Renewal [326 IAC 2-7-3]

If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAQ,, takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ, any additional information identified as being needed to process the application.

- (d) United States Environmental Protection Agency Authority [326 IAC 2-7-8(e)]

If IDEM, OAQ, fails to act in a timely way on a Part 70 permit renewal, the U.S. EPA may invoke its authority under Section 505(e) of the Clean Air Act to terminate or revoke and reissue a Part 70 permit.

B.17 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

- (a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015

Indianapolis, Indiana 46206-6015

Any such application shall be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]
- (d) No permit amendment or modification is required for the addition, operation or removal of a nonroad engine, as defined in 40 CFR 89.2.

B.18 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)]
[326 IAC 2-7-12 (b)(2)]

- (a) No Part 70 permit revision shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.
- (b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.19 Operational Flexibility [326 IAC 2-7-20] [326 IAC 2-7-10.5]

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b), (c), or (e), without a prior permit revision, if each of the following conditions is met:
 - (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
 - (2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;
 - (3) The changes do not result in emissions which exceed the emissions allowable under this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
 - (4) The Permittee notifies the:

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

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

- (5) The Permittee maintains records on-site which document, on a rolling five (5) year basis, all such changes and emissions trading that are subject to 326 IAC 2-7-20(b), (c), or (e) and makes such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ, in the notices specified in 326 IAC 2-7-20(b)(1), (c)(1), and (e)(2).

- (b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

- (1) A brief description of the change within the source;
- (2) The date on which the change will occur;
- (3) Any change in emissions; and
- (4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade increases and decreases in emissions in the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).
- (d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.

B.20 Source Modification Requirement [326 IAC 2-7-10.5]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-7-10.5.

B.21 Inspection and Entry [326 IAC 2-7-6] [IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.22 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

- (a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

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

The application 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) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)] [326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ, within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ, the applicable fee is due April 1 of each year.
- (b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.
- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, I/M & Billing Section), to determine the appropriate permit fee.

B.24 Advanced Source Modification Approval [326 IAC 2-7-5(16)] [326 IAC 2-7-10.5]

- (a) The requirements to obtain a source modification approval under 326 IAC 2-7-10.5 or a permit modification under 326 IAC 2-7-12 are satisfied by this permit for the proposed emission units, control equipment or insignificant activities in Sections A.2 and A.3.
- (b) Pursuant to 326 IAC 2-1.1-9 any permit authorizing construction may be revoked if construction of the emission unit has not commenced within eighteen (18) months from the date of issuance of the permit, or if during the construction, work is suspended for a continuous period of one (1) year or more.

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

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

C.1 Opacity [326 IAC 5-1]

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%) 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) 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.2 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.3 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. 326 IAC 9-1-2 is not federally enforceable.

C.4 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.5 Operation of Equipment [326 IAC 2-7-6(6)]

Except as otherwise provided by statute or rule, or in this permit, 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 units vented to the control equipment are in operation.

C.6 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

- (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 notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. 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 applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-4-1, emission control requirements are applicable 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) **Demolition and Renovation**
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **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 to use an Indiana Accredited Asbestos inspector is not federally enforceable.

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

C.7 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 any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures 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 protocol submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ, if the source submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.8 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

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

C.9 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for 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).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a source modification shall be implemented when operation begins.

C.10 Maintenance of Emission Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

- (a) In the event that a breakdown of the emission 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 often than once an 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.

C.11 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60 Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

C.12 Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

- (a) Whenever a condition in this permit requires the measurement of pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ($\pm 2\%$) of full scale reading.
- (b) Whenever a condition in this permit requires the measurement of a (temperature and flow rate) the instrument employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ($\pm 2\%$) of full scale reading.
- (c) The Permittee may request the IDEM, OAQ approve the use of a pressure gauge or other instrument that does not meet the above specifications provided the Permittee can demonstrate an alternative pressure gauge or other instrument specification will adequately ensure compliance with permit conditions requiring the measurement of pressure drop or other parameters.

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]

If a regulated substance as defined in 40 CFR 68 is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

C.14 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]

- (a) Records of all required monitoring data, reports and support information required by this Permit 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 physically present or electronically accessible at the source location for a minimum of three (3) years. 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 request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.15 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (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, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (e) 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. Reporting periods are based on calendar years.
- (f) Reporting periods are based on calendar years.

Stratospheric Ozone Protection

C.16 Compliance with 40 CFR 82 and 326 IAC 22-1

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) An existing stationary municipal solid waste landfill, identified as emissions unit # 1, with a maximum design capacity of 6,680,588 megagrams, constructed in 1968 and modified in 2003.
- (b) A proposed landfill gas collection and control system, identified as emissions unit # 2, with a maximum capacity of 1,000 scfm of landfill gas, to be constructed between December 1, 2003 and May 1, 2004 and to be brought into operation on June 1, 2004, using a 850 scfm utility open flare as control and exhausting to stack FL # 2.

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

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1 AND 326 IAC 2-7-10.5, WITH CONDITIONS LISTED BELOW.

Construction Conditions

General Construction Conditions - Landfill Gas Collection and Control System

D.1.1 Permit No Defense

This permit 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.

D.1.2 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this section of this permit becomes effective upon its issuance.

D.1.3 Modification to Construction Conditions [326 IAC 2]

All requirements of these construction conditions shall remain in effect unless modified in a manner consistent with procedures established for modifications pursuant to 326 IAC 2.

Operation Conditions

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

D.1.4 General Provisions Relating to NSPS and NESHAP [326 IAC 12-1-1] [326 IAC 8-8.1] [40 CFR Part 60, Subpart A] [326 IAC 20-1-1] [40 CFR 63, Subpart A]

- (a) The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR Part 60, Subpart WWWW.
- (b) 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 Table 1 of 40 CFR Part 63, Subpart AAAA.

D.1.5 Operational Standards for Collection and Control Systems [40 CFR 60.753] [326 IAC 8-8.1] [326 IAC 12]

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

- (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).
- (b) 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 or 3C 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.
- (c) 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.
- (d) 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.

- (e) Operate the control system at all times when the collected gas is routed to the system.
- (f) 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.

D.1.6 Monitoring [40 CFR 60.756] [326 IAC 8-8.1] [326 IAC 12]
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 system 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 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:
 - (A) 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
 - (B) secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. If the Permittee elects this option, 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.
- (c) 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.

D.1.7 Municipal Solid Waste Landfill NESHAP [326 IAC 20] [40 CFR 63, Subpart AAAAA]
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 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.1.8 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its control device.

Compliance Determination Requirements

D.1.9 Compliance Provisions [40 CFR 60.755] [326 IAC 8-8.1] [326 IAC 12]

- (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)(ii).
 - (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_0 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:

$$Q_m = 2L_0 R (e^{-kc} - e^{-kt})$$

where,

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

L_0 = methane generation potential, cubic meters per megagram solid waste

R = average annual acceptance rate, megagrams per year

k = methane generation rate constant, year⁻¹

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⁻¹

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

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 with 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) 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 remonitoring 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 that “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.

D.1.10 Testing Requirements [326 IAC 2-7-6 (1),(6)] [40 CFR 60.754(b)] [326 IAC 8-8.1] [326 IAC 12]

- (a) 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_{NMOC} = mass emission rate of NMOC, megagrams per year

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

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

- (1) The flow rate of landfill gas, Q_{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_{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_{NMOC} as carbon to C_{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 (OAQ).

D.1.11 Compliance Determination [40 CFR 63.1960] [326 IAC 20]

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.

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

D.1.12 Record Keeping Requirements [326 IAC 12] [40 CFR 60.758] [326 IAC 8-8.1]

- (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 five years up-to-date, readily accessible, continuous 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 listed in (1) through (2) 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)(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 five years up-to-date, readily accessible, continuous on-site 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 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.
 - (2) 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 five 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.1.13 Reporting Requirements [40 CFR 60.757] [326 IAC 8-8.1]

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

- (a) 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).
- (b) 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.
- (c) 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).

- (d) 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 provisions for the control of off-site migration.
- (e) A summary of the above information shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit.

D.1.14 Record Keeping and Reporting Requirements for NESHAP for Municipal Solid Waste Landfills
[40 CFR 63.1980] [326 IAC 20]

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 annual report described in 40 CFR 60.757(f) and Condition D.1.13(c) every 6 months.
- (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. The SSM Plan report is only required if a startup, shutdown, or malfunction occurred during the reporting period.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY

PART 70 OPERATING PERMIT CERTIFICATION

Source Name: New Paris Pike Landfill
Source Address: 5242 New Paris Pike Road, Richmond, Indiana 47374
Mailing Address: 5242 New Paris Pike Road, Richmond, Indiana 47374
Part 70 Permit No.: 177-17944-00106

**This certification shall be included when submitting monitoring, testing reports/results
or other documents as required by this permit.**

Please check what document is being certified:

- Annual Compliance Certification Letter
- Test Result (specify) _____
- Report (specify) _____
- Notification (specify) _____
- Affidavit (specify) _____
- Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Phone:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH
100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
Phone: 317-233-5674
Fax: 317-233-5967**

**PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT**

Source Name: New Paris Pike Landfill
Source Address: 5242 New Paris Pike Road, Richmond, Indiana 47374
Mailing Address: 5242 New Paris Pike Road, Richmond, Indiana 47374
Part 70 Permit No.: 177-17944-00106

This form consists of 2 pages

Page 1 of 2

- 9** This is an emergency as defined in 326 IAC 2-7-1(12)
- The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and
 - The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7-16.

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:

Control Equipment:

Permit Condition or Operation Limitation in Permit:

Description of the Emergency:

Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A

Page 2 of 2

| |
|---|
| Date/Time Emergency started: |
| Date/Time Emergency was corrected: |
| Was the facility being properly operated at the time of the emergency? Y N Describe: |
| Type of Pollutants Emitted: TSP, PM-10, SO ₂ , VOC, NO _x , CO, Pb, other: |
| Estimated amount of pollutant(s) emitted during emergency: |
| Describe the steps taken to mitigate the problem: |
| Describe the corrective actions/response steps taken: |
| Describe the measures taken to minimize emissions: |
| If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value: |

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

A certification is not required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
Compliance Data Section**

**PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: New Paris Pike Landfill
Source Address: 5242 New Paris Pike Road, Richmond, Indiana 47374
Mailing Address: 5242 New Paris Pike Road, Richmond, Indiana 47374
Part 70 Permit No.: 177-17944-00106

Months: _____ to _____ Year: _____

Page 1 of 2

This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. Deviations that are required to be reported by an applicable requirement shall be reported according to the schedule stated in the applicable requirement and do not need to be included in this report. Additional pages may be attached if necessary. 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

Permit Requirement (specify permit condition #)

Date of Deviation:

Duration of Deviation:

Number of Deviations:

Probable Cause of Deviation:

Response Steps Taken:

Permit Requirement (specify permit condition #)

Date of Deviation:

Duration of Deviation:

Number of Deviations:

Probable Cause of Deviation:

Response Steps Taken:

| | |
|--|-------------------------------|
| Permit Requirement (specify permit condition #) | |
| Date of Deviation: | Duration of Deviation: |
| Number of Deviations: | |
| Probable Cause of Deviation: | |
| Response Steps Taken: | |
| Permit Requirement (specify permit condition #) | |
| Date of Deviation: | Duration of Deviation: |
| Number of Deviations: | |
| Probable Cause of Deviation: | |
| Response Steps Taken: | |
| Permit Requirement (specify permit condition #) | |
| Date of Deviation: | Duration of Deviation: |
| Number of Deviations: | |
| Probable Cause of Deviation: | |
| Response Steps Taken: | |

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 New Construction and Part 70 Operating Permit

Source Background and Description

| | |
|-----------------------|--|
| Source Name: | New Paris Pike Landfill, City of Richmond, Sanitary District |
| Source Location: | 5242 New Paris Pike Road, Richmond, Indiana 47374 |
| County: | Wayne |
| SIC Code: | 4953 |
| Operation Permit No.: | T177-17944-00106 |
| Permit Reviewer: | ERG/ST |

The Office of Air Quality (OAQ) has reviewed a Part 70 permit application from New Paris Pike Landfill, City of Richmond, Sanitary District relating to the operation of an existing stationary municipal solid waste landfill. This permit also contains provisions relating to the construction of a gas collection and control system (collectively referred to as Emissions Unit # 2) consisting of gas extraction wells and a 850 scfm utility open flare exhausting to stack FL # 2 at the existing stationary municipal solid waste landfill.

This Part 70 permit contains provisions intended to satisfy the requirements of the construction permit rules.

History and Background Information

The New Paris Pike Landfill began operations in 1968. Its original maximum design capacity (the landfill cell referred to as "Phase 0" in the site plan) was 1.42 million megagrams. The landfill cell "Phase 1" was opened in January 1991 increasing the landfill design capacity to 1.63 million megagrams. The landfill cell "Phase 2" was opened in October 1995 increasing landfill design capacity to 1.77 million megagrams. The landfill cell "Phase 3" was opened in 1995 as well. In a design capacity report prepared for the Richmond Sanitary District and dated June 10, 1996, the design capacity of these first four cells was determined to be 2,342,522 megagrams. In May 1999, IDEM's Office of Solid and Hazardous Waste Management issued a minor modification to solid waste facility permit FP 89-02 to increase the capacity of the landfill. A revised design capacity report based on engineering studies was submitted to IDEM's Office of Air Quality on July 21, 1999, showing that the design capacity of the landfill was 2,435,876 megagrams. On December 20, 2002, IDEM's Office of Land Quality approved an expansion of the landfill. This landfill expansion involves expanding landfill cell "Phase 3" and adding a new landfill cell, "Phase 4." The landfill increased its maximum design capacity to 6,680,588 megagrams. The landfill expects to close in 2064.

In August, 2000, the landfill did NMOC testing pursuant to 40 CFR 60, Subpart WWW. Tests showed that NMOC concentration at the landfill is 831 ppmv, but these tests were not submitted to IDEM in the form of a Tier 2 report, verifying the appropriate methods.

The landfill applied to IDEM's Office of Air Quality for a New Source Construction and Minor Source Operating Permit on September 8, 2003, with the understanding that it would apply for a Title V permit or FESOP within one year. Review of the applicable rules (326 IAC 8-8.1 and 40 CFR 60, Subpart WWW) reveal that the landfill does not have the option to obtain a FESOP. Therefore, it was determined that a Title V Operating Permit that incorporates prior approval for

the construction and operation of the proposed gas collection and control system should be prepared. Pursuant to 40 CFR 60.752 (Subpart WWW), when the landfill increased its design capacity beyond the 2.5 million megagram threshold on December 20, 2002, it became subject to Title V permitting requirements. 326 IAC 2-7-4 (a)(1) states that an application is timely if the application is submitted within twelve (12) months after the source becomes subject to the Part 70 permit program.

The source currently consists of one municipal solid waste landfill having a design capacity of 6,680,588 megagrams. There is also a 10,000 gallon diesel fuel storage facility, constructed in 1994, with an annual throughput of 30,000 gallons. There are also unpaved gravel roads having one way length of 1 mile with daily truck traffic of 150 vehicles. Fugitive dust from the roads is controlled by a watering truck. The source has indicated that it plans to install a gas-to-energy facility in the future.

Permitted Emission Units and Pollution Control Equipment

The source currently has no permitted emission units or pollution control devices.

Unpermitted Emission Units and Pollution Control Equipment

An existing stationary municipal solid waste landfill, identified as emissions unit # 1, with a maximum design capacity of 6,680,588 megagrams, constructed in 1968 and modified in 2003.

New Emission Units and Pollution Control Equipment Receiving Advanced Source Modification Approval

The application includes information relating to the prior approval for the construction and operation of the following equipment pursuant to 326 IAC 2-7-5(16):

A proposed landfill gas collection and control system, identified as emissions unit # 2, with a maximum capacity of 1,000 scfm of landfill gas, to be constructed between 12-01-2003 and 05-01-2004 and to be brought into operation on 06-01-2004, using a 850 scfm utility open flare as control and exhausting to stack FL # 2.

Note: Additional equipment to combust landfill gas is planned as part of the landfill gas-to-energy project. However, the Permittee has not yet applied for a permit for the additional equipment.

Insignificant Activities

The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) Paved and unpaved roads and parking lots with public access [326 IAC 6-4]; and
- (b) A 10,000 gallon diesel fuel storage tank, with an annual throughput of less than 30,000 gallons, having a combination of HAP emissions less than 12.5 lbs per day and VOC emissions less than 25 lbs per day.

Existing Approvals

No previous approvals have been issued to this source.

Enforcement Issue

- (a) IDEM is aware that the landfill has been operating prior to receipt of the proper permit. NMOC (VOC) emissions exceeded 10 tons per year in 1981, (based on calculations using LandGEM (Version 2.01) software and AP-42 emission factors - see Appendix A of this document). Upon promulgation of the Registration regulations on November 25,

1998, the source became subject to Registration (326 IAC 2-5.5-1(b)(1)(C) and 326 IAC 2-5.5-2) and was required to file a Registration application within one year of the date the rule was promulgated.

- (b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Recommendation

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

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

An administratively complete Part 70 permit application for the purposes of this review was received on September 8, 2003. Additional information was received on September 19, 2003, and October 2, 2003.

There was no notice of completeness letter mailed to the source.

Emission Calculations

See Appendix A: LandGEM Model Output of this document and Appendix B: Landfill Emissions Calculations (Excel file) for detailed emission calculations. The CH₄, NMOC and CO emissions are calculated using the EPA LandGEM model (Version 2.01) using emission factors from AP-42. NMOC testing was done by the source in 2000, but the test results were not submitted to IDEM. Thus, those data are not used in emissions calculations. HAP emissions are calculated using LandGEM output. Uncontrolled PM and PM10 emissions are calculated using information provided by the source and AP-42 methods. Emissions from the proposed utility open flare are calculated using specifications provided by the source and AP-42 values for flare emissions.

The emissions values for Potential to Emit Before Controls in the following two tables represent the maximum potential emissions from the source if there were no control equipment in operation (all landfill gasses escape to the atmosphere). The maximum Non-Methane Organic Compound (NMOC) emissions are estimated to be 30.8 Megagrams/year (33.9 tons/year). Maximum emissions are expected to occur at closure in 2064. Assume all NMOC equals VOC. Uncontrolled HAP emissions at closure are estimated to total 7.4 tons/year.

Appendix C provides the NMOC emission calculations necessary to determine the applicability of controls pursuant to 40 CFR 60, Subpart WWW. These calculations are based on the default values given.

Potential To Emit

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 | 155 |

| Pollutant | Potential To Emit (tons/year) |
|-----------------|-------------------------------|
| PM-10 | 52.3 |
| SO ₂ | 1.94 |
| VOC | 34.4 |
| CO | 86.4 |
| NO _x | 4.47 |

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

| HAP's | Potential To Emit (tons/year) |
|--------------|-------------------------------|
| Toluene | 2.52 |
| All others | 4.89 |
| TOTAL | 7.41 |

Note: The tables above represent emissions from the landfill at closure.

- (a) Since this source is a municipal solid waste landfill that was modified after May 30, 1991, it is subject to of 40 CFR 60, Subpart WWW Standards of Performance for Municipal Solid Waste Landfills. Pursuant to New Source Performance Standard, 40 CFR 60.752(b), the source is subject to the provisions of 326 IAC 2-7.
- (b) Fugitive Emissions
 Since this type of operation is not one of the twenty-eight (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 emissions are not counted toward determination of PSD and Emission Offset applicability.

Actual Emissions

No previous emission data has been received from the source.

Potential to Emit 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 operating permit.

| Process/facility | Potential to Emit (tons/yr) | | | | | | |
|---|-----------------------------|---------------|--------------------------|--------------|-------------|--------------------------|---------------|
| | PM (ton/yr) | PM10 (ton/yr) | SO ₂ (ton/yr) | VOC (ton/yr) | CO (ton/yr) | NO _x (ton/yr) | HAPs (ton/yr) |
| Paved and Unpaved Roads | 30.6 | 10.1 | - | - | - | - | - |
| Proposed Modification* 850 scfm open flare | 1.9 | 1.9 | 1.9 | 0.47 | 83.8 | 4.47 | 0.13 |
| Landfill (controlled) after modification** | - | - | - | 8.47 | 0.6 | - | 1.85 |
| PSD Threshold Level | 250 | 250 | 250 | 250 | 250 | 250 | - |
| Total Emissions | 32.5 | 12.0 | 1.9 | 8.94 | 84.4 | 4.47 | 2.0 |

* This flare will control VOC and HAP emissions from the landfill.
 ** PM and PM10 emissions from the landfill are insignificant.

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

County Attainment Status

The source is located in Wayne County.

| Pollutant | Status |
|-----------------|------------|
| PM-10 | Attainment |
| SO ₂ | Attainment |
| NO ₂ | Attainment |
| Ozone | Attainment |
| CO | Attainment |
| Lead | Attainment |

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Wayne County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) Wayne County has been classified as attainment or unclassifiable for PM, PM10, SO₂, NO₂, CO and lead. 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 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 emissions are not counted toward determination of PSD and Emission Offset applicability.

Part 70 Permit Conditions

This source is subject to the requirements of 326 IAC 2-7, pursuant to which the source has to meet the following:

- (a) Emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of issuance of Part 70 permits.
- (b) Monitoring and related record keeping requirements which assume that all reasonable information is provided to evaluate continuous compliance with the applicable requirements.

Federal Rule Applicability

- (a) The source is exempt from Compliance Assurance Monitoring under 40 CFR 64.2(b)(i), as it is regulated under emission limitations or standards (NSPS and NESHAP) proposed by the Administrator after November 15, 1990.
- (b) This stationary municipal solid waste landfill and its proposed landfill gas collection and control system are subject to the New Source Performance Standards, 326 IAC 12, (40 CFR 60.750-759, Subpart WWW). The landfill was modified after May 30, 1991 and has a maximum design capacity greater than 2.5 million megagrams.

For the purposes of determining applicability of the control requirements of Subpart WWW, NMOC emissions are calculated using the procedures specified in 40 CFR 60.754. As per 40 CFR 60.754(a)(1), the values to be used in the NMOC calculations are as follows: $k = 0.05$ /yr, $Lo = 170$ m³/Mg and NMOC = 4000 ppmv. The LandGEM Model (Version 2.01) is used to perform calculations. These calculations for applicability of the control requirements show that NMOC emissions currently exceed 50 megagrams per year [for detailed emissions calculations, see Appendix C: NMOC Calculations for Rule Applicability]. The proposed gas collection and control system are required to fulfill the requirements of 40 CFR 60, Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills. The landfill is also subject to 326 IAC 8-8.1, as it is an "existing

municipal solid waste landfill” as defined in 326 IAC 8-8.1-2(b). Since 326 IAC 8-8.1 incorporates, by reference, the provisions of 40 CFR 60.750-60.759, Subpart WWW, the proposed gas collection and control system are required to fulfill the requirements of 40 CFR 60, Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills.

Pursuant to 40 CFR 60.752, a municipal solid waste landfill with a design capacity greater than 2.5 million megagrams (Mg) shall comply with 40 CFR 60.752 (b)(2)(ii) if the non methane organic compound emission (NMOC) rate is greater than 50 Mg/year based on calculation procedures specified in 40 CFR 60.754.

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

- (1) Operate the collection system such that gas is collected from each area, cell, or group of cells in the municipal solid waste landfill in which solid waste has been in place for five years if active or 2 years or more if closed or at final grade.
- (2) Operate the collection system with negative pressure at each wellhead except under the following conditions:
 - (A) Fire or increased well temperature. The Permittee shall record instances when positive pressure occurs in efforts to avoid a fire. These records shall be submitted with the annual reports as provided in 40 CFR 60.757(f)(1).
 - (B) Use of a geomembrane or synthetic cover. The Permittee shall develop acceptable pressure limits in the design plan.
 - (C) A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes shall be approved by the Office of Air Quality (OAQ).
- (3) 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.
 - (A) 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).
 - (B) 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.
- (4) 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 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.

- (5) 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.
- (6) Operate the control system at all times when the collected gas is routed to the system.
- (7) If monitoring demonstrates that the operational requirement in 40 CFR 60.753(b), (c), or (d) are not met, corrective action shall be taken as specified in 40 CFR 60.752(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.

The source plans to install a properly engineered, installed and operated collection and control system that collects and flares (burns off) the landfill gas in order to comply with these requirements. The approvals for that gas collection and control system are contained in the permit.

- (c) The below ground diesel storage tank is not subject to the New Source Performance Standard for Volatile Organic Liquid Storage Vessels Constructed, Reconstructed or Modified after July 23, 1984, (40 CFR 60, Subpart Kb) 326 IAC 12, because the storage tank has a capacity less than 75 cubic meters (m³) (10,000 gallons ~ 37.85 cubic meters).
- (d) This 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 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) (as calculated using the procedures specified in 40 CFR 60.754(a)(1)). This landfill site does not include a bioreactor, as defined in 40 CFR 63.1990.
 - (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.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration)

The source does not have potential to emit 250 tons per year or greater of any air pollutant subject to regulation under the Clean Air Act and it is not 1 of the 28 listed sources, therefore, pursuant to 325 IAC 2-2, this source is a minor source.

326 IAC 2-4.1 (New Source Toxics Control)

This landfill site has not installed any new major sources of HAPs. Therefore the requirements of this section do not apply.

326 IAC 2-6 (Emission Reporting)

This source is located in Wayne County. The source is not one of the twenty-eight (28) listed sources and its potential to emit PM₁₀, SO₂, VOC, NO_x, and/or CO is less than one-hundred (100) tons per year including fugitive emissions, therefore, 326 IAC 2-6 does not apply.

The source will be required to annually submit a statement of the actual emissions of all federally regulated pollutants from the source, for the purpose of fee assessment.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2(2) (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), visible emissions shall meet the following limitations, 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.
- (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 6-4 (Fugitive Dust Emissions)

Pursuant to 326 IAC 6-4, the source shall not generate fugitive dust to the extent that some portion of the material escapes beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located. A violation of this section would occur if air crossing the downwind boundaries of the site were to contain fugitive dust concentrations greater than sixty-seven percent (67%) in excess of ambient upwind concentrations.

326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)

The source is located in Wayne County, was constructed in 1968, and has the potential to emit greater than 25 tons of fugitive particulate matter per year. The source received all the necessary preconstruction approvals before December 13, 1985. Therefore, the source is not subject to the requirements of 326 IAC 6-5. The source currently controls fugitive dust emissions from the roads by applying water on an as-needed basis.

State Rule Applicability - Individual Facilities

326 IAC 8-8.1 (Existing Municipal Solid Waste Landfills Not Located in Clark, Floyd, Lake, and Porter Counties)

This source is located in Wayne County, has capacity available for future use and was constructed prior to May 30, 1991. It meets the definition of "existing municipal solid waste landfill" as defined in 326 IAC 8-8.1-2(b). Therefore, this landfill is subject to 326 IAC 8-8.1. 326 IAC 8-8.1 incorporates, by reference, all of the provisions of 40 CFR 60, Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills. Therefore, the landfill fulfills the requirements of 326 IAC 8-8.1 by following the requirements of 40 CFR 60, Subpart WWW.

326 IAC 8-9 (Volatile Organic Liquid Storage Vessels)

The diesel fuel storage tank is not subject to 326 IAC 8-9 because it is not located in Clark, Floyd, Lake, or Porter county.

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 to this flare.

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 to this flare.

Testing Requirements

There are no testing requirements because the only major pollutant released by the source is NMOC (VOC) and the only control device is an open flare, that cannot be tested. Monitoring of the pilot flame is considered adequate for ensuring compliance.

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 source are as follows:

The active landfill gas collection system and 850 scfm flare have applicable compliance monitoring requirements as specified below:

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 system 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); and
 - (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 open flare shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment:
 - (1) 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.
 - (2) A device that records flow to or bypass of the flare. The owner or operator shall either:

- (A) Install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device at least every 15 minutes; or
- (B) 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 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.

These monitoring conditions are necessary because the flare at the municipal solid waste landfill and an active collection system must operate properly to ensure compliance with 40 CFR 60, Subpart WWW (Standards of Performance for Municipal Solid Waste Landfills), 40 CFR 63, Subpart AAAA (National Emissions Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills), 326 IAC 2-7 (Part 70) and 326 IAC 8-8.1.

Conclusion

The operation of this stationary municipal solid waste landfill shall be subject to the conditions of the attached proposed Part 70 Permit No. T 177-17944-00106.

Appendix A: Emissions Calculations:

LandGEM Model Output (Version 2.01)

Methane (CH4) and Carbon Dioxide (CO2) Generation Rate

=====
 Model Parameters
 =====

Lo : 100.00 m³ / Mg
 k : 0.0400 1/yr
 NMOC : 595.00 ppmv
 Methane : 50.0000 % volume Carbon Dioxide : 50.0000 % volume

=====
 Landfill Parameters
 =====

Landfill type : No Co-Disposal
 Year Opened : 1968 Current Year : 2003 Closure Year: 2064 Capacity : 6,680,588 Mg
 Average Acceptance Rate Required from Current Year to Closure Year : 72,736 Mg/year

=====
 Model Results
 =====

| Year | Methane and Carbon Dioxide Emission Rate | | |
|------|--|-----------|--------------|
| | Refuse In Place (Mg) | (Mg/yr) | (Cubic m/yr) |
| 1969 | 4.900E+04 | 1.308E+02 | 1.960E+05 |
| 1970 | 9.888E+04 | 2.588E+02 | 3.878E+05 |
| 1971 | 1.497E+05 | 3.842E+02 | 5.758E+05 |
| 1972 | 2.014E+05 | 5.071E+02 | 7.601E+05 |
| 1973 | 2.540E+05 | 6.276E+02 | 9.408E+05 |
| 1974 | 3.075E+05 | 7.459E+02 | 1.118E+06 |
| 1975 | 3.620E+05 | 8.619E+02 | 1.292E+06 |
| 1976 | 4.173E+05 | 9.757E+02 | 1.463E+06 |
| 1977 | 4.736E+05 | 1.088E+03 | 1.630E+06 |
| 1978 | 5.307E+05 | 1.197E+03 | 1.795E+06 |
| 1979 | 5.888E+05 | 1.305E+03 | 1.957E+06 |
| 1980 | 6.477E+05 | 1.412E+03 | 2.116E+06 |
| 1981 | 7.076E+05 | 1.516E+03 | 2.272E+06 |
| 1982 | 7.684E+05 | 1.619E+03 | 2.426E+06 |
| 1983 | 8.301E+05 | 1.720E+03 | 2.578E+06 |
| 1984 | 8.927E+05 | 1.820E+03 | 2.727E+06 |
| 1985 | 9.562E+05 | 1.918E+03 | 2.874E+06 |
| 1986 | 1.021E+06 | 2.014E+03 | 3.019E+06 |
| 1987 | 1.086E+06 | 2.110E+03 | 3.162E+06 |
| 1988 | 1.152E+06 | 2.204E+03 | 3.303E+06 |
| 1989 | 1.219E+06 | 2.296E+03 | 3.442E+06 |
| 1990 | 1.287E+06 | 2.388E+03 | 3.579E+06 |
| 1991 | 1.356E+06 | 2.478E+03 | 3.715E+06 |
| 1992 | 1.436E+06 | 2.594E+03 | 3.889E+06 |
| 1993 | 1.514E+06 | 2.701E+03 | 4.049E+06 |
| 1994 | 1.594E+06 | 2.808E+03 | 4.208E+06 |
| 1995 | 1.663E+06 | 2.882E+03 | 4.321E+06 |
| 1996 | 1.748E+06 | 2.995E+03 | 4.490E+06 |
| 1997 | 1.825E+06 | 3.085E+03 | 4.623E+06 |
| 1998 | 1.891E+06 | 3.140E+03 | 4.707E+06 |
| 1999 | 1.962E+06 | 3.205E+03 | 4.804E+06 |
| 2000 | 2.032E+06 | 3.267E+03 | 4.897E+06 |

| | | | |
|------|-----------|-----------|-----------|
| 2001 | 2.103E+06 | 3.327E+03 | 4.987E+06 |
| 2002 | 2.173E+06 | 3.385E+03 | 5.073E+06 |
| 2003 | 2.244E+06 | 3.440E+03 | 5.156E+06 |
| 2004 | 2.316E+06 | 3.499E+03 | 5.245E+06 |
| 2005 | 2.389E+06 | 3.556E+03 | 5.330E+06 |
| 2006 | 2.462E+06 | 3.611E+03 | 5.412E+06 |
| 2007 | 2.535E+06 | 3.663E+03 | 5.491E+06 |
| 2008 | 2.607E+06 | 3.714E+03 | 5.567E+06 |
| 2009 | 2.680E+06 | 3.762E+03 | 5.639E+06 |
| 2010 | 2.753E+06 | 3.809E+03 | 5.709E+06 |
| 2011 | 2.826E+06 | 3.854E+03 | 5.776E+06 |
| 2012 | 2.898E+06 | 3.897E+03 | 5.841E+06 |
| 2013 | 2.971E+06 | 3.938E+03 | 5.903E+06 |
| 2014 | 3.044E+06 | 3.978E+03 | 5.962E+06 |
| 2015 | 3.117E+06 | 4.016E+03 | 6.019E+06 |
| 2016 | 3.189E+06 | 4.052E+03 | 6.074E+06 |
| 2017 | 3.262E+06 | 4.088E+03 | 6.127E+06 |
| 2018 | 3.335E+06 | 4.121E+03 | 6.178E+06 |
| 2019 | 3.407E+06 | 4.154E+03 | 6.226E+06 |
| 2020 | 3.480E+06 | 4.185E+03 | 6.273E+06 |
| 2021 | 3.553E+06 | 4.215E+03 | 6.318E+06 |
| 2022 | 3.626E+06 | 4.244E+03 | 6.361E+06 |
| 2023 | 3.698E+06 | 4.272E+03 | 6.403E+06 |
| 2024 | 3.771E+06 | 4.298E+03 | 6.443E+06 |
| 2025 | 3.844E+06 | 4.324E+03 | 6.481E+06 |
| 2026 | 3.917E+06 | 4.348E+03 | 6.518E+06 |
| 2027 | 3.989E+06 | 4.372E+03 | 6.553E+06 |
| 2028 | 4.062E+06 | 4.395E+03 | 6.587E+06 |
| 2029 | 4.135E+06 | 4.417E+03 | 6.620E+06 |
| 2030 | 4.208E+06 | 4.437E+03 | 6.651E+06 |
| 2031 | 4.280E+06 | 4.458E+03 | 6.681E+06 |
| 2032 | 4.353E+06 | 4.477E+03 | 6.710E+06 |
| 2033 | 4.426E+06 | 4.495E+03 | 6.738E+06 |
| 2034 | 4.499E+06 | 4.513E+03 | 6.765E+06 |
| 2035 | 4.571E+06 | 4.530E+03 | 6.791E+06 |
| 2036 | 4.644E+06 | 4.547E+03 | 6.815E+06 |
| 2037 | 4.717E+06 | 4.563E+03 | 6.839E+06 |
| 2038 | 4.789E+06 | 4.578E+03 | 6.862E+06 |
| 2039 | 4.862E+06 | 4.592E+03 | 6.884E+06 |
| 2040 | 4.935E+06 | 4.607E+03 | 6.905E+06 |
| 2041 | 5.008E+06 | 4.620E+03 | 6.925E+06 |
| 2042 | 5.080E+06 | 4.633E+03 | 6.944E+06 |
| 2043 | 5.153E+06 | 4.645E+03 | 6.963E+06 |
| 2044 | 5.226E+06 | 4.657E+03 | 6.981E+06 |
| 2045 | 5.299E+06 | 4.669E+03 | 6.998E+06 |
| 2046 | 5.371E+06 | 4.680E+03 | 7.015E+06 |
| 2047 | 5.444E+06 | 4.690E+03 | 7.031E+06 |
| 2048 | 5.517E+06 | 4.701E+03 | 7.046E+06 |
| 2049 | 5.590E+06 | 4.710E+03 | 7.061E+06 |
| 2050 | 5.662E+06 | 4.720E+03 | 7.075E+06 |
| 2051 | 5.735E+06 | 4.729E+03 | 7.088E+06 |
| 2052 | 5.808E+06 | 4.738E+03 | 7.101E+06 |
| 2053 | 5.880E+06 | 4.746E+03 | 7.114E+06 |
| 2054 | 5.953E+06 | 4.754E+03 | 7.126E+06 |
| 2055 | 6.026E+06 | 4.762E+03 | 7.137E+06 |
| 2056 | 6.099E+06 | 4.769E+03 | 7.148E+06 |
| 2057 | 6.171E+06 | 4.776E+03 | 7.159E+06 |
| 2058 | 6.244E+06 | 4.783E+03 | 7.169E+06 |

| | | | |
|-------------|------------------|------------------|------------------|
| 2059 | 6.317E+06 | 4.790E+03 | 7.179E+06 |
| 2060 | 6.390E+06 | 4.796E+03 | 7.189E+06 |
| 2061 | 6.462E+06 | 4.802E+03 | 7.198E+06 |
| 2062 | 6.535E+06 | 4.808E+03 | 7.206E+06 |
| 2063 | 6.608E+06 | 4.813E+03 | 7.215E+06 |
| 2064 | 6.681E+06 | 4.819E+03 | 7.223E+06 |
| 2065 | 6.681E+06 | 4.630E+03 | 6.940E+06 |
| 2066 | 6.681E+06 | 4.448E+03 | 6.667E+06 |
| 2067 | 6.681E+06 | 4.274E+03 | 6.406E+06 |
| 2068 | 6.681E+06 | 4.106E+03 | 6.155E+06 |

Maximum Emission Rate

Non-Methane Organic Compound (NMOC) Generation Rate

=====
 Model Parameters
 =====

Lo : 100.00 m³ / Mg
 k : 0.0400 1/yr
 NMOC : 595.00 ppmv
 Methane : 50.0000 % volume
 Carbon Dioxide : 50.0000 % volume

=====
 Landfill Parameters
 =====

Landfill type : No Co-Disposal
 Year Opened : 1968 Current Year : 2003 Closure Year: 2064 Capacity : 6,680,588 Mg
 Average Acceptance Rate Required from Current Year to Closure Year : 72,736 Mg/year

=====
 Model Results
 =====

| Year | Refuse In Place (Mg) | NMOC Emission Rate | |
|------|----------------------|--------------------|--------------|
| | | (Mg/yr) | (Cubic m/yr) |
| 1969 | 4.900E+04 | 8.360E-01 | 2.332E+02 |
| 1970 | 9.888E+04 | 1.654E+00 | 4.615E+02 |
| 1971 | 1.497E+05 | 2.456E+00 | 6.853E+02 |
| 1972 | 2.014E+05 | 3.242E+00 | 9.045E+02 |
| 1973 | 2.540E+05 | 4.013E+00 | 1.120E+03 |
| 1974 | 3.075E+05 | 4.769E+00 | 1.330E+03 |
| 1975 | 3.620E+05 | 5.510E+00 | 1.537E+03 |
| 1976 | 4.173E+05 | 6.239E+00 | 1.740E+03 |
| 1977 | 4.736E+05 | 6.954E+00 | 1.940E+03 |
| 1978 | 5.307E+05 | 7.656E+00 | 2.136E+03 |
| 1979 | 5.888E+05 | 8.347E+00 | 2.329E+03 |
| 1980 | 6.477E+05 | 9.025E+00 | 2.518E+03 |
| 1981 | 7.076E+05 | 9.693E+00 | 2.704E+03 |
| 1982 | 7.684E+05 | 1.035E+01 | 2.887E+03 |
| 1983 | 8.301E+05 | 1.100E+01 | 3.068E+03 |
| 1984 | 8.927E+05 | 1.163E+01 | 3.246E+03 |
| 1985 | 9.562E+05 | 1.226E+01 | 3.421E+03 |
| 1986 | 1.021E+06 | 1.288E+01 | 3.593E+03 |
| 1987 | 1.086E+06 | 1.349E+01 | 3.763E+03 |
| 1988 | 1.152E+06 | 1.409E+01 | 3.931E+03 |
| 1989 | 1.219E+06 | 1.468E+01 | 4.096E+03 |
| 1990 | 1.287E+06 | 1.527E+01 | 4.259E+03 |
| 1991 | 1.356E+06 | 1.585E+01 | 4.421E+03 |

| | | | |
|------|-----------|-----------|-----------|
| 1992 | 1.436E+06 | 1.659E+01 | 4.628E+03 |
| 1993 | 1.514E+06 | 1.727E+01 | 4.818E+03 |
| 1994 | 1.594E+06 | 1.795E+01 | 5.008E+03 |
| 1995 | 1.663E+06 | 1.843E+01 | 5.141E+03 |
| 1996 | 1.748E+06 | 1.915E+01 | 5.343E+03 |
| 1997 | 1.825E+06 | 1.972E+01 | 5.502E+03 |
| 1998 | 1.891E+06 | 2.008E+01 | 5.601E+03 |
| 1999 | 1.962E+06 | 2.049E+01 | 5.717E+03 |
| 2000 | 2.032E+06 | 2.089E+01 | 5.828E+03 |
| 2001 | 2.103E+06 | 2.127E+01 | 5.934E+03 |
| 2002 | 2.173E+06 | 2.164E+01 | 6.037E+03 |
| 2003 | 2.244E+06 | 2.199E+01 | 6.136E+03 |
| 2004 | 2.316E+06 | 2.237E+01 | 6.242E+03 |
| 2005 | 2.389E+06 | 2.274E+01 | 6.343E+03 |
| 2006 | 2.462E+06 | 2.309E+01 | 6.441E+03 |
| 2007 | 2.535E+06 | 2.342E+01 | 6.534E+03 |
| 2008 | 2.607E+06 | 2.375E+01 | 6.624E+03 |
| 2009 | 2.680E+06 | 2.406E+01 | 6.711E+03 |
| 2010 | 2.753E+06 | 2.435E+01 | 6.794E+03 |
| 2011 | 2.826E+06 | 2.464E+01 | 6.874E+03 |
| 2012 | 2.898E+06 | 2.491E+01 | 6.951E+03 |
| 2013 | 2.971E+06 | 2.518E+01 | 7.024E+03 |
| 2014 | 3.044E+06 | 2.543E+01 | 7.095E+03 |
| 2015 | 3.117E+06 | 2.568E+01 | 7.163E+03 |
| 2016 | 3.189E+06 | 2.591E+01 | 7.228E+03 |
| 2017 | 3.262E+06 | 2.614E+01 | 7.291E+03 |
| 2018 | 3.335E+06 | 2.635E+01 | 7.352E+03 |
| 2019 | 3.407E+06 | 2.656E+01 | 7.409E+03 |
| 2020 | 3.480E+06 | 2.676E+01 | 7.465E+03 |
| 2021 | 3.553E+06 | 2.695E+01 | 7.519E+03 |
| 2022 | 3.626E+06 | 2.713E+01 | 7.570E+03 |
| 2023 | 3.698E+06 | 2.731E+01 | 7.620E+03 |
| 2024 | 3.771E+06 | 2.748E+01 | 7.667E+03 |
| 2025 | 3.844E+06 | 2.765E+01 | 7.713E+03 |
| 2026 | 3.917E+06 | 2.780E+01 | 7.756E+03 |
| 2027 | 3.989E+06 | 2.795E+01 | 7.798E+03 |
| 2028 | 4.062E+06 | 2.810E+01 | 7.839E+03 |
| 2029 | 4.135E+06 | 2.824E+01 | 7.878E+03 |
| 2030 | 4.208E+06 | 2.837E+01 | 7.915E+03 |
| 2031 | 4.280E+06 | 2.850E+01 | 7.951E+03 |
| 2032 | 4.353E+06 | 2.862E+01 | 7.985E+03 |
| 2033 | 4.426E+06 | 2.874E+01 | 8.019E+03 |
| 2034 | 4.499E+06 | 2.886E+01 | 8.050E+03 |
| 2035 | 4.571E+06 | 2.897E+01 | 8.081E+03 |
| 2036 | 4.644E+06 | 2.907E+01 | 8.110E+03 |
| 2037 | 4.717E+06 | 2.917E+01 | 8.139E+03 |
| 2038 | 4.789E+06 | 2.927E+01 | 8.166E+03 |
| 2039 | 4.862E+06 | 2.936E+01 | 8.192E+03 |
| 2040 | 4.935E+06 | 2.945E+01 | 8.217E+03 |
| 2041 | 5.008E+06 | 2.954E+01 | 8.241E+03 |
| 2042 | 5.080E+06 | 2.962E+01 | 8.264E+03 |
| 2043 | 5.153E+06 | 2.970E+01 | 8.286E+03 |
| 2044 | 5.226E+06 | 2.978E+01 | 8.307E+03 |
| 2045 | 5.299E+06 | 2.985E+01 | 8.328E+03 |
| 2046 | 5.371E+06 | 2.992E+01 | 8.348E+03 |
| 2047 | 5.444E+06 | 2.999E+01 | 8.366E+03 |
| 2048 | 5.517E+06 | 3.005E+01 | 8.385E+03 |
| 2049 | 5.590E+06 | 3.012E+01 | 8.402E+03 |

| | | | | |
|-------------|------------------|------------------|------------------|------------------------------|
| 2050 | 5.662E+06 | 3.018E+01 | 8.419E+03 | |
| 2051 | 5.735E+06 | 3.023E+01 | 8.435E+03 | |
| 2052 | 5.808E+06 | 3.029E+01 | 8.450E+03 | |
| 2053 | 5.880E+06 | 3.034E+01 | 8.465E+03 | |
| 2054 | 5.953E+06 | 3.039E+01 | 8.480E+03 | |
| 2055 | 6.026E+06 | 3.044E+01 | 8.493E+03 | |
| 2056 | 6.099E+06 | 3.049E+01 | 8.507E+03 | |
| 2057 | 6.171E+06 | 3.054E+01 | 8.519E+03 | |
| 2058 | 6.244E+06 | 3.058E+01 | 8.531E+03 | |
| 2059 | 6.317E+06 | 3.062E+01 | 8.543E+03 | |
| 2060 | 6.390E+06 | 3.066E+01 | 8.554E+03 | |
| 2061 | 6.462E+06 | 3.070E+01 | 8.565E+03 | |
| 2062 | 6.535E+06 | 3.074E+01 | 8.576E+03 | |
| 2063 | 6.608E+06 | 3.077E+01 | 8.586E+03 | |
| 2064 | 6.681E+06 | 3.081E+01 | 8.595E+03 | Maximum Emission Rate |
| 2065 | 6.681E+06 | 2.960E+01 | 8.258E+03 | |
| 2066 | 6.681E+06 | 2.844E+01 | 7.934E+03 | |
| 2067 | 6.681E+06 | 2.732E+01 | 7.623E+03 | |
| 2068 | 6.681E+06 | 2.625E+01 | 7.324E+03 | |

Carbon Monoxide (CO) Generation Rate

Model Parameters

Lo : 100.00 m³ / Mg
 k : 0.0400 1/yr
 NMOC : 595.00 ppmv
 Methane : 50.0000 % volume
 Carbon Dioxide : 50.0000 % volume
 Air Pollutant : Carbon Monoxide Molecular Wt = 28.01 Concentration = 141.0 ppmV

Landfill Parameters

Landfill type : No Co-Disposal
 Year Opened : 1968 Current Year : 2003 Closure Year: 2064 Capacity : 6,680,588 Mg
 Average Acceptance Rate Required from Current Year to Closure Year : 72,736 Mg/year

Model Results

| Year | Carbon Monoxide Emission Rate | | |
|------|-------------------------------|-----------|--------------|
| | Refuse In Place (Mg) | (Mg/yr) | (Cubic m/yr) |
| 1969 | 4.900E+04 | 6.439E-02 | 5.527E+01 |
| 1970 | 9.888E+04 | 1.274E-01 | 1.094E+02 |
| 1971 | 1.497E+05 | 1.892E-01 | 1.624E+02 |
| 1972 | 2.014E+05 | 2.497E-01 | 2.144E+02 |
| 1973 | 2.540E+05 | 3.091E-01 | 2.653E+02 |
| 1974 | 3.075E+05 | 3.673E-01 | 3.153E+02 |
| 1975 | 3.620E+05 | 4.244E-01 | 3.643E+02 |
| 1976 | 4.173E+05 | 4.805E-01 | 4.124E+02 |
| 1977 | 4.736E+05 | 5.356E-01 | 4.597E+02 |
| 1978 | 5.307E+05 | 5.897E-01 | 5.062E+02 |
| 1979 | 5.888E+05 | 6.429E-01 | 5.518E+02 |
| 1980 | 6.477E+05 | 6.951E-01 | 5.967E+02 |
| 1981 | 7.076E+05 | 7.466E-01 | 6.408E+02 |

| | | | |
|------|-----------|-----------|-----------|
| 1982 | 7.684E+05 | 7.972E-01 | 6.843E+02 |
| 1983 | 8.301E+05 | 8.470E-01 | 7.270E+02 |
| 1984 | 8.927E+05 | 8.960E-01 | 7.691E+02 |
| 1985 | 9.562E+05 | 9.443E-01 | 8.106E+02 |
| 1986 | 1.021E+06 | 9.920E-01 | 8.515E+02 |
| 1987 | 1.086E+06 | 1.039E+00 | 8.918E+02 |
| 1988 | 1.152E+06 | 1.085E+00 | 9.315E+02 |
| 1989 | 1.219E+06 | 1.131E+00 | 9.707E+02 |
| 1990 | 1.287E+06 | 1.176E+00 | 1.009E+03 |
| 1991 | 1.356E+06 | 1.220E+00 | 1.048E+03 |
| 1992 | 1.436E+06 | 1.278E+00 | 1.097E+03 |
| 1993 | 1.514E+06 | 1.330E+00 | 1.142E+03 |
| 1994 | 1.594E+06 | 1.383E+00 | 1.187E+03 |
| 1995 | 1.663E+06 | 1.419E+00 | 1.218E+03 |
| 1996 | 1.748E+06 | 1.475E+00 | 1.266E+03 |
| 1997 | 1.825E+06 | 1.519E+00 | 1.304E+03 |
| 1998 | 1.891E+06 | 1.546E+00 | 1.327E+03 |
| 1999 | 1.962E+06 | 1.578E+00 | 1.355E+03 |
| 2000 | 2.032E+06 | 1.609E+00 | 1.381E+03 |
| 2001 | 2.103E+06 | 1.638E+00 | 1.406E+03 |
| 2002 | 2.173E+06 | 1.667E+00 | 1.431E+03 |
| 2003 | 2.244E+06 | 1.694E+00 | 1.454E+03 |
| 2004 | 2.316E+06 | 1.723E+00 | 1.479E+03 |
| 2005 | 2.389E+06 | 1.751E+00 | 1.503E+03 |
| 2006 | 2.462E+06 | 1.778E+00 | 1.526E+03 |
| 2007 | 2.535E+06 | 1.804E+00 | 1.548E+03 |
| 2008 | 2.607E+06 | 1.829E+00 | 1.570E+03 |
| 2009 | 2.680E+06 | 1.853E+00 | 1.590E+03 |
| 2010 | 2.753E+06 | 1.876E+00 | 1.610E+03 |
| 2011 | 2.826E+06 | 1.898E+00 | 1.629E+03 |
| 2012 | 2.898E+06 | 1.919E+00 | 1.647E+03 |
| 2013 | 2.971E+06 | 1.939E+00 | 1.665E+03 |
| 2014 | 3.044E+06 | 1.959E+00 | 1.681E+03 |
| 2015 | 3.117E+06 | 1.978E+00 | 1.697E+03 |
| 2016 | 3.189E+06 | 1.996E+00 | 1.713E+03 |
| 2017 | 3.262E+06 | 2.013E+00 | 1.728E+03 |
| 2018 | 3.335E+06 | 2.030E+00 | 1.742E+03 |
| 2019 | 3.407E+06 | 2.046E+00 | 1.756E+03 |
| 2020 | 3.480E+06 | 2.061E+00 | 1.769E+03 |
| 2021 | 3.553E+06 | 2.076E+00 | 1.782E+03 |
| 2022 | 3.626E+06 | 2.090E+00 | 1.794E+03 |
| 2023 | 3.698E+06 | 2.104E+00 | 1.806E+03 |
| 2024 | 3.771E+06 | 2.117E+00 | 1.817E+03 |
| 2025 | 3.844E+06 | 2.129E+00 | 1.828E+03 |
| 2026 | 3.917E+06 | 2.141E+00 | 1.838E+03 |
| 2027 | 3.989E+06 | 2.153E+00 | 1.848E+03 |
| 2028 | 4.062E+06 | 2.164E+00 | 1.858E+03 |
| 2029 | 4.135E+06 | 2.175E+00 | 1.867E+03 |
| 2030 | 4.208E+06 | 2.185E+00 | 1.876E+03 |
| 2031 | 4.280E+06 | 2.195E+00 | 1.884E+03 |
| 2032 | 4.353E+06 | 2.205E+00 | 1.892E+03 |
| 2033 | 4.426E+06 | 2.214E+00 | 1.900E+03 |
| 2034 | 4.499E+06 | 2.223E+00 | 1.908E+03 |
| 2035 | 4.571E+06 | 2.231E+00 | 1.915E+03 |
| 2036 | 4.644E+06 | 2.239E+00 | 1.922E+03 |
| 2037 | 4.717E+06 | 2.247E+00 | 1.929E+03 |
| 2038 | 4.789E+06 | 2.254E+00 | 1.935E+03 |
| 2039 | 4.862E+06 | 2.262E+00 | 1.941E+03 |

| | | | |
|-------------|------------------|------------------|------------------|
| 2040 | 4.935E+06 | 2.268E+00 | 1.947E+03 |
| 2041 | 5.008E+06 | 2.275E+00 | 1.953E+03 |
| 2042 | 5.080E+06 | 2.281E+00 | 1.958E+03 |
| 2043 | 5.153E+06 | 2.288E+00 | 1.964E+03 |
| 2044 | 5.226E+06 | 2.293E+00 | 1.969E+03 |
| 2045 | 5.299E+06 | 2.299E+00 | 1.973E+03 |
| 2046 | 5.371E+06 | 2.305E+00 | 1.978E+03 |
| 2047 | 5.444E+06 | 2.310E+00 | 1.983E+03 |
| 2048 | 5.517E+06 | 2.315E+00 | 1.987E+03 |
| 2049 | 5.590E+06 | 2.320E+00 | 1.991E+03 |
| 2050 | 5.662E+06 | 2.324E+00 | 1.995E+03 |
| 2051 | 5.735E+06 | 2.329E+00 | 1.999E+03 |
| 2052 | 5.808E+06 | 2.333E+00 | 2.003E+03 |
| 2053 | 5.880E+06 | 2.337E+00 | 2.006E+03 |
| 2054 | 5.953E+06 | 2.341E+00 | 2.009E+03 |
| 2055 | 6.026E+06 | 2.345E+00 | 2.013E+03 |
| 2056 | 6.099E+06 | 2.348E+00 | 2.016E+03 |
| 2057 | 6.171E+06 | 2.352E+00 | 2.019E+03 |
| 2058 | 6.244E+06 | 2.355E+00 | 2.022E+03 |
| 2059 | 6.317E+06 | 2.359E+00 | 2.025E+03 |
| 2060 | 6.390E+06 | 2.362E+00 | 2.027E+03 |
| 2061 | 6.462E+06 | 2.365E+00 | 2.030E+03 |
| 2062 | 6.535E+06 | 2.368E+00 | 2.032E+03 |
| 2063 | 6.608E+06 | 2.370E+00 | 2.035E+03 |
| 2064 | 6.681E+06 | 2.373E+00 | 2.037E+03 |
| 2065 | 6.681E+06 | 2.280E+00 | 1.957E+03 |
| 2066 | 6.681E+06 | 2.190E+00 | 1.880E+03 |
| 2067 | 6.681E+06 | 2.105E+00 | 1.806E+03 |
| 2068 | 6.681E+06 | 2.022E+00 | 1.736E+03 |
| 2069 | 6.681E+06 | 1.943E+00 | 1.668E+03 |

Maximum Emission Rate

Appendix C NMOC Calculations for Rule Applicability

Non-Methane Organic Compound (NMOC) Generation Rate

Model Parameters

Lo : 170.00 m³ / Mg
 k : 0.0500 1/yr
 NMOC : 4000.00 ppmv
 Methane : 50.0000 % volume
 Carbon Dioxide : 50.0000 % volume

Landfill Parameters

Landfill type : No Co-Disposal
 Year Opened : 1968 Current Year : 2003 Closure Year: 2064 Capacity : 6,680,588 Mg
 Average Acceptance Rate Required from Current Year to Closure Year : 72,736.23 Mg/year

Model Results

| Year | Refuse In Place (Mg) | NMOC Emission Rate | | |
|------|----------------------|--------------------|--------------|---------------------------------------|
| | | (Mg/yr) | (Cubic m/yr) | |
| 1969 | 4.900E+04 | 1.194E+01 | 3.332E+03 | |
| 1970 | 9.888E+04 | 2.352E+01 | 6.562E+03 | |
| 1971 | 1.497E+05 | 3.476E+01 | 9.696E+03 | |
| 1972 | 2.014E+05 | 4.566E+01 | 1.274E+04 | |
| 1973 | 2.540E+05 | 5.626E+01 | 1.570E+04 | Source exceeds 50 Mg threshold |
| 1974 | 3.075E+05 | 6.656E+01 | 1.857E+04 | |
| 1975 | 3.620E+05 | 7.659E+01 | 2.137E+04 | |
| 1976 | 4.173E+05 | 8.634E+01 | 2.409E+04 | |
| 1977 | 4.736E+05 | 9.584E+01 | 2.674E+04 | |
| 1978 | 5.307E+05 | 1.051E+02 | 2.932E+04 | |
| 1979 | 5.888E+05 | 1.141E+02 | 3.184E+04 | |
| 1980 | 6.477E+05 | 1.229E+02 | 3.429E+04 | |
| 1981 | 7.076E+05 | 1.315E+02 | 3.669E+04 | |
| 1982 | 7.684E+05 | 1.399E+02 | 3.904E+04 | |
| 1983 | 8.301E+05 | 1.481E+02 | 4.133E+04 | |
| 1984 | 8.927E+05 | 1.562E+02 | 4.357E+04 | |
| 1985 | 9.562E+05 | 1.640E+02 | 4.576E+04 | |
| 1986 | 1.021E+06 | 1.717E+02 | 4.791E+04 | |
| 1987 | 1.086E+06 | 1.793E+02 | 5.002E+04 | |
| 1988 | 1.152E+06 | 1.867E+02 | 5.208E+04 | |
| 1989 | 1.219E+06 | 1.939E+02 | 5.410E+04 | |
| 1990 | 1.287E+06 | 2.011E+02 | 5.609E+04 | |
| 1991 | 1.356E+06 | 2.081E+02 | 5.804E+04 | |
| 1992 | 1.436E+06 | 2.174E+02 | 6.065E+04 | |
| 1993 | 1.514E+06 | 2.258E+02 | 6.301E+04 | |
| 1994 | 1.594E+06 | 2.342E+02 | 6.534E+04 | |
| 1995 | 1.663E+06 | 2.397E+02 | 6.687E+04 | |
| 1996 | 1.748E+06 | 2.486E+02 | 6.937E+04 | |
| 1997 | 1.825E+06 | 2.554E+02 | 7.125E+04 | |
| 1998 | 1.891E+06 | 2.591E+02 | 7.227E+04 | |

| | | | |
|------|-----------|-----------|-----------|
| 1999 | 1.962E+06 | 2.636E+02 | 7.353E+04 |
| 2000 | 2.032E+06 | 2.679E+02 | 7.474E+04 |
| 2001 | 2.103E+06 | 2.720E+02 | 7.588E+04 |
| 2002 | 2.173E+06 | 2.759E+02 | 7.697E+04 |
| 2003 | 2.244E+06 | 2.796E+02 | 7.801E+04 |
| 2004 | 2.316E+06 | 2.837E+02 | 7.915E+04 |

Emissions calculations based on values for k, Lo and NMOC specified in 40 CFR 60.754 (a)(1).

**Appendix B: Emission Calculations
CO, VOC and HAPs Emissions
From the Landfill**

Appendix B: 1 of 3

**Company Name: New Paris Pike Landfill
Address: 5242 New Paris Pike Road, Richmond, Indiana 47374
Title V: T177-17944-00106
Reviewer: ERG/ST
Date: October 20, 2003**

| Inputs from Landfill Gas Model ^a (Emissions Before Controls) | | | |
|---|--------------------|----------|-----------|
| Product | m ³ /yr | mg/yr | tons/year |
| Methane | 7.22E+06 | 4.82E+03 | 5301 |
| CO ₂ | 7.22E+06 | 4.82E+03 | 5301 |
| CO | 2.04E+00 | 2.37E+00 | 2.61 |
| NMOC | 8.60E+03 | 3.08E+01 | 33.9 |
| Fugitive Emissions from Landfill (after controls) | | | tons/yr |
| CO | | | 0.65 |
| VOC | | | 8.47 |

- | | | |
|--|-----------------|--|
| 1. Landfill Gas (LFG) Production Rate: | 1.44E+07 | m ³ /yr (= CH ₄ + CO ₂ production rate from the EPA Landfill Air Emission Model - Appendix A) |
| 2. Collection Efficiency: | 75% | (AP42, Chapter 2.4) |
| 3. Control Efficiency: | 98% | (required by NSPS) |

| CAS Number | Compound | *HAP Concentration (ppmv) | Molecular Weight | Uncontrolled HAPs Emissions (tons/yr) | Fugitive HAPs Emissions (tons/yr) | Captured HAPs after Control Devices (tons/yr) | Total HAP Emissions (tons/yr) |
|------------------------|--|---------------------------|------------------|---------------------------------------|-----------------------------------|---|-------------------------------|
| 71-55-6 | 1,1,1-Trichloroethane (methyl chloroform) | 0.48 | 133.41 | 0.045 | 0.011 | 0.001 | 0.012 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1.11 | 167.85 | 0.130 | 0.032 | 0.002 | 0.034 |
| 75-34-3 | 1,1-Dichloroethane (ethylidene dichloride) | 2.35 | 98.97 | 0.162 | 0.041 | 0.002 | 0.043 |
| 75-35-4 | 1,1-Dichloroethene (vinylidene chloride) | 0.20 | 96.94 | 0.014 | 0.003 | 0.000 | 0.004 |
| 107-06-2 | 1,2-Dichloroethane (ethylene dichloride) | 0.41 | 98.96 | 0.028 | 0.007 | 0.000 | 0.007 |
| 78-87-5 | 1,2-Dichloropropane (propylene dichloride) | 0.18 | 112.99 | 0.014 | 0.004 | 0.000 | 0.004 |
| 107-13-1 | Acrylonitrile | 6.33 | 53.06 | 0.234 | 0.059 | 0.004 | 0.062 |
| 75-15-0 | Carbon disulfide | 0.58 | 76.13 | 0.031 | 0.008 | 0.000 | 0.008 |
| 56-23-5 | Carbon tetrachloride | 0.00 | 153.84 | 0.000 | 0.000 | 0.000 | 0.000 |
| 463-58-1 | Carbonyl sulfide | 0.49 | 60.07 | 0.021 | 0.005 | 0.000 | 0.005 |
| 108-90-7 | Chlorobenzene | 0.25 | 112.56 | 0.020 | 0.005 | 0.000 | 0.005 |
| 75-00-3 | Chloroethane (ethyl chloride) | 1.25 | 64.52 | 0.056 | 0.014 | 0.001 | 0.015 |
| 67-66-3 | Chloroform | 0.03 | 119.39 | 0.002 | 0.001 | 0.000 | 0.001 |
| 75-09-2 | Dichloromethane (methylene chloride) | 14.30 | 84.94 | 0.847 | 0.212 | 0.013 | 0.225 |
| 100-41-4 | Ethylbenzene | 4.61 | 106.16 | 0.341 | 0.085 | 0.005 | 0.090 |
| 110-54-3 | Hexane | 6.57 | 86.18 | 0.395 | 0.099 | 0.006 | 0.105 |
| 78-93-3 | Methyl ethyl ketone | 7.09 | 72.11 | 0.357 | 0.089 | 0.005 | 0.094 |
| 108-10-1 | Methyl isobutyl ketone | 1.87 | 100.16 | 0.131 | 0.033 | 0.002 | 0.035 |
| 127-18-4 | Perchloroethylene (tetrachloroethene) | 3.73 | 165.83 | 0.431 | 0.108 | 0.006 | 0.114 |
| 79-01-6 | Trichloroethylene (trichloroethene) | 2.82 | 131.4 | 0.258 | 0.065 | 0.004 | 0.068 |
| 75-01-4 | Vinyl chloride | 7.34 | 62.5 | 0.320 | 0.080 | 0.005 | 0.085 |
| 71-43-2 | Benzene | 1.91 | 78.11 | 0.104 | 0.026 | 0.002 | 0.028 |
| 74-87-3 | Methyl chloride (Chloromethane) | 1.21 | 50.49 | 0.043 | 0.011 | 0.001 | 0.011 |
| 108-88-3 | Toluene | 39.30 | 92.13 | 2.525 | 0.631 | 0.038 | 0.669 |
| 1330-20-7 | Xylene (isomers and mixture) | 12.10 | 106.16 | 0.896 | 0.224 | 0.013 | 0.237 |
| | Mercury Compounds | 0.000292 | 200.61 | 0.000 | 0.000 | 0.000 | 0.000 |
| 7647-01-0 | **Hydrogen Chloride | 42.0 | 36 | - | - | 0.016 | 0.016 |
| Total Emissions | | | | 7.41 | 1.85 | 0.13 | 1.98 |

*The HAP concentrations are from AP-42, Chapter 2.4 - Municipal Solid Waste Landfills - Tables 2.4-1 and 2.4-2 (AP-42, 11/98)

** HCl concentration is from AP-42, Chapter 2.4, Section 2.4.4.2. HCl only occurs in the combustion process of the control device.

Methodology

Uncontrolled Emissions of CO and VOC (tons/yr) = CO / VOC emissions at closure (Mg/yr)(from LandGEM 2.01) x 1.1 tons/Mg
 Fugitive CO and VOC Emissions from Landfill emissions = Uncontrolled Emissions of CO and VOC (tons/yr) x (1 - Collection Efficiency)
 Uncontrolled HAPs Emissions (tons/yr) = LFG Production Rate (m³/yr) x 35.31 ft³/m³x (Concentration (ppmv) /1000,000) x 1 atm / Gas Constant (0.7032 atm-cf/lb mole-R) / Temp (60F+ 460) x Mole weight of HAPs (lbs/lbs mole) x (1 ton/2000 lbs)
 Fugitive HAP Emissions = Uncontrolled HAPs Emissions (tons/yr) x (1 - Collection Efficiency)
 Captured HAPs after control device = Uncontrolled HAPs Emissions (tons/yr) x Collection Efficiency x (1 - Control Efficiency)
 HCl Emissions (tons/yr) = LFG Production Rate (m³/yr) x 35.31 ft³/m³x Chlorinated Compound Concentrations (ppmv) /1000,000 x 1 atm / Gas Constant (0.7032 atm-cf/lb mole-R) / Temp (60F+ 460) x Mole weight of HCl (lbs/lbs mole) x (1 ton/2000 lbs) x Collection Efficiency x (1 - Control Efficiency)
 Total HAP Emissions (tons/yr) = Fugitive HAP Emissions (tons/yr) + HAPs after Control Device (tons/yr)

**Appendix B: Emission Calculations
Combustion Emissions
From the 850 scfm Utility Open Flare**

**Company Name: New Paris Pike Landfill
Address: 5242 New Paris Pike Road, Richmond, Indiana 47374
Title V: T177-17944-00106
Reviewer: ERG/ST
Date: October 20, 2003**

| INPUTS | | | | |
|-------------------------------------|---------------------------|--------------------------------|---|--------------------|
| Fuel Input ^d MMBtu/hr | NMOC ^e ppmv | Flow Rate ^d scfm | Facility Description: | Emission Unit ID # |
| 25.5 | 595 | 850 | Utility open flare w/ capacity of 850 scfm landfill gas | 2 |

| Pollutant Emission Factor | PM ^a 17 (lb/10 ⁶ dscf methane) | PM10 ^a 17 (lb/10 ⁶ dscf methane) | SO ₂ ^b 49.6 (ppmv) | NOx ^a 40 (lb/10 ⁶ dscf methane) | CO ^a 750 (lb/10 ⁶ dscf methane) | NMOC ^c 595 (ppmv) |
|-------------------------------------|---|---|--|--|--|------------------------------------|
| Potential to Emit in tons/yr | 1.90 | 1.90 | 1.94 | 4.47 | 83.8 | 0.47 |

^a Emission Factors are from AP-42, Chapter 2.4 - Municipal Solid Waste Landfills, Table 2.4-4. Flares (AP-42, 11/98).

Assume PM emissions equal to PM10 emissions.

^b 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)

^c The NMOC concentration is the default value in EPA Landfill Gas Emissions Model, Version 2.01 and AP-42.

Default value for NMOC for landfills accepting only municipal solid waste is 595.00 ppmv unless site-specific Tier 2 results are submitted by Permittee.

^d The Fuel Input rates and flow rates of flare are as provided by the applicant in Appendices B-E of the application.

^e The landfill accepts only municipal solid waste. Therefore, the NMOC concentration is 595 ppmv for emissions inventory purposes.

Methodology

PTE of PM / PM10 / NOx / CO Emissions (tons/yr) = Flow Rate (scfm landfill gas) / 10⁶ x Emission Factor (lb/10⁶ dscf) x .5 (conc. Methane in landfill gas)
x 60 (min/hr) x 8760 (hr/yr) x .0005 (ton/lb)

PTE of SO₂ Emissions (tons/yr) = Flow Rate (scfm) x Emission Factor (ppmv) / 1000,000 x 1 atm / Gas Constant (0.7032 atm-cf/lb mole-R) / Temp (60F+ 460)
x Mole weight of SO₂ (64 lbs/lbs mole) x 60 min/hr x 8760 hr/yr x 1 ton/2000 lbs

PTE of NMOC Emissions (tons/yr) = Flow Rate (scfm) x Emission Factor (ppmv) / 1000,000 x 1 atm / Gas Constant (0.7032 atm-cf/lb mole-R) / Temp (60F+ 460)
x Mole weight of Hexane (lbs/lbs mole) x 60 min/hr x 8760 hr/yr x 1 ton/2000 lbs x (1-98% control efficiency)

**Appendix B: Emission Calculations
Fugitive Emissions
From Unpaved Roads**

**Company Name: New Paris Pike Landfill
Address: 5242 New Paris Pike Road, Richmond, Indiana 47374
Title V: T177-17944-00106
Reviewer: ERG/ST
Date: October 20, 2003**

1. Emission Factors:

According to AP42, Chapter 13.2.2 - Unpaved Roads (09/98), the PM/PM10 emission factors for unpaved roads can be estimated from the following equation:

$$E = \frac{k \times (s/12)^a \times (w/3)^b}{(M_{dry}/0.2)^c}$$

where:

E = emission factor (lb/vehicle mile traveled)
 s = surface material silt content (%) = 6.4 % (AP-42, Table 13.2.2-1)
 w = mean vehicle weight (tons) = 17 tons (estimated)
 M_{dry} = surface material moisture content (%) = 12 % (AP-42, Chapter 13.2.2)
 k = empirical constant = 10 for PM and 2.6 for PM10
 a = empirical constant = 0.8
 b = empirical constant = 0.5 for PM and 0.4 for PM10
 c = empirical constant = 0.4 for PM and 0.3 for PM10

PM Emission Factor = $\frac{10 \times (6.0/12)^{0.8} \times (19.4/3)^{0.5}}{(0.2/0.2)^{0.4}}$ = **2.80 lbs/mile**

PM10 Emission Factor = $\frac{2.6 \times (6.0/12)^{0.8} \times (19.4/3)^{0.4}}{(0.2/0.2)^{0.3}}$ = **0.92 lbs/mile**

2. Potential to Emit (PTE) of PM/PM10 Before Control from Unpaved Roads:

| Vehicle Type | * Trucks per day | * Average Vehicle Weight (tons) | *Total Trip Number (trucks/yr) | Vehicle Mile Traveled (VMT) (miles/yr) | PTE of PM (tons/yr) | PTE of PM10 (tons/yr) |
|----------------|------------------|---------------------------------|--------------------------------|--|---------------------|-----------------------|
| Misc. Vehicles | 150 | 17 | 54,750 | 109,500 | 153 | 50.4 |
| Total | 150 | | | 109500 | 153 | 50.4 |

* This information is provided by the source.

1.00 = length of unpaved roads in one direction (miles)

Methodology

Avg. Vehicle Weight (ton) = (Weight of Unloaded Vehicles + Weight of Loaded Vehicles) / 2

VMT(miles/yr) = 1.0 mile/trip x 2 x Total Trip Numbers (trips/yr)

PTE of PM/PM10 (tons/yr) = VMT (miles/yr) x Emission Factors (lbs/mile) x 1 tons/ 2000 lbs

PTE of PM/PM10 (tons/yr) = VMT (miles/yr) x Emission Factors (lbs/mile) x 1 tons/ 2000 lbs

3. Potential to Emit (PTE) of PM/PM10 after Control from Unpaved Roads:

The source proposed to use wet suppression to control fugitive dust emissions. The control efficiency from wet suppression is assumed to be 80%.

PTE of PM after Control = 153 tons/yr x (1-80%) = **30.6 tons/yr**

PTE of PM10 after Control = 50.4 tons/yr x (1-80%) = **10.1 tons/yr**