INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
MC 61-53 IGCN 1003
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

TO: Interested Parties / Applicant

DATE: November 16, 2007

RE: Randolph Farms, Inc. / 135-17760-00030

FROM: Nisha Sizemore
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 impractible 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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Part 70 Operating Permit Renewal
OFFICE OF AIR QUALITY

Randolph Farms, Inc.
7256 W. CR 600 South
Modoc, Indiana 47358

(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.

Operation Permit No.: T135-17760-00030	
Issued by: *Original document signed by* Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date: November 16, 2007 Expiration Date: November 16, 2012

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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.4 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 (MSLWLF).

Source Address:	7256 W. CR 600 South, Modoc, IN 47358
Mailing Address:	RR1 Box 76, Modoc, IN 47358
General Source Phone Number:	(765) 853-5714
SIC Code:	4953
County Location:	Randolph
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Minor Source under PSD and Emission Offset 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)]

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

(a) One (1) municipal solid waste landfill controlled by a landfill gas well field collection system and flare control device with a maximum capacity of 2,500 scfm, designed to minimize gas migration from the developing landfill. The landfill began operation in 1973. Subsequent modifications, including one in 1995, have occurred at the facility in order to expand the landfill capacity to 5,184,497 Megagrams (Mg). Under 40 CFR Part 61, Subpart M, this is an active waste disposal site where asbestos-containing waste materials have been deposited. Under 40 CFR Part 63, Subpart AAAA, this is a municipal solid waste landfill that has accepted waste since November 8, 1987, and has a design capacity equal to or greater than 2.5 million Megagrams (Mg).

(b) One (1) main control flare, combusting landfill gas, constructed in the mid-1990s**,** with a maximum capacity of 2,500 scfm, with three (3) candlestick flares for backup, with a maximum capacity of 640 cfm each, to be constructed in 2007.

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) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3-2][326 IAC 8-3-5]

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 applicable to a standard, limitation, or other requirements under Section 111 of the CAA;

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION 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][326 IAC 2-7-4(a)(1)(D)][IC 13-15-3-6(a)]

(a) This permit, T135-17760-00030, 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 of this permit.

(b) If IDEM, OAQ upon receiving a timely and complete renewal 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.

B.3 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.4 Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]

(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
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

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

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

(2) 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) 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.

B.5 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

(a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or

(b) the emission unit to which the condition pertains permanently ceases operation.

B.6 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.7 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.8 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.9 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.10 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 the "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. One (1) certification may cover multiple forms in one (1) submittal.

(c) The "responsible official" is defined at 326 IAC 2-7-1(34).

B.11 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. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be

submitted no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

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.12 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 maintain and implement Preventive Maintenance Plans (PMPs) 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.

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

(c) 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 that unit.

B.13 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: 317-233-0178 (ask for Compliance Section)
Facsimile Number: 317-233-6865

(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
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

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) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, 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 violation of 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.14 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 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.

(e) 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).

(f) 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)]

(g) 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.15 Prior Permits Superseded [326 IAC 2-1.1-9.5][326 IAC 2-7-10.5]

(a) All terms and conditions of permits established prior to135-17760-00030 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised under 326 IAC 2-7-10.5, or

(3) deleted under 326 IAC 2-7-10.5.

(b) Provided that all terms and conditions are accurately reflected in this permit, all previous registrations and permits are superseded by this Part 70 operating permit.

B.16 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
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

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.17 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 Operating 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.18 Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12][40 CFR 72]

(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
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

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)]

B.19 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.20 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 limitations provided in 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
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

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, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-7-20(b),(c), or (e). The Permittee shall make 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 emissions increases and decreases at 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.

(e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.21 Source Modification Requirement [326 IAC 2-7-10.5][326 IAC 2-2-2]

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

(b) Any modification at an existing major source is governed by the requirements of 326 IAC 2-2-2

B.22 Inspection and Entry [326 IAC 2-7-6][IC 13-14-2-2][IC 13-30-3-1][IC 13-17-3-2]

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.23 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
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

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.24 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, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.25 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314][326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

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

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary 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.3 Open Burning [326 IAC 4-1][IC 13-17-9]

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

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

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

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

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

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

(a) The Permittee shall comply with the applicable requirements of 326 IAC 14-10, 326 IAC 18, and 40 CFR 61.140.

(b) The Permittee shall comply with all standards outlined in 40 CFR 61.154 (Standard for active waste disposal sites.)

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
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

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 Permittee 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
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

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 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.11 Instrument Specifications [326 IAC 2-1.1-11][326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]

(a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.

(b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

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

C.12 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.13 Response to Excursions or Exceedances [326 IAC 2-7-5][326 IAC 2-7-6]

(a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

(b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or

(3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:

(1) monitoring results;

(2) review of operation and maintenance procedures and records;

(3) inspection of the control device, associated capture system, and the process.

(d) Failure to take reasonable response steps shall be considered a deviation from the

permit.

(e) The Permittee shall maintain the following records:

(1) monitoring data;

(2) monitor performance data, if applicable; and

(3) corrective actions taken.

C.14 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5][326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

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

C.15 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

(a) Pursuant to 326 IAC 2-6-3(b)(2), starting in 2005 and every three (3) years thereafter, the Permittee shall submit by July 1 an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

(1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);

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

The statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

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

(b) The emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the

private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

C.16 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.17 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
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(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) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.

Stratospheric Ozone Protection

C.18 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) One (1) municipal solid waste landfill controlled by a landfill gas well field collection system and flare control device with a maximum capacity of 2,500 scfm, designed to minimize gas migration from the developing landfill. The landfill began operation in 1973. Subsequent modifications, including one in 1995, have occurred at the facility in order to expand the landfill capacity to 5,184,497 Megagrams (Mg). Under 40 CFR Part 61, Subpart M, this is an active waste disposal site where asbestos containing waste materials have been deposited. Under 40 CFR Part 63, Subpart AAAA, this is a municipal solid waste landfill that has accepted waste since November 8, 1987, and has a design capacity equal to or greater than 2.5 million Megagrams (Mg).

(b) One (1) main control flare, combusting landfill gas, constructed in the mid-1990s, with a maximum capacity of 2,500 scfm, with three (3) candlestick backup flares with a maximum capacity of 640 cfm each, to be constructed in 2007.

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

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

D.1.1 General Provisions Relating to NSPS and NESHAP [326 IAC 12-1-1] [40 CFR Part 60, Subpart A] [326 IAC 14-1-1] [40 CFR 61, Subpart M] [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 WWW.

(b) The provisions of 40 CFR Part 61, Subpart A - General Provisions, which are incorporated as 326 IAC 14-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR Part 61, Subpart M.

(c) The provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR Part 63, Subpart AAAA.

(d) Pursuant to 40 CFR 60.19, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

D.1.2 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.

D.1.3 New Source Performance Standard for Municipal Solid Waste Landfills, (40 CFR Part 60, Subpart WWW

Pursuant to 40 CFR Part 60, Subpart WWW, the Permittee shall comply with the provisions of New Source Performance Standard for Municipal Solid Waste Landfills which are as follows:

40 CFR 60.751 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act or in subpart A of this part.

Active collection system means a gas collection system that uses gas mover equipment.

Active landfill means a landfill in which solid waste is being placed or a landfill that is planned to accept waste in the future.

Closed landfill means a landfill in which solid waste is no longer being placed, and in which no additional solid wastes will be placed without first filing a notification of modification as prescribed under 40 CFR 60.7(a)(4). Once a notification of modification has been filed, and additional solid waste is placed in the landfill, the landfill is no longer closed.

Closure means that point in time when a landfill becomes a closed landfill.

Commercial solid waste means all types of solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial wastes.

Controlled landfill means any landfill at which collection and control systems are required under this subpart as a result of the nonmethane organic compounds emission rate. The landfill is considered controlled at the time a collection and control system design plan is submitted in compliance with 40 CFR 60.752(b)(2)(i).

Design capacity means the maximum amount of solid waste a landfill can accept, as indicated in terms of volume or mass in the most recent permit issued by the State, local, or Tribal agency responsible for regulating the landfill, plus any in-place waste not accounted for in the most recent permit. If the owner or operator chooses to convert the design capacity from volume to mass or from mass to volume to demonstrate its design capacity is less than 2.5 million megagrams or 2.5 million cubic meters, the calculation must include a site specific density, which must be recalculated annually.

Disposal facility means all contiguous land and structures, other appurtenances, and improvements on the land used for the disposal of solid waste.

Emission rate cutoff means the threshold annual emission rate to which a landfill compares its estimated emission rate to determine if control under the regulation is required.

Enclosed combustor means an enclosed firebox which maintains a relatively constant limited peak temperature generally using a limited supply of combustion air. An enclosed flare is considered an enclosed combustor.

Flare means an open combustor without enclosure or shroud.

Gas mover equipment means the equipment (i.e., fan, blower, compressor) used to transport landfill gas through the header system.

Household waste means any solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households (including, but not limited to, single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas).

Industrial solid waste means solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under Subtitle C of the Resource Conservation and Recovery Act, parts 264 and 265 of this title. Such waste may include, but is not limited to, waste resulting from the following manufacturing processes: electric power generation; fertilizer/agricultural chemicals; food and related

products/by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste.

Interior well means any well or similar collection component located inside the perimeter of the landfill waste. A perimeter well located outside the landfilled waste is not an interior well.

Landfill means an area of land or an excavation in which wastes are placed for permanent disposal, and that is not a land application unit, surface impoundment, injection well, or waste pile as those terms are defined under 40 CFR 257.2 of this title.

Lateral expansion means a horizontal expansion of the waste boundaries of an existing MSW landfill. A lateral expansion is not a modification unless it results in an increase in the design capacity of the landfill. *Modification* means an increase in the permitted volume design capacity of the landfill by either horizontal or vertical expansion based on its permitted design capacity as of May 30, 1991. Modification does not occur until the owner or operator commences construction on the horizontal or vertical expansion.

Municipal solid waste landfill or *MSW landfill* means an entire disposal facility in a contiguous geographical space where household waste is placed in or on land. An MSW landfill may also receive other types of RCRA Subtitle D wastes (40 CFR 257.2 of this title) such as commercial solid waste, nonhazardous sludge, conditionally exempt small quantity generator waste, and industrial solid waste. Portions of an MSW landfill may be separated by access roads. An MSW landfill may be publicly or privately owned. An MSW landfill may be a new MSW landfill, an existing MSW landfill, or a lateral expansion.
Municipal solid waste landfill emissions or *MSW landfill emissions* means gas generated by the decomposition of organic waste deposited in an MSW landfill or derived from the evolution of organic compounds in the waste.

NMOC means nonmethane organic compounds, as measured according to the provisions of 40 CFR 60.754.

Nondegradable waste means any waste that does not decompose through chemical breakdown or microbiological activity. Examples are, but are not limited to, concrete, municipal waste combustor ash, and metals.

Passive collection system means a gas collection system that solely uses positive pressure within the landfill to move the gas rather than using gas mover equipment.

Sludge means any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility, exclusive of the treated effluent from a wastewater treatment plant.

Solid waste means any garbage, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges that are point sources subject to permits under 33 U.S.C. 1342, or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended (42 U.S.C 2011 et seq.).

Sufficient density means any number, spacing, and combination of collection system components, including vertical wells, horizontal collectors, and surface collectors, necessary to maintain emission and migration control as determined by measures of performance set forth in this part.

Sufficient extraction rate means a rate sufficient to maintain a negative pressure at all wellheads in the collection system without causing air infiltration, including any wellheads connected to the system as a result of expansion or excess surface emissions, for the life of the blower.

40 CFR 60.752 Standards for air emissions from municipal solid waste landfills.

(b) Each owner or operator of an MSW landfill having a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters, shall either comply with paragraph (b)(2) of this section or calculate an NMOC emission rate for the landfill using the procedures specified in 40 CFR 60.754. The NMOC emission rate shall be recalculated annually, except as provided in 40 CFR 60.757(b)(1)(ii) of this subpart. The owner or operator of an MSW landfill subject to this subpart with a design capacity greater than or equal to 2.5 million megagrams and 2.5 million cubic meters is subject to part 70 or 71 permitting requirements.

(2) If the calculated NMOC emission rate is equal to or greater than 50 megagrams per year, the owner or operator shall:

(i) Submit a collection and control system design plan prepared by a professional engineer to the Administrator within 1 year:

(A) The collection and control system as described in the plan shall meet the design requirements of paragraph (b)(2)(ii) of this section.

(B) The collection and control system design plan shall include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions of 40 CFR 60.753 through 60.758 proposed by the owner or operator.

(C) The collection and control system design plan shall either conform with specifications for active collection systems in 40 CFR 60.759 or include a demonstration to the Administrator's satisfaction of the sufficiency of the alternative provisions to 40 CFR 60.759.

(D) The Administrator shall review the information submitted under paragraphs (b)(2)(i) (A),(B) and (C) of this section and either approve it, disapprove it, or request that additional information be submitted. Because of the many site-specific factors involved with landfill gas system design, alternative systems may be necessary. A wide variety of system designs are possible, such as vertical wells, combination horizontal and vertical collection systems, or horizontal trenches only, leachate collection components, and passive systems.

(ii) Install a collection and control system that captures the gas generated within the landfill as required by paragraphs (b)(2)(ii)(A) or (B) and (b)(2)(iii) of this section within 30 months after the first annual report in which the emission rate equals or exceeds 50 megagrams per year, unless Tier 2 or Tier 3 sampling demonstrates that the emission rate is less than 50 megagrams per year, as specified in 40 CFR 60.757(c)(1) or (2).

(A) An active collection system shall:

(*1*) Be designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment;

(*2*) Collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been placed for a period of:

(*i*) 5 years or more if active; or

(*ii*) 2 years or more if closed or at final grade.

(*3*) Collect gas at a sufficient extraction rate;

(*4*) Be designed to minimize off-site migration of subsurface gas.

(B) A passive collection system shall:

(*1*) Comply with the provisions specified in paragraphs (b)(2)(ii)(A)(*1*), (*2*), and (2)(ii)(A)(*4*) of this section.

(*2*) Be installed with liners on the bottom and all sides in all areas in which gas is to be collected. The liners shall be installed as required under 40 CFR 258.40.

(iii) Route all the collected gas to a control system that complies with the requirements in either paragraph (b)(2)(iii) (A), (B) or (C) of this section.

(A) An open flare designed and operated in accordance with 40 CFR 60.18 except as noted in 40 CFR 60.754(e);

(B) A control system designed and operated to reduce NMOC by 98 weight-percent, or, when an enclosed combustion device is used for control, to either reduce NMOC by 98 weight percent or reduce the outlet NMOC concentration to less than 20 parts per million by volume, dry basis as hexane at 3 percent oxygen. The reduction efficiency or parts per million by volume shall be established by an initial performance test to be completed no later than 180 days after the initial startup of the approved control system using the test methods specified in 40 CFR 60.754(d).

(*1*) If a boiler or process heater is used as the control device, the landfill gas stream shall be introduced into the flame zone.

(*2*) The control device shall be operated within the parameter ranges established during the initial or most recent performance test. The operating parameters to be monitored are specified in 40 CFR 60.756;

(C) Route the collected gas to a treatment system that processes the collected gas for subsequent sale or use. All emissions from any atmospheric vent from the gas treatment system shall be subject to the requirements of paragraph (b)(2)(iii) (A) or (B) of this section.

(iv) Operate the collection and control device installed to comply with this subpart in accordance with the provisions of 40 CFR 60.753, 60.755 and 60.756.

(v) The collection and control system may be capped or removed provided that all the conditions of paragraphs (b)(2)(v) (A), (B), and (C) of this section are met:

(A) The landfill shall be a closed landfill as defined in 40 CFR 60.751 of this subpart. A closure report shall be submitted to the Administrator as provided in 40 CFR 60.757(d);

(B) The collection and control system shall have been in operation a minimum of 15 years; and

(C) Following the procedures specified in 40 CFR 60.754(b) of this subpart, the calculated NMOC gas produced by the landfill shall be less than 50 megagrams per year on three successive test dates. The test dates shall be no less than 90 days apart, and no more than 180 days apart.

(d) When a MSW landfill subject to this subpart is closed, the owner or operator is no longer subject to the requirement to maintain an operating permit under part 70 or 71 of this chapter for the landfill if the landfill is not otherwise subject to the requirements of either part 70 or 71 and if either of the following conditions are met:

(1) The landfill was never subject to the requirement for a control system under paragraph (b)(2) of this section; or

(2) The owner or operator meets the conditions for control system removal specified in paragraph (b)(2)(v) of this section.

[61 FR 9919, Mar. 12, 1996, as amended at 63 FR 32751, June 16, 1998; 65 FR 18908, Apr. 10, 2000; 71 FR 55127, Sept. 21, 2006]

40 CFR 60.753 Operational standards for collection and control systems.

Each owner or operator of an MSW landfill with a gas collection and control system used to comply with the provisions of 40 CFR 60.752(b)(2)(ii) of this subpart shall:

(a) Operate the collection system such that gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for:

(1) 5 years or more if active; or

(2) 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) A fire or increased well temperature. The owner or operator 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 owner or operator 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 Administrator;

(c) Operate each interior wellhead in the collection system with a landfill gas temperature less than 55°C and with either a nitrogen level less than 20 percent or an oxygen level less than 5 percent. The owner or operator 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 test method is established as allowed by 40 CFR 60.752(b)(2)(i) of this subpart.

(2) Unless an alternative test method is established as allowed by 40 CFR 60.752(b)(2)(i) of this subpart, the oxygen shall be determined by an oxygen meter using Method 3A or 3C except that:

(i) The span shall be set so that the regulatory limit is between 20 and 50 percent of the span;

(ii) A data recorder is not required;

(iii) Only two calibration gases are required, a zero and span, and ambient air may be used as the span;

(iv) A calibration error check is not required;

(v) The allowable sample bias, zero drift, and calibration drift are ±10 percent.

(d) Operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the owner or operator 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 owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30 meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing.

(e) Operate the system such that all collected gases are vented to a control system designed and operated in compliance with 40 CFR 60.752(b)(2)(iii). In the event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within 1 hour; and

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

(g) If monitoring demonstrates that the operational requirements in paragraphs (b), (c), or (d) of this section 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) of this subpart. If corrective actions are taken as specified in 40 CFR 60.755, the monitored exceedance is not a violation of the operational requirements in this section.

40 CFR 60.754 Test methods and procedures.

(a) (1) The landfill owner or operator shall calculate the NMOC emission rate using either the equation provided in paragraph (a)(1)(i) of this section or the equation provided in paragraph (a)(1)(ii) of this section. Both equations may be used if the actual year-to-year solid waste acceptance rate is known, as specified in paragraph (a)(1)(i), for part of the life of the landfill and the actual year-to-year solid waste acceptance rate is unknown, as specified in paragraph (a)(1)(ii), for part of the life of the landfill. The values to be used in both equations are 0.05 per year for k, 170 cubic meters per megagram for L_O, and 4,000

parts per million by volume as hexane for the C_{NMOC}. For landfills located in geographical areas with a thirty year annual average precipitation of less than 25 inches, as measured at the nearest representative official meteorologic site, the k value to be used is 0.02 per year.

(i) The following equation shall be used if the actual year-to-year solid waste acceptance rate is known.

$$M_{NMOC} = \sum_{i=1}^{n} 2\,k\,L_o M_i \left(e^{-kt_i}\right)\left(C_{NMOC}\right)\left(3.6\times10^{-9}\right)$$

where,
M_{NMOC} = Total NMOC emission rate from the landfill, megagrams 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
C_{NMOC} = concentration of NMOC, parts per million by volume as hexane
3.6×10^{-9} = conversion factor

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

(ii) The following equation shall be used if the actual year-to-year solid waste acceptance rate is unknown.

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

where:
M_{NMOC} = mass emission rate of NMOC, megagrams per year
L_o = methane generation potential, cubic meters per megagram solid waste
R = average annual acceptance rate, megagrams per year
k = methane generation rate constant, $year^{-1}$
t = age of landfill, years
C_{NMOC} = concentration of NMOC, parts per million by volume as hexane
c = time since closure, years; for active landfill c=O and $e^{-kc}1$
3.6×10^{-9} = conversion factor

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

(2) *Tier 1.* The owner or operator shall compare the calculated NMOC mass emission rate to the standard of 50 megagrams per year.

(i) If the NMOC emission rate calculated in paragraph (a)(1) of this section is less than 50 megagrams per year, then the landfill owner shall submit an emission rate report as provided in 40 CFR 60.757(b)(1), and shall recalculate the NMOC mass emission rate annually as required under 40 CFR 60.752(b)(1).

(ii) If the calculated NMOC emission rate is equal to or greater than 50 megagrams per year, then the landfill owner shall either comply with 40 CFR 60.752(b)(2), or determine a site-specific NMOC concentration and recalculate the NMOC emission rate using the procedures provided in paragraph (a)(3) of this section.

(3) *Tier 2.* The landfill owner or operator shall determine the NMOC concentration using the following sampling procedure. The landfill owner or operator shall install at least two sample probes per hectare of landfill surface that has retained waste for at least 2 years. If the landfill is larger than 25 hectares in area, only 50 samples are required. The sample probes should be located to avoid known areas of nondegradable solid waste. The owner or operator shall collect and analyze one sample of landfill gas from each probe to determine the NMOC concentration using Method 25 or 25C of Appendix A of this part. Method 18 of Appendix A of this part may be used to analyze the samples collected by the Method 25 or 25C sampling procedure. Taking composite samples from different probes into a single cylinder is allowed; however, equal sample volumes must be taken from each probe. For each composite, the sampling rate, collection times, beginning and ending cylinder vacuums, or alternative volume measurements must be recorded to verify that composite volumes are equal. Composite sample volumes should not be less than one liter unless evidence can be provided to substantiate the accuracy of smaller volumes. Terminate compositing before the cylinder approaches ambient pressure where measurement accuracy diminishes. If using Method 18, the owner or operator must identify all compounds in the sample and, as a minimum, test for those compounds published in the most recent Compilation of Air Pollutant Emission Factors (AP–42), minus carbon monoxide, hydrogen sulfide, and mercury. As a minimum, the instrument must be calibrated for each of the compounds on the list. Convert the concentration of each Method 18 compound to C_{NMOC} as hexane by multiplying by the ratio of its carbon atoms divided by six. If more than the required number of samples are taken, all samples must be used in the analysis. The landfill owner or operator must divide the NMOC concentration from Method 25 or 25C of Appendix A of this part by six to convert from C_{NMOC} as carbon to C_{NMOC} as hexane. If the landfill has an active or passive gas removal system in place, Method 25 or 25C samples may be collected from these systems instead of surface probes provided the removal system can be shown to provide sampling as representative as the two sampling probe per hectare requirement. For active collection systems, samples may be collected from the common header pipe before the gas moving or condensate removal equipment. For these systems, a minimum of three samples must be collected from the header pipe.

(i) The landfill owner or operator shall recalculate the NMOC mass emission rate using the equations provided in paragraph (a)(1)(i) or (a)(1)(ii) of this section and using the average NMOC concentration from the collected samples instead of the default value in the equation provided in paragraph (a)(1) of this section.

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

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

(4) *Tier 3.* The site-specific methane generation rate constant shall be determined using the procedures provided in Method 2E of appendix A of this part. The landfill owner or operator shall estimate the NMOC mass emission rate using equations in paragraph (a)(1)(i) or (a)(1)(ii) of this section and using a site-specific methane generation rate constant k, and the site-specific NMOC concentration as determined in paragraph (a)(3) of this section instead of the default values provided in paragraph (a)(1) of this section.

The landfill owner or operator shall compare the resulting NMOC mass emission rate to the standard of 50 megagrams per year.

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

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

(5) The owner or operator may use other methods to determine the NMOC concentration or a site-specific k as an alternative to the methods required in paragraphs (a)(3) and (a)(4) of this section if the method has been approved by the Administrator.

(b) After the installation of a collection and control system in compliance with 40 CFR 60.755, the owner or operator shall calculate the NMOC emission rate for purposes of determining when the system can be removed as provided in 40 CFR 60.752(b)(2)(v), using the following equation:

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

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 this part.

(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 this part. If using Method 18 of appendix A of this part, 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 landfill owner or operator shall divide the NMOC concentration from Method 25C of appendix A of this part by six to convert from C_{NMOC} as carbon to C_{NMOC} as hexane.

(3) The owner or operator may use another method to determine landfill gas flow rate and NMOC concentration if the method has been approved by the Administrator.

(c) When calculating emissions for PSD purposes, the Permittee subject to the provisions of this subpart shall estimate the NMOC emission rate for comparison to the PSD major source and significance levels in 40 CFR 51.166 or 52.21 of this chapter using AP-42 or other approved measurement procedures.

(d) For the performance test required in 40 CFR 60.752(b)(2)(iii)(B), Method 25, 25C, or Method 18 of Appendix A of this part must be used to determine compliance with the 98 weight-percent efficiency or the 20 ppmv outlet concentration level, unless another method to demonstrate compliance has been approved by the Administrator as provided by 40 CFR 60.752(b)(2)(i)(B). Method 3 or 3A shall be used to determine oxygen for correcting the NMOC concentration as hexane to 3 percent. In cases where the outlet concentration is less than 50 ppm NMOC as carbon (8 ppm NMOC as hexane), Method 25A should be used in place of Method 25. If using Method 18 of appendix A of this part, the minimum list of compounds to be tested shall be those published in the most recent Compilation of Air Pollutant Emission Factors (AP–42). The following equation shall be used to calculate efficiency:

Control Efficiency = $(NMOC_{in} - NMOC_{out})/(NMOC_{in})$

where,

$NMOC_{in}$ = mass of NMOC entering control device
$NMOC_{out}$ = mass of NMOC exiting control device

40 CFR 60.755 Compliance provisions.

(a) Except as provided in 40 CFR 60.752(b)(2)(i)(B), the specified methods in paragraphs (a)(1) through (a)(6) of this section shall be used to determine whether the gas collection system is in compliance with 40 CFR 60.752(b)(2)(ii).

(1) For the purposes of calculating the maximum expected gas generation flow rate from the landfill to determine compliance with 40 CFR 60.752(b)(2)(ii)(A)(*1*), one of the following equations shall be used. The k and L_o kinetic factors should be those published in the most recent Compilation of Air Pollutant Emission Factors (AP–42) or other site specific values demonstrated to be appropriate and approved by the Administrator. 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.

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

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

where,
Q_m = maximum expected gas generation flow rate, cubic meters per year
L_o = methane generation potential, cubic meters per megagram solid waste
R = average annual acceptance rate, megagrams per year
k = methane generation rate constant, $year^{-1}$
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 = O and $e^{-kc} = 1$)

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

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

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

(iii) 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 paragraphs (a)(1) (i) and (ii) of this section. 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 paragraphs (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 collectors for compliance with 40 CFR 60.752(b)(2)(ii)(A)(*2*), the owner or operator shall design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the Administrator, 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 owner or operator 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 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 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) Owners or operators are not required to expand the system as required in paragraph (a)(3) of this section during the first 180 days after gas collection system startup.

(5) For the purpose of identifying whether excess air infiltration into the landfill is occurring, the owner or operator 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 5 calendar days. If correction of the exceedance cannot be achieved within 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) An owner or operator seeking 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 Administrator 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), each owner or operator of a controlled landfill shall place each well or design component 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:

(1) 5 years or more if active; or

(2) 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 owner or operator 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 paragraph (d) of this section.

(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 the perimeter wells.

(3) Surface emission monitoring shall be performed in accordance with section 4.3.1 of Method 21 of appendix A of this part, except that the probe inlet shall be placed within 5 to 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 paragraphs (c)(4) (i) through (v) of this section shall 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).

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

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

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

(iv) 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 paragraph (c)(4) (ii) or (iii) of this section shall be re-monitored 1 month from the initial exceedance. If the 1-month remonitoring 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 1-month remonitoring shows an exceedance, the actions specified in paragraph (c)(4) (iii) or (v) shall be taken.

(v) 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 days 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 Administrator for approval.

(5) The owner or operator shall implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.

(d) Each owner or operator seeking to comply with the provisions in paragraph (c) of this section 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 this part, except that “methane” shall replace all references to 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 this part, the instrument evaluation procedures of section 4.4 of Method 21 of appendix A of this part shall be used.

(4) The calibration procedures provided in section 4.2 of Method 21 of appendix A of this part shall be followed immediately before commencing a surface monitoring survey.

(e) The provisions of this subpart 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 5 days for collection systems and shall not exceed 1 hour for treatment or control devices.

40 CFR 60.756 Monitoring of operations.

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

(a) Each owner or operator 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) Each owner or operator seeking to comply with 40 CFR 60.752(b)(2)(iii) using an enclosed combustor shall calibrate, maintain, and operate according to the manufacturer's specifications, the following equipment.

(c) Each owner or operator 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:

(i) 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

(ii) 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.

(e) Each owner or operator seeking to install a collection system that does not meet the specifications in 40 CFR 60.759 or seeking to monitor alternative parameters to those required by 40 CFR 60.753 through 40 CFR 60.756 shall provide information satisfactory to the Administrator as provided in 40 CFR 60.752(b)(2)(i) (B) and (C) describing the design and operation of the collection system, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Administrator may specify additional appropriate monitoring procedures.

(f) Each owner or operator 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.

40 CFR 60.757 Reporting requirements.

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

(d) Each owner or operator of a controlled landfill shall submit a closure report to the Office of Air Quality (OAQ) within 30 days of waste acceptance cessation. The Office of Air Quality (OAQ)may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of 40 CFR 258.60. If a closure report has been submitted to the Office of Air Quality (OAQ), no additional wastes may be placed into the landfill without filing a notification of modification as described under 40 CFR 60.7(a)(4).

(e) Each owner or operator of a controlled landfill shall submit an equipment removal report to the Office of Air Quality (OAQ) 30 days prior to removal or cessation of operation of the control equipment.

(1) The equipment removal report shall contain all of the following items:

(i) A copy of the closure report submitted in accordance with paragraph (d) of this section;

(ii) A copy of the initial performance test report demonstrating that the 15 year minimum control period has expired; and

(iii) Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year.

(2) The Office of Air Quality (OAQ) may request such additional information as may be necessary to verify that all of the conditions for removal in 40 CFR 60.752(b)(2)(v) have been met.

(f) Each owner or operator seeking to comply with 40 CFR 60.752(b)(2) using an active collection system designed in accordance with 40 CFR 60.752(b)(2)(ii) shall submit to the Office of Air

Quality (OAQ) annual reports of the recorded information in (f)(1) through (f)(6) of this paragraph. 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 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 5 days.

(5) The 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) The date of installation and the location of each well or collection system expansion added pursuant to paragraphs (a)(3), (b), and (c)(4) of 40 CFR 60.755.

(g) Each owner or operator seeking to comply with 40 CFR 60.752(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; and

(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; and

(6) The provisions for the control of off-site migration.

40 CFR 60.758 Recordkeeping requirements.

(a) Except as provided in 40 CFR 60.752(b)(2)(i)(B), each owner or operator of an MSW landfill subject to the provisions of 40 CFR 60.752(b) shall keep for at least 5 years up-to-date, readily accessible, on-site records of the design capacity report which triggered 40 CFR 60.752(b), the

current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.

(b) Except as provided in 40 CFR 60.752(b)(2)(i)(B), each owner or operator of a controlled landfill shall keep up-to-date, readily accessible records for the life of the control equipment of the data listed in paragraphs (b)(1) through (b)(4) of this section as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring shall be maintained for a minimum of 5 years. Records of the control device vendor specifications shall be maintained until removal.

(1) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with 40 CFR 60.752(b)(2)(ii):

(i) The maximum expected gas generation flow rate as calculated in 40 CFR 60.755(a)(1). The owner or operator may use another method to determine the maximum gas generation flow rate, if the method has been approved by the Administrator.

(ii) 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 an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with 40 CFR 60.752(b)(2)(iii) through use of an enclosed combustion device other than a boiler or process heater with a design heat input capacity equal to or greater than 44 megawatts:

(i) The average combustion temperature measured at least every 15 minutes and averaged over the same time period of the performance test.

(ii) The percent reduction of NMOC determined as specified in 40 CFR 60.752(b)(2)(iii)(B) achieved by the control device.

(3) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with 40 CFR 60.752(b)(2)(iii)(B)(*1*) through use of a boiler or process heater of any size: a description of the location at which the collected gas vent stream is introduced into the boiler or process heater over the same time period of the performance testing.

(4) Where an owner or operator subject to the provisions of this subpart 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), each owner or operator of a controlled landfill subject to the provisions of this subpart shall keep for 5 years up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in 40 CFR 60.756 as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded.

(1) The following constitute exceedances that shall be recorded and reported under 40 CFR 60.757(f):

(i) For enclosed combustors except for boilers and process heaters with design heat input capacity of 44 megawatts (150 million British thermal unit per hour) or greater, all 3-hour periods of operation during which the average combustion temperature was more than 28 oC below the average combustion temperature during the most recent performance test at which compliance with 40 CFR 60.752(b)(2)(iii) was determined.

(ii) For boilers or process heaters, whenever there is a change in the location at which the vent stream is introduced into the flame zone as required under paragraph (b)(3) of this section.

(2) Each owner or operator subject to the provisions of this subpart shall keep up-to-date, readily accessible continuous records of the indication of flow to the control device or the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under 40 CFR 60.756.

(3) Each owner or operator subject to the provisions of this subpart who uses a boiler or process heater with a design heat input capacity of 44 megawatts or greater to comply with 40 CFR 60.752(b)(2)(iii) shall keep an up-to-date, readily accessible record of all periods of operation of the boiler or process heater. (Examples of such records could include records of steam use, fuel use, or monitoring data collected pursuant to other State, local, Tribal, or Federal regulatory requirements.)

(4) Each owner or operator seeking to comply with the provisions of this subpart 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), each owner or operator 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) Each owner or operator subject to the provisions of this subpart shall keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors as specified under 40 CFR 60.755(b).

(2) Each owner or operator subject to the provisions of this subpart shall keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as provided in 40 CFR 60.759(a)(3)(i) as well as any nonproductive 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), each owner or operator subject to the provisions of this subpart shall keep for at least 5 years up-to-date, readily accessible records of all collection and control system exceedances of the operational standards in 40 CFR 60.753, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance.

(f) Landfill owners or operators who convert design capacity from volume to mass or mass to volume to demonstrate that landfill design capacity is less than 2.5 million megagrams or 2.5 million cubic meters, as provided in the definition of “design capacity”, shall keep readily accessible, on-site records of the annual recalculation of site-specific density, design capacity, and the supporting

documentation. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.

40 CFR 60.759 Specifications for active collection systems.

(a) Each owner or operator seeking to comply with 40 CFR 60.752(b)(2)(i) shall site active collection wells, horizontal collectors, surface collectors, or other extraction devices at a sufficient density throughout all gas producing areas using the following procedures unless alternative procedures have been approved by the Administrator as provided in 40 CFR 60.752(b)(2)(i)(C) and (D):

(1) The collection devices within the interior and along the perimeter areas shall be certified to achieve comprehensive control of surface gas emissions by a professional engineer. The following issues shall be addressed in the design: depths of refuse, refuse gas generation rates and flow characteristics, cover properties, gas system expandibility, leachate and condensate management, accessibility, compatibility with filling operations, integration with closure end use, air intrusion control, corrosion resistance, fill settlement, and resistance to the refuse decomposition heat.

(2) The sufficient density of gas collection devices determined in paragraph (a)(1) of this section shall address landfill gas migration issues and augmentation of the collection system through the use of active or passive systems at the landfill perimeter or exterior.

(3) The placement of gas collection devices determined in paragraph (a)(1) of this section shall control all gas producing areas, except as provided by paragraphs (a)(3)(i) and (a)(3)(ii) of this section.

(i) Any segregated area of asbestos or nondegradable material may be excluded from collection if documented as provided under 40 CFR 60.758(d). The documentation shall provide the nature, date of deposition, location and amount of asbestos or nondegradable material deposited in the area, and shall be provided to the Administrator upon request.

(ii) Any nonproductive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than 1 percent of the total amount of NMOC emissions from the landfill. The amount, location, and age of the material shall be documented and provided to the Administrator upon request. A separate NMOC emissions estimate shall be made for each section proposed for exclusion, and the sum of all such sections shall be compared to the NMOC emissions estimate for the entire landfill. Emissions from each section shall be computed using the following equation:

$$Q_i = 2\ k\ L_o\ M_i\ (e^{-kt}\ i)\ (C_{NMOC})\ (3.6 \times 10^{-9})$$

where,
Q_i = NMOC emission rate from the i^{th} section, megagrams per year
k = methane generation rate constant, $year^{-1}$
L_o = methane generation potential, cubic meters per megagram solid waste
M_i = mass of the degradable solid waste in the i^{th} section, megagram
t_i = age of the solid waste in the i^{th} section, years
C_{NMOC} = concentration of nonmethane organic compounds, parts per million by volume
3.6×10^{-9} = conversion factor

(iii) The values for k and C_{NMOC} determined in field testing shall be used if field testing has been performed in determining the NMOC emission rate or the radii of influence (this distance from the well center to a point in the landfill where the

pressure gradient applied by the blower or compressor approaches zero). If field testing has not been performed, the default values for k, L_O and C_{NMOC} provided in 40 CFR 60.754(a)(1) or the alternative values from 40 CFR 60.754(a)(5) shall be used. The mass of nondegradable solid waste contained within the given section may be subtracted from the total mass of the section when estimating emissions provided the nature, location, age, and amount of the nondegradable material is documented as provided in paragraph (a)(3)(i) of this section.

(b) Each owner or operator seeking to comply with 40 CFR 60.752(b)(2)(i)(A) shall construct the gas collection devices using the following equipment or procedures:

(1) The landfill gas extraction components shall be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimensions to: convey projected amounts of gases; withstand installation, static, and settlement forces; and withstand planned overburden or traffic loads. The collection system shall extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors shall be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations shall be situated with regard to the need to prevent excessive air infiltration.

(2) Vertical wells shall be placed so as not to endanger underlying liners and shall address the occurrence of water within the landfill. Holes and trenches constructed for piped wells and horizontal collectors shall be of sufficient cross-section so as to allow for their proper construction and completion including, for example, centering of pipes and placement of gravel backfill. Collection devices shall be designed so as not to allow indirect short circuiting of air into the cover or refuse into the collection system or gas into the air. Any gravel used around pipe perforations should be of a dimension so as not to penetrate or block perforations.

(3) Collection devices may be connected to the collection header pipes below or above the landfill surface. The connector assembly shall include a positive closing throttle valve, any necessary seals and couplings, access couplings and at least one sampling port. The collection devices shall be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness.

(c) Each owner or operator seeking to comply with 40 CFR 60.752(b)(2)(i)(A) shall convey the landfill gas to a control system in compliance with 40 CFR 60.752(b)(2)(iii) through the collection header pipe(s). The gas mover equipment shall be sized to handle the maximum gas generation flow rate expected over the intended use period of the gas moving equipment using the following procedures:

(1) For existing collection systems, the flow data shall be used to project the maximum flow rate. If no flow data exists, the procedures in paragraph (c)(2) of this section shall be used.

(2) For new collection systems, the maximum flow rate shall be in accordance with 40 CFR 60.755(a)(1).

D.1.4 General Provisions Relating to National Emissions Standards for Hazardous Air Pollutants under 40 CFR Part 61 [326 IAC 14-1][40 CFR Part 61, Subpart A]

(a) Pursuant to 40 CFR 61.156, the Permittee shall comply with the provisions of 40 CFR Part 61, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 14-1-1, as specified in 40 CFR Part 61, Subpart M.

(b) Pursuant to 40 CFR 61.17, the Permittee shall submit all required notifications and reports

to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

D.1.5 National Emission Standards for Asbestos Requirements [40 CFR Part 61, Subpart M] [326 IAC 14-2]

Pursuant to 40 CFR Part 61, Subpart M, the Permittee shall comply with the provisions of National Emission Standard for Asbestos which are incoporated by reference as 326 IAC 14-2, as follows:

40 CFR 61.140 Applicability.

The provisions of this subpart are applicable to those sources specified in 40 CFR 40 CFR 61.142 through 61.151, 61.154, and 61.155.

40 CFR 61.141 Definitions.

All terms that are used in this subpart and are not defined below are given the same meaning as in the Act and in subpart A of this part.

Active waste disposal site means any disposal site other than an inactive site.

Adequately wet means sufficiently mix or penetrate with liquid to prevent the release of particulates. If visible emissions are observed coming from asbestos-containing material, then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wet.

Asbestos means the asbestiform varieties of serpentinite (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolite-tremolite.

Asbestos-containing waste materials means mill tailings or any waste that contains commercial asbestos and is generated by a source subject to the provisions of this subpart. This term includes filters from control devices, friable asbestos waste material, and bags or other similar packaging contaminated with commercial asbestos. As applied to demolition and renovation operations, this term also includes regulated asbestos-containing material waste and materials contaminated with asbestos including disposable equipment and clothing.

Asbestos mill means any facility engaged in converting, or in any intermediate step in converting, asbestos ore into commercial asbestos. Outside storage of asbestos material is not considered a part of the asbestos mill.

Asbestos tailings means any solid waste that contains asbestos and is a product of asbestos mining or milling operations.

Asbestos waste from control devices means any waste material that contains asbestos and is collected by a pollution control device.

Category I nonfriable asbestos-containing material (ACM) means asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy.

Category II nonfriable ACM means any material, excluding Category I nonfriable ACM, containing more than 1 percent asbestos as determined using the methods specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Commercial asbestos means any material containing asbestos that is extracted from ore and has value because of its asbestos content.

Cutting means to penetrate with a sharp-edged instrument and includes sawing, but does not include shearing, slicing, or punching.

Demolition means the wrecking or taking out of any load-supporting structural member of a facility together with any related handling operations or the intentional burning of any facility.

Emergency renovation operation means a renovation operation that was not planned but results from a sudden, unexpected event that, if not immediately attended to, presents a safety or public health hazard, is necessary to protect equipment from damage, or is necessary to avoid imposing an unreasonable financial burden. This term includes operations necessitated by nonroutine failures of equipment.

Fabricating means any processing (e.g., cutting, sawing, drilling) of a manufactured product that contains commercial asbestos, with the exception of processing at temporary sites (field fabricating) for the construction or restoration of facilities. In the case of friction products, fabricating includes bonding, debonding, grinding, sawing, drilling, or other similar operations performed as part of fabricating.

Facility means any institutional, commercial, public, industrial, or residential structure, installation, or building (including any structure, installation, or building containing condominiums or individual dwelling units operated as a residential cooperative, but excluding residential buildings having four or fewer dwelling units); any ship; and any active or inactive waste disposal site. For purposes of this definition, any building, structure, or installation that contains a loft used as a dwelling is not considered a residential structure, installation, or building. Any structure, installation or building that was previously subject to this subpart is not excluded, regardless of its current use or function.

Facility component means any part of a facility including equipment.

Friable asbestos material means any material containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy, that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. If the asbestos content is less than 10 percent as determined by a method other than point counting by polarized light microscopy (PLM), verify the asbestos content by point counting using PLM.

Fugitive source means any source of emissions not controlled by an air pollution control device.

Glove bag means a sealed compartment with attached inner gloves used for the handling of asbestos-containing materials. Properly installed and used, glove bags provide a small work area enclosure typically used for small-scale asbestos stripping operations. Information on glove-bag installation, equipment and supplies, and work practices is contained in the Occupational Safety and Health Administration's (OSHA's) final rule on occupational exposure to asbestos (appendix G to 29 CFR 1926.58).

Grinding means to reduce to powder or small fragments and includes mechanical chipping or drilling.

In poor condition means the binding of the material is losing its integrity as indicated by peeling, cracking, or crumbling of the material.

Inactive waste disposal site means any disposal site or portion of it where additional asbestos-containing waste material has not been deposited within the past year.

Installation means any building or structure or any group of buildings or structures at a single demolition or renovation site that are under the control of the same owner or operator (or owner or operator under common control).

Leak-tight means that solids or liquids cannot escape or spill out. It also means dust-tight.

Malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner so that emissions of asbestos are increased. Failures of equipment shall not be considered malfunctions if they are caused in any way by poor maintenance, careless operation, or any other preventable upset conditions, equipment breakdown, or process failure.

Manufacturing means the combining of commercial asbestos--or, in the case of woven friction products, the combining of textiles containing commercial asbestos--with any other material(s), including commercial asbestos, and the processing of this combination into a product. Chlorine production is considered a part of manufacturing.

Natural barrier means a natural object that effectively precludes or deters access. Natural barriers include physical obstacles such as cliffs, lakes or other large bodies of water, deep and wide ravines, and mountains. Remoteness by itself is not a natural barrier.

Nonfriable asbestos-containing material means any material containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy, that, when dry, cannot be crumbled,
pulverized, or reduced to powder by hand pressure.

Nonscheduled renovation operation means a renovation operation necessitated by the routine failure of equipment, which is expected to occur within a given period based on past operating experience, but for which an exact date cannot be predicted.

Outside air means the air outside buildings and structures, including, but not limited to, the air under a bridge or in an open air ferry dock.

Owner or operator of a demolition or renovation activity means any person who owns, leases, operates, controls, or supervises the facility being demolished or renovated or any person who owns, leases, operates, controls, or supervises the demolition or renovation operation, or both.

Particulate asbestos material means finely divided particles of asbestos or material containing asbestos.

Planned renovation operations means a renovation operation, or a number of such operations, in which some RACM will be removed or stripped within a given period of time and that can be predicted. Individual nonscheduled operations are included if a number of such operations can be predicted to occur during a given period of time based on operating experience.

Regulated asbestos-containing material (RACM) means (a) Friable asbestos material, (b) Category I nonfriable ACM that has become friable, (c) Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by this subpart.

Remove means to take out RACM or facility components that contain or are covered with RACM from any facility.

Renovation means altering a facility or one or more facility components in any way, including the stripping or removal of RACM from a facility component. Operations in which load-supporting structural members are wrecked or taken out are demolitions.

Resilient floor covering means asbestos-containing floor tile, including asphalt and vinyl floor tile, and sheet vinyl floor covering containing more than 1 percent asbestos as determined using polarized light microscopy according to the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy.

Roadways means surfaces on which vehicles travel. This term includes public and private highways, roads, streets, parking areas, and driveways.

Strip means to take off RACM from any part of a facility or facility components.

Structural member means any load-supporting member of a facility, such as beams and load supporting walls; or any nonload-supporting member, such as ceilings and nonload-supporting walls.

Visible emissions means any emissions, which are visually detectable without the aid of instruments, coming from RACM or asbestos-containing waste material, or from any asbestos milling, manufacturing, or fabricating operation. This does not include condensed, uncombined water vapor.

Waste generator means any owner or operator of a source covered by this subpart whose act or process produces asbestos-containing waste material.

Waste shipment record means the shipping document, required to be originated and signed by the waste generator, used to track and substantiate the disposition of asbestos-containing waste material.

Working day means Monday through Friday and includes holidays that fall on any of the days Monday through Friday.

40 CFR 61.153 Reporting.

(a) Any new source to which this subpart applies (with the exception of sources subject to §§ 61.143, 61.145, 61.146, and 61.148), which has an initial startup date preceding the effective date of this revision, shall provide the following information to the Administrator postmarked or delivered within 90 days of the effective date. In the case of a new source that does not have an initial startup date preceding the effective date, the information shall be provided, postmarked or delivered, within 90 days of the initial startup date. Any owner or operator of an existing source shall provide the following information to the Administrator within 90 days of the effective date of this subpart unless the owner or operator of the existing source has previously provided this information to the Administrator. Any changes in the information provided by any existing source shall be provided to the Administrator, postmarked or delivered, within 30 days after the change.

(5) For sources subject to §§ 61.151 and 61.154:

(i) A brief description of the site; and

(ii) The method or methods used to comply with the standard, or alternative procedures to be used.

(b) The information required by paragraph (a) of this section must accompany the information required by 40 CFR 61.10. Active waste disposal sites subject to 40 CFR 61.154 shall also comply with this provision. Roadways, demolition and renovation, spraying, and insulating materials are exempted from the requirements of 40 CFR 61.10(a). The information described in this section must be reported using the format of appendix A of this part as a guide.

40 CFR 61.154 Standard for active waste disposal sites.

Each owner or operator of an active waste disposal site that receives asbestos-containing waste material from a source covered under 40 CFR 61.149, 61.150, or 61.155 shall meet the requirements of this section:

(a) Either there must be no visible emissions to the outside air from any active waste disposal site where asbestos-containing waste material has been deposited, or the requirements of paragraph (c) or (d) of this section must be met.

(b) Unless a natural barrier adequately deters access by the general public, either warning signs and fencing must be installed and maintained as follows, or the requirements of paragraph (c)(1) of this section must be met.

(1) Warning signs must be displayed at all entrances and at intervals of 100 m (330 ft) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material is deposited. The warning signs must:

(i) Be posted in such a manner and location that a person can easily read the legend; and

(ii) Conform to the requirements of 51 cm x 36 cm (20x14) upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and

(iii) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

Legend	Notation
Asbestos Waste Disposal Site.....	2.5 cm (1 inch) Sans Serif, Gothic or Block
Do Not Create Dust.....	1.9 cm (3/4 inch) Sans Serif, Gothic or Block
Breathing Asbestos is Hazardous to Your Health.....	14 Point Gothic.

Spacing between any two lines must be at least equal to the height of the upper of the two lines.

(2) The perimeter of the disposal site must be fenced in a manner adequate to deter access by the general public.

(3) Upon request and supply of appropriate information, the Administrator will determine whether a fence or a natural barrier adequately deters access by the general public.

(c) Rather than meet the no visible emission requirement of paragraph (a) of this section, at the end of each operating day, or at least once every 24-hour period while the site is in continuous operation, the asbestos-containing waste material that has been deposited at the site during the operating day or previous 24-hour period shall:

(1) Be covered with at least 15 centimeters (6 inches) of compacted nonasbestos-containing material, or

(2) Be covered with a resinous or petroleum-based dust suppression agent that effectively binds dust and controls wind erosion. Such an agent shall be used in the manner and frequency recommended for the particular dust by the dust suppression agent manufacturer to achieve and maintain dust control. Other equally effective dust suppression agents may be used upon prior approval by the Administrator. For purposes of this paragraph, any used, spent, or other waste oil is not considered a dust suppression agent.

(e) For all asbestos-containing waste material received, the owner or operator of the active waste disposal site shall:

(1) Maintain waste shipment records, using a form similar to that shown in Figure 4, and include the following information:

(i) The name, address, and telephone number of the waste generator.

(ii) The name, address, and telephone number of the transporter(s).

(iii) The quantity of the asbestos-containing waste material in cubic meters (cubic yards).

(iv) The presence of improperly enclosed or uncovered waste, or any asbestos-containing waste material not sealed in leak-tight containers. Report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record), and, if different, the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the disposal site, by the following working day, the presence of a significant amount of improperly enclosed or uncovered waste. Submit a copy of thewaste shipment record along with the report.

(v) The date of the receipt.

(2) As soon as possible and no longer than 30 days after receipt of the waste, send a copy of the signed waste shipment record to the waste generator.

(3) Upon discovering a discrepancy between the quantity of waste designated on the waste shipment records and the quantity actually received, attempt to reconcile the discrepancy with the waste generator. If the discrepancy is not resolved within 15 days after receiving the waste, immediately report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record), and, if different, the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the disposal site. Describe the discrepancy and attempts to reconcile it, and submit a copy of the waste shipment record along with the report.

(4) Retain a copy of all records and reports required by this paragraph for at least 2 years.

(f) Maintain, until closure, records of the location, depth and area, and quantity in cubic meters (cubic yards) of asbestos-containing waste material within the disposal site on a map or diagram of the disposal area.

(g) Upon closure, comply with all the provisions of 40 CFR 61.151.

(h) Submit to the Administrator, upon closure of the facility, a copy of records of asbestos waste disposal locations and quantities.

(i) Furnish upon request, and make available during normal business hours for inspection by the Administrator, all records required under this section.

(j) Notify the Administrator in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site and is covered. If the excavation will begin on a date other than the one contained in the original notice,

notice of the new start date must be provided to the Administrator at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. Include the following information in the notice:

(1) Scheduled starting and completion dates.

(2) Reason for disturbing the waste.

(3) Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the Administrator may require changes in the emission control procedures to be used.

(4) Location of any temporary storage site and the final disposal site.

40 CFR 61.156 Cross-reference to other asbestos regulations.

In addition to this subpart, the regulations referenced in Table 1 also apply to asbestos and may be applicable to those sources specified in 40 CFR 40 CFR 61.142 through 61.151, 61.154, and 61.155 of this subpart. These cross-references are presented for the reader's information and to promote compliance with the cited regulations.

Table 1--Cross-Reference to Other Asbestos Regulations

Agency	CFR citation	Comment
EPA	40 CFR part 763, subpart E…..	Requires schools to inspect for asbestos and implement response actions and submit asbestos management plans to States. Specifies use of accredited inspectors, air sampling methods, and waste disposal procedures.
	40 CFR part 427.....	Effluent standards for asbestos manufacturing source categories.
	40 CFR part 763, subpart G.....	Protects public employees performing asbestos abatement work in States not covered by OSHA asbestos standard.
OSHA	29 CFR 1910.1001.....	Worker protection measures-engineering controls, worker training, labeling, respiratory protection, bagging of waste, permissible exposure level.
	29 CFR 1926.1101.....	Worker protection measures for all construction work involving asbestos, including demolition and renovation-work practices, worker training, bagging of waste, permissible exposure level.
MSHA	30 CFR part 56, subpart D.....	Specifies exposure limits, engineering controls, and respiratory protection measures for workers in surface mines.
	30 CFR part 57, subpart D.....	Specifies exposure limits, engineering controls, and respiratory protection measures for workers in underground mines.
DOT	49 CFR parts 171 and 172.....	Regulates the transportation of asbestos-containing waste material. Requires waste containment and shipping papers.

40 CFR 61.157 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 112(d) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities that will not be delegated to States:

(1) Section 61.149(c)(2)
(2) Section 61.150(a)(4)
(3) Section 61.151(c)
(4) Section 61.152(b)(3)
(5) Section 61.154(d)
(6) Section 61.155(a).

[55 FR 48433, Nov. 20, 1990]

D.1.6 General Provisions Relating to National Emissions Standards for Hazardous Air Pollutants under 40 CFR Part 63 [326 IAC 20-1] [40 CFR Part 63, Subpart A]

(a) Pursuant to 40 CFR Part 63.1955, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, as specified in Table 1 of 40 CFR Part 63, Subpart AAAA in accordance with schedule in 40 CFR Part 63, Subpart AAAA.

(b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

D.1.7 National Emission Standards for Hazardous Air Pollutants for Municipal Solid Waste Landfills Requirements [40 CFR Part 63, Subpart AAAA] [326 IAC 20-67]

Pursuant to 40 CFR Part 63, Subpart AAAA, the Permittee shall comply with the provisions of National Emission Standards for Hazardous Air Pollutants for Municipal Solid Waste Landfills, which are incorporated by reference as 326 IAC 20-67, as follows:

What This Subpart Covers

40 CFR 63.1930 What is the purpose of this subpart?

This subpart establishes national emission standards for hazardous air pollutants for existing and new municipal solid waste (MSW) landfills. This subpart requires all landfills described in 40 CFR 63.1935 to meet the requirements of 40 CFR Part 60, Subpart Cc or WWW and requires timely control of bioreactors. This subpart also requires such landfills to meet the startup, shutdown, and malfunction (SSM) requirements of the general provisions of this part and provides that compliance with the operating conditions shall be demonstrated by parameter monitoring results that are within the specified ranges. It also includes additional reporting requirements.

40 CFR 63.1935 Am I subject to this subpart?

You are subject to this subpart if you meet the criteria in paragraph (a) or (b) of this section.

(a) You are subject to this subpart if you own or operate a MSW landfill that has accepted waste since November 8, 1987, or has additional capacity for waste deposition and meets any one of the three criteria in paragraphs (a)(1) through (3) of this section:

(1) Your MSW landfill is a major source as defined in 40 CFR 63.2 of Subpart A.

(2) Your MSW landfill is collocated with a major source as defined in 40 CFR 63.2 of Subpart A.

(3) Your MSW landfill is an area source landfill that has a design capacity equal to or greater than 2.5 million megagrams (Mg) and 2.5 million cubic meters (m^3) and has estimated uncontrolled emissions equal to or greater than 50 megagrams per year (Mg/yr) NMOC as calculated according to 40 CFR 60.754(a) of the MSW landfills new source performance standards in 40 CFR part 60, subpart WWW, the Federal plan, or an EPA approved and effective State or tribal plan that applies to your landfill.

40 CFR 63.1940 What is the affected source of this subpart?

(a) An affected source of this subpart is a MSW landfill, as defined in 40 CFR 63.1990, that meets the criteria in 40 CFR 63.1935(a) or (b). The affected source includes the entire disposal facility in a contiguous geographic space where household waste is placed in or on land, including any portion of the MSW landfill operated as a bioreactor.

(c) An affected source of this subpart is existing if it is not new.

40 CFR 63.1945 When do I have to comply with this subpart?

(b) If your landfill is an existing affected source, you must comply with this subpart by January 16, 2004.

(f) If your landfill is an existing affected source and is an area source meeting the criteria in 40 CFR 63.1935(a)(3), you must comply with the requirements in 40 CFR 40 CFR 63.1955(b) and 63.1960 through 63.1980 by the date your landfill is required to install a collection and control system by 40 CFR 60.752(b)(2) of subpart WWW, the Federal plan, or EPA approved and effective State or tribal plan that applies to your landfill or by January 16, 2004, whichever occurs later.

40 CFR 63.1950 When am I no longer required to comply with this subpart?

You are no longer required to comply with the requirements of this subpart when you are no longer required to apply controls as specified in 40 CFR 60.752(b)(2)(v) of subpart WWW, or the Federal plan or EPA approved and effective State plan or tribal plan that implements 40 CFR part 60, subpart Cc, whichever applies to your landfill.

Standards

40 CFR 63.1955 What requirements must I meet?

(a) You must fulfill one of the requirements in paragraph (a)(1) or (2) of this section, whichever is applicable:

(1) Comply with the requirements of 40 CFR Part 60, Subpart WWW.

(b) If you are required by 40 CFR 60.752(b)(2) of subpart WWW, the Federal plan, or an EPA approved and effective State or tribal plan to install a collection and control system, you must comply with the requirements in 40 CFR 40 CFR 63.1960 through 63.1985 and with the general provisions of this part specified in table 1 of this subpart.

(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, you 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 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 for continuous emission monitors or numerical continuous parameter monitors must be determined using a 3 hour monitoring block average.

General and Continuing Compliance Requirements

40 CFR 63.1960 How is compliance determined?

Compliance is determined in the same way it is determined for 40 CFR part 60, subpart WWW, including performance testing, monitoring of the collection system, continuous parameter monitoring, and other credible evidence. In addition, 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 occurs, you have failed to meet the control device operating conditions described in this subpart and have deviated from the requirements of this subpart. Finally, you 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.

40 CFR 63.1965 What is a deviation?

A deviation is defined in 40 CFR 63.1990. For the purposes of the landfill monitoring and SSM plan requirements, deviations include the items in paragraphs (a) through (c) of this section.

(a) A deviation occurs when the control device operating parameter boundaries described in 40 CFR 60.758(c)(1) of subpart WWW are exceeded.

(b) A deviation occurs when 1 hour or more of the hours during the 3-hour block averaging period does not constitute a valid hour of data. A valid hour of data must have measured values for at least three 15-minute monitoring periods within the hour.

(c) A deviation occurs when a SSM plan is not developed, implemented, or maintained on site.

40 CFR 63.1975 How do I calculate the 3-hour block average used to demonstrate compliance?

Averages are calculated in the same way as they are calculated in 40 CFR part 60, subpart WWW, except that the data collected during the events listed in paragraphs (a), (b), (c), and (d) of this section are not to be included in any average computed under this subpart:

(a) Monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments.

(b) Startups.

(c) Shutdowns.

(d) Malfunctions.

Notifications, Records, and Reports

40 CFR 63.1980 What records and reports must I keep and submit?

(a) Keep records and reports as specified in 40 CFR part 60, subpart WWW, or in the Federal plan, EPA approved State plan or tribal plan that implements 40 CFR part 60, subpart Cc, whichever applies to your landfill, with one exception: You must submit the annual report described in 40 CFR 60.757(f) every 6 months.

(b) You must also keep records and reports as specified in the general provisions of 40 CFR 60 and this part as shown in Table 1 of this subpart. Applicable records in the general provisions include items such as SSM plans and the SSM plan reports.

Other Requirements and Information

40 CFR 63.1985 Who enforces this subpart?

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or tribal agency. If the EPA Administrator has delegated authority to a State, local, or tribal agency, then that agency as well as the U.S. EPA has the authority to implement and enforce this subpart. Contact the applicable EPA Regional Office to find out if this subpart is delegated to a State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the EPA Administrator and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are as follows. Approval of alternatives to the standards in 40 CFR 63.1955. Where these standards reference another subpart, the cited provisions will be delegated according to the delegation provisions of the referenced subpart.

40 CFR 63.1990 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, 40 CFR part 60, subparts A, Cc, and WWW; 40 CFR part 62, subpart GGG, and subpart A of this part, and this section that follows:

Bioreactor means a MSW landfill or portion of a MSW landfill where any liquid other than leachate (leachate includes landfill gas condensate) is added in a controlled fashion into the waste mass (often in combination with recirculating leachate) to reach a minimum average moisture content of at least 40 percent by weight to accelerate or enhance the anaerobic (without oxygen) biodegradation of the waste.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including, but not limited to, any emissions limitation (including any operating limit) or work practice standard;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation, (including any operating limit), or work practice standard in this subpart during SSM, regardless of whether or not such failure is permitted by this subpart.

Emissions limitation means any emission limit, opacity limit, operating limit, or visible emissions limit.

EPA approved State plan means a State plan that EPA has approved based on the requirements in 40 CFR part 60, subpart B to implement and enforce 40 CFR part 60, subpart Cc. An approved State plan becomes effective on the date specified in the notice published in the Federal Register announcing EPA's approval.

Federal plan means the EPA plan to implement 40 CFR part 60, subpart Cc for existing MSW landfills located in States and Indian country where State plans or tribal plans are not currently in effect. On the effective date of an EPA approved State or tribal plan, the Federal plan no longer applies. The Federal plan is found at 40 CFR part 62, subpart GGG.

Municipal solid waste landfill or MSW landfill means an entire disposal facility in a contiguous geographical space where household waste is placed in or on land. A municipal solid waste landfill may also receive other types of RCRA Subtitle D wastes (see 40 CFR 257.2 of this chapter) such as commercial solid waste, nonhazardous sludge, conditionally exempt small quantity generator waste, and industrial solid waste. Portions of a municipal solid waste landfill may be separated by access roads. A municipal solid waste landfill may be publicly or privately owned. A municipal solid waste landfill may be a new municipal solid waste landfill, an existing municipal solid waste landfill, or a lateral expansion.

Tribal plan means a plan submitted by a tribal authority pursuant to 40 CFR parts 9, 35, 49, 50, and 81 to implement and enforce 40 CFR part 60, subpart Cc.

Work practice standard means any design, equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the Clean Air Act.

As stated in 40 CFR 40 CFR 63.1955 and 63.1980, you must meet each requirement in the following table that applies to you.

Table 1 of Subpart AAAA of Part 63.--Applicability of NESHAP General Provisions to Subpart AAAA

Part 63 Citation	Description	Explanation
40 CFR 63.1(a).....	Applicability: general applicability of NESHAP in this part.....	Affected sources are already subject to the provisions of paragraphs (a)(10)-(12) through the same provisions under 40 CFR, part 60 subpart A.
40 CFR 63.1(b).....	Applicability determination for stationary sources.	
40 CFR 63.1(e).....	Title V permitting.	
40 CFR 63.2.....	Definitions.	
40 CFR 63.4.....	Prohibited activities and circumvention.....	Affected sources are already subject to the provisions of paragraph (b) through the same provisions under 40 CFR, part 60 subpart A.
40 CFR 63.5(b).....	Requirements for existing, newly constructed, and reconstructed sources.	
40 CFR 63.6(e).....	Operation and maintenance requirements, startup, shutdown and malfunction plan provisions.	
40 CFR 63.6(f).....	Compliance with nonopacity emission standards…….	Affected sources are already subject to the provisions of paragraphs (f)(1) and (2)(i) through the same provisions under 40 CFR, part 60 subpart A.
40 CFR 63.10(b)(2)(i)-(b)(2)(v).....	General recordkeeping requirements.	
40 CFR 63.10(d)(5).....	If actions taken during a startup, shutdown and malfunction plan are consistent with the procedures in the startup, shutdown and malfunction plan, this information shall be included in a semi-annual startup, shutdown and malfunction plan report. Any time an action taken during a startup, shutdown and malfunction plan is not consistent with the startup, shutdown and malfunction plan, the source shall report actions taken within 2 working days after commencing such actions, followed by a letter 7 days after the event.	

Part 63 Citation	Description	Explanation
40 CFR 63.12(a).....	These provisions do not preclude the State from adopting and enforcing any standard, limitation, etc., requiring permits, or requiring emissions reductions in excess of those specified.	
40 CFR 63.15.....	Availability of information and confidentiality.	

SECTION D.2 FACILITY OPERATION CONDITIONS

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

Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3-2 & 326 IAC 8-3-5]

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

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

D.2.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), the Permittee of a cold cleaning facility shall:

(a) Equip the cleaner with a cover;

(b) Equip the cleaner with a facility for draining cleaned parts;

(c) Close the degreaser cover whenever parts are not being handled in the cleaner;

(d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(e) Provide a permanent, conspicuous label summarizing the operation requirements;

(f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

D.2.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-5]

(a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), the Permittee of a cold cleaner degreaser facility shall ensure that the following control equipment requirements are met:

(1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:

(A) the solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F));

(B) the solvent is agitated; or

(C) the solvent is heated.

(2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).

(4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.

(5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°F)):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent is used is insoluble in, and heavier than, water.

(C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

(b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the Permittee of a cold cleaning facility shall ensure that the following operating requirements are met:

(1) Close the cover whenever articles are not being handled in the degreaser.

(2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.

(3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

PART 70 OPERATING PERMIT
CERTIFICATION

Source Name: Randolph Farms, Inc.
Source Address: 7256 W. CR 600 South, Modoc, IN 47358
Mailing Address: RR1 Box 76, Modoc, IN 47358
Part 70 Permit No.: T135-17760-00030

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
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: 317-233-0178
Fax: 317-233-6865

PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT

Source Name: Randolph Farms, Inc.
Source Address: 7256 W. CR 600 South, Modoc, IN 47358
Mailing Address: RR1 Box 76, Modoc, IN 47358
Part 70 Permit No.: T135-17760-00030

This form consists of 2 pages **Page 1 of 2**

☐ 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 317-233-0178, ask for Compliance Section); and
- The Permittee must submit notice in writing or by facsimile within two (**2**) working days (Facsimile Number: 317-233-6865), 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
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: Randolph Farms, Inc.
Source Address: 7256 W. CR 600 South, Modoc, IN 47358
Mailing Address: RR1 Box 76, Modoc, IN 47358
Part 70 Permit No.: T135-17760-00030

Months: _____ to _____ Year: _____

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. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does 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

Addendum to the
Technical Support Document for a Part 70 Operating Permit Renewal

Source Name:	Randolph Farms, Inc.
Source Location:	7256 W. CR. 600 South, Modoc, IN 47358
County:	Randolph
SIC Code:	4953
Operation Permit No.:	T135-17760-00030
Permit Reviewer:	Janet Mobley

On April 1, 2007, the Office of Air Quality (OAQ) had a notice published in the News-Gazette, Winchester, Indiana, stating that Randolph Farms, Inc. had applied for a Part 70 Operating Permit Renewal to operate a stationary municipal solid waste landfill (MSWLF). The notice also stated that OAQ proposed to issue a renewal permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On April 30, 2007, OAQ received comments from Bill Paraskevas of Andrews Engineering, Inc., a consultant for Randolph Farms, Inc. IDEM, OAQ has decided to make the following changes. The TSD will remain as it originally appeared when published. Changes to the permit or TSD that occur after the permit has been published are documented in this addendum (bolded language has been added, the language with a line through it has been deleted). The Table of Contents has been modified to reflect these changes.

Comment 1: The source stated that parts of the paragraph in Condition A.2(a) are inaccurate. Although the landfill started operation in 1973, it did not begin with a design capacity of 5,184,497 Megagrams. Subsequent modifications brought the design capacity to the stated amount. In Condition A.2(b) the flare was not constructed in 1973, the original flare was constructed some time in the mid 1990s. This language is also in Condition D.1 and page 1 of the TSD.

IDEM Response to Comment 1: Condition A.2 (a) and (b) and Condition D.1(a) and (b) have been revised as follows (bolded language has been added, the language with a line through it has been deleted).

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

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

(a) One (1) municipal solid waste landfill, ~~beginning operation in 1973, with a design capacity of 5,184,497 Megagrams (Mg),~~ controlled by a landfill gas well field collection system and ~~open~~ flare control device~~,~~ with a maximum capacity of 2,500 scfm, designed to minimize gas migration from the developing landfill. **The landfill began operation in 1973.** Subsequent modifications**, including one in 1995,** have occurred at the facility in order to expand the landfill capacity **to 5,184,497 Megagrams (Mg).** Under 40 CFR Part 61, Subpart M this is an active waste disposal site where asbestos containing waste materials have been deposited. Under 40 CFR Part 63, Subpart AAAA this is a municipal solid waste landfill that has accepted waste since November 8, 1987**,** and has a design capacity equal to or greater than 2.5 million Megagrams (Mg).

(b) One (1) main control flare, combusting landfill gas, constructed in ~~1973~~ **the mid-1990s**, with a maximum capacity of 2,500 scfm, with three (3) candlestick flares for backup, with a maximum capacity of 640 cfm each, to be constructed in 2007.

SECTION D.1 FACILITY OPERATION CONDITIONS

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

(a) One (1) municipal solid waste landfill, ~~beginning operation in 1973, with a design capacity of 5,184,497 Megagrams (Mg),~~ controlled by a landfill gas well field collection system and ~~open~~ flare control device~~,~~ with a maximum capacity of 2,500 scfm, designed to minimize gas migration from the developing landfill. **The landfill began operation in 1973.** Subsequent modifications**, including one in 1995,** have occurred at the facility in order to expand the landfill capacity **to 5,184,497 Megagrams (Mg).** Under 40 CFR Part 63, Subpart AAAA, this is a municipal solid waste landfill that has accepted waste since November 8, 1987, and has a design capacity equal to or greater than 2.5 million Megagrams (Mg).

(b) One (1) main control flare, combusting landfill gas, constructed in the ~~1973~~ **the mid-1990s,** with a maximum capacity of 2,500 scfm, with three (3) candlestick flares for backup, with a maximum capacity of 640 cfm each, to be constructed in 2007

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

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

Comment 2: The source suggested that a heading be added to Condition D.1. for the NSPS regulations referenced on pages 22-42 of the draft permit, similar to the heading for the referenced asbestos regulations on page 43 of the draft permit.

IDEM Response to Comment 2:

The following heading has been added to page 23 of the permit:

D.1.3 New Source Performance Standard for Municipal Solid Waste Landfills, (40 CFR Part 60, Subpart WWW

Pursuant to 40 CFR Part 60, Subpart WWW, the Permittee shall comply with the provisions of New Source Performance Standard for Municipal Solid Waste Landfills which are as follows:

Comment 3: In the same section, 40 CFR 60.754(c), 40 CFR 60.756(b) and 40 CFR 60.757(f) should be added to the permit since these sections of the regulation apply to the landfill. The latter is referenced in 40 CFR 63.1980 (see page 55 of the draft permit). There is not a reference to 40 CFR 60.754(e) in the regulations. Paragraphs (a), (b) and (c) of 40 CFR 60.757 no longer apply to this site and should not be included in this permit. These changes, if approved, would also affect the language in the Technical Support Document.

IDEM Response to Comment 3:

The section 40 CFR 60.754(c) has been added to the permit.

§ 60.754 Test methods and procedures.

...

(c) When calculating emissions for PSD purposes, the owner or operator of each MSW landfill subject to the provisions of this subpart shall estimate the NMOC emission rate for comparison to the PSD major source and significance levels in §§ 51.166 or 52.21 of this chapter using AP-42 or other approved measurement procedures.

...

The section 40 CFR 60.756(b) has been added to the permit.

§ 60.756 Monitoring of operations.

...

(b) Each owner or operator seeking to comply with 40 CFR 60.752(b)(2)(iii) using an enclosed combustor shall calibrate, maintain, and operate according to the manufacturer's specifications, the following equipment.

...

The reference to 40 CFR 60.754(e) has been removed from the permit. There was not a section in the code.

The references to 40 CFR 60.757(a) (b) and (c) have been removed from the permit. Sections (d) and (e) of 40 CFR 60.757 have been retained and section 40 CFR 60.757(f) has been added to the permit.

§ 60.757 Reporting requirements.

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

~~(a) Each owner or operator subject to the requirements of this subpart shall submit an initial design capacity report to the Administrator.~~

~~(1) The initial design capacity report shall fulfill the requirements of the notification of the date construction is commenced as required by §60.7(a)(1) and shall be submitted no later than:~~

~~(i) June 10, 1996, for landfills that commenced construction, modification, or reconstruction on or after May 30, 1991 but before March 12, 1996 or~~

~~(ii) Ninety days after the date of commenced construction, modification, or reconstruction for landfills that commence construction, modification, or reconstruction on or after March 12, 1996.~~

~~(2) The initial design capacity report shall contain the following information:~~

~~(i) A map or plot of the landfill, providing the size and location of the landfill, and identifying all areas where solid waste may be landfilled according to the permit issued by the State, local, or tribal agency responsible for regulating the landfill.~~

~~(ii) The maximum design capacity of the landfill. Where the maximum design capacity is specified in the permit issued by the State, local, or tribal agency responsible for regulating the landfill, a copy of the permit specifying the maximum design capacity may be submitted as part of the report. If the maximum design capacity of the landfill is not specified in the permit, the maximum design capacity~~

~~shall be calculated using good engineering practices. The calculations shall be provided, along with the relevant parameters as part of the report. The State, Tribal, local agency or Administrator may request other reasonable information as may be necessary to verify the maximum design capacity of the landfill.~~

~~(3) An amended design capacity report shall be submitted to the Administrator providing notification of an increase in the design capacity of the landfill, within 90 days of an increase in the maximum design capacity of the landfill to or above 2.5 million megagrams and 2.5 million cubic meters. This increase in design capacity may result from an increase in the permitted volume of the landfill or an increase in the density as documented in the annual recalculation required in §60.758(f).~~

~~(b) Each owner or operator subject to the requirements of this subpart shall submit an NMOC emission rate report to the Administrator initially and annually thereafter, except as provided for in paragraphs (b)(1)(ii) or (b)(3) of this section. The Administrator may request such additional information as may be necessary to verify the reported NMOC emission rate.~~

~~(1) The NMOC emission rate report shall contain an annual or 5-year estimate of the NMOC emission rate calculated using the formula and procedures provided in §60.754(a) or (b), as applicable.~~

~~(i) The initial NMOC emission rate report may be combined with the initial design capacity report required in paragraph (a) of this section and shall be submitted no later than indicated in paragraphs (b)(1)(i)(A) and (B) of this section. Subsequent NMOC emission rate reports shall be submitted annually thereafter, except as provided for in paragraphs (b)(1)(ii) and (b)(3) of this section.~~

~~(A) June 10, 1996, for landfills that commenced construction, modification, or reconstruction on or after May 30, 1991, but before March 12, 1996, or~~

~~(B) Ninety days after the date of commenced construction, modification, or reconstruction for landfills that commence construction, modification, or reconstruction on or after March 12, 1996.~~

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

~~(2) The NMOC emission rate report shall include all the data, calculations, sample reports and measurements used to estimate the annual or 5-year emissions.~~

~~(3) Each owner or operator subject to the requirements of this subpart is exempted from the requirements of paragraphs (b)(1) and (2) of this section, after the installation of a collection and control system in compliance with §60.752(b)(2), during such time as the collection and control system is in operation and in compliance with §§60.753 and 60.755.~~

~~(c) Each owner or operator subject to the provisions of §60.752(b)(2)(i) shall submit a collection and control system design plan to the Administrator within 1 year of the first report required under paragraph (b) of this section in which the emission rate equals or exceeds 50 megagrams per year, except as follows:~~

~~(1) If the owner or operator elects to recalculate the NMOC emission rate after Tier 2 NMOC sampling and analysis as provided in §60.754(a)(3) and the resulting rate is less than 50 megagrams per year, annual periodic reporting shall be resumed, using the Tier 2 determined site-specific NMOC concentration, until the calculated emission rate is equal to or greater than 50 megagrams per year or the landfill is closed. The revised NMOC emission rate report, with the recalculated emission rate based on NMOC sampling and analysis, shall be submitted within 180 days of the first calculated exceedance of 50 megagrams per year.~~

~~(2) If the owner or operator elects to recalculate the NMOC emission rate after determining a site-specific methane generation rate constant (k), as provided in Tier 3 in §60.754(a)(4), and the resulting NMOC emission rate is less than 50 Mg/yr, annual periodic reporting shall be resumed. The resulting site-specific methane generation rate constant (k) shall be used in the emission rate calculation until such time as the emissions rate calculation results in an exceedance. The revised NMOC emission rate report based on the provisions of §60.754(a)(4) and the resulting site-specific methane generation rate constant (k) shall be submitted to the Administrator within 1 year of the first calculated emission rate exceeding 50 megagrams per year.~~

. . .

(f) Each owner or operator of a landfill seeking to comply with §60.752(b)(2) using an active collection system designed in accordance with §60.752(b)(2)(ii) shall submit to the Administrator annual reports of the recorded information in (f)(1) through (f)(6) of this paragraph. 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 §60.8. For enclosed combustion devices and flares, reportable exceedances are defined under §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 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 5 days.

(5) The 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) The date of installation and the location of each well or collection system expansion added pursuant to paragraphs (a)(3), (b), and (c)(4) of 40 CFR 60.755.

. . .

No changes have been made to the TSD because the OAQ prefers that the Technical Support Document reflect the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. Changes were made in the permit itself.

Comment 4:

Condition D.1.5: The source does not believe that 40 CFR 61.151 is applicable to this site. The appropriate regulation to reference here is 40 CFR 61.154, which is included in the draft permit. Also, the only parts of 40 CFR 61.153 that apply to this site are (a) (5) and (b).

IDEM Response to Comment 4: IDEM, OAQ is in agreement with the Commenter and Section 40 CFR 61.151(a), (b), (d), (e) and Section 40 CFR 61.153 (a) (1-4) have been removed from the permit, Section 40 CFR 61.153 (a)(5) has been added to the permit.

~~**§ 61.151 Standard for inactive waste disposal sites for asbestos mills and manufacturing and fabricating operations.**~~

~~Each owner or operator of any inactive waste disposal site that was operated by sources covered under § 61.142, 61.144, or 61.147 and received deposits of asbestos-containing waste material generated by the sources, shall:~~

~~(a) Comply with one of the following:~~

~~(1) Either discharge no visible emissions to the outside air from an inactive waste disposal site subject to this paragraph; or~~

~~(2) Cover the asbestos-containing waste material with at least 15 centimeters (6 inches) of compacted nonasbestos-containing material, and grow and maintain a cover of vegetation on the area adequate to prevent exposure of the asbestos-containing waste material. In desert areas where vegetation would be difficult to maintain, at least 8 additional centimeters (3 inches) of well-graded, nonasbestos crushed rock may be placed on top of the final cover instead of vegetation and maintained to prevent emissions; or~~

~~(3) Cover the asbestos-containing waste material with at least 60 centimeters (2 feet) of compacted nonasbestos-containing material, and maintain it to prevent exposure of the asbestos-containing waste; or~~

~~(4) For inactive waste disposal sites for asbestos tailings, a resinous or petroleum-based dust suppression agent that effectively binds dust to control surface air emissions may be used instead of the methods in paragraphs (a) (1), (2), and (3) of this section. Use the agent in the manner and frequency recommended for the particular asbestos tailings by the manufacturer of the dust suppression agent to achieve and maintain dust control. Obtain prior written approval of the Administrator to use other equally effective dust suppression agents. For purposes of this paragraph, any used, spent, or other waste oil is not considered a dust suppression agent.~~

~~(b) Unless a natural barrier adequately deters access by the general public, install and maintain warning signs and fencing as follows, or comply with paragraph (a)(2) or (a)(3) of this section.~~

~~(1) Display warning signs at all entrances and at intervals of 100 m (328 ft) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material was deposited. The warning signs must:~~

~~(i) Be posted in such a manner and location that a person can easily read the legend; and~~

~~(ii) Conform to the requirements for 51 cmx36 cm (20"x14") upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and~~

(iii) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

Legend	Notation
Asbestos Waste Disposal Site.....	2.5 cm (1 inch) Sans Serif, Gothic or Block
Do Not Create Dust.....	1.9 cm (3/4 inch) Sans Serif, Gothic or Block
Breathing Asbestos is Hazardous to Your Health.....	14 Point Gothic.

Spacing between any two lines must be at least equal to the height of the upper of the two lines.

(2) Fence the perimeter of the site in a manner adequate to deter access by the general public.

(3) When requesting a determination on whether a natural barrier adequately deters public access, supply information enabling the Administrator to determine whether a fence or a natural barrier adequately deters access by the general public.

(d) Notify the Administrator in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site under this section, and follow the procedures specified in the notification. If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the Administrator at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. Include the following information in the notice:

(1) Scheduled starting and completion dates.

(2) Reason for disturbing the waste.

(3) Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the Administrator may require changes in the emission control procedures to be used.

(4) Location of any temporary storage site and the final disposal site.

(e) Within 60 days of a site becoming inactive and after the effective date of this subpart, record, in accordance with State law, a notation on the deed to the facility property and on any other instrument that would normally be examined during a title search; this notation will in perpetuity notify any potential purchaser of the property that:

(1) The land has been used for the disposal of asbestos-containing waste material;

(2) The survey plot and record of the location and quantity of asbestos-containing waste disposed of within the disposal site required in § 61.154(f) have been filed with the Administrator; and

(3) The site is subject to 40 CFR part 61, subpart M.

§ 61.153 Reporting.

(a) Any new source to which this subpart applies (with the exception of sources subject to §§ 61.143, 61.145, 61.146, and 61.148), which has an initial startup date preceding the effective date of this revision, shall provide the following information to the Administrator postmarked or delivered within 90 days of the effective date. In the case of a new source that does not have an initial startup date preceding the effective date, the information shall be provided, postmarked or delivered, within 90 days of the initial startup date. Any owner or operator of an existing source shall provide the following information to the Administrator within 90 days of the effective date of this subpart unless the owner or operator of the existing source has previously provided this information to the Administrator. Any changes in the information provided by any existing source shall be provided to the Administrator, postmarked or delivered, within 30 days after the change.

~~(1) A description of the emission control equipment used for each process; and~~

~~(i) If the fabric device uses a woven fabric, the airflow permeability in $m^3/min/m^2$ and; if the fabric is synthetic, whether the fill yarn is spun or not spun; and~~

~~(ii) If the fabric filter device uses a felted fabric, the density in g/m^2, the minimum thickness in inches, and the airflow permeability in $m^3/min/m^2$.~~

~~(2) If a fabric filter device is used to control emissions,~~

~~(i) The airflow permeability in $m^3/min/m^2$ ($ft^3/min/ft^2$) if the fabric filter device uses a woven fabric, and, if the fabric is synthetic, whether the fill yarn is spun or not spun; and~~

~~(ii) If the fabric filter device uses a felted fabric, the density in g/m^2 (oz/yd^2), the minimum thickness in millimeters (inches), and the airflow permeability in $m^3/min/m^2$ ($ft^3/min/ft^2$).~~

~~(3) If a HEPA filter is used to control emissions, the certified efficiency.~~

~~(4) For sources subject to §§ 61.149 and 61.150:~~

~~(i) A brief description of each process that generates asbestos-containing waste material; and~~

~~(ii) The average volume of asbestos-containing waste material disposed of, measured in m^3/day (yd^3/day); and~~

~~(iii) The emission control methods used in all stages of waste disposal; and~~

~~(iv) The type of disposal site or incineration site used for ultimate disposal, the name of the site operator, and the name and location of the disposal site.~~

(5) For sources subject to §§ 61.151 and 61.154:

(i) A brief description of the site; and

(ii) The method or methods used to comply with the standard, or alternative procedures to be used.

Comment 5: In the Technical Support Document: Indiana Regulation 326 IAC 8-8.1 does not apply to this site because the design capacity was modified in 1995.

IDEM Response to Comment 5: IDEM agrees with the Commenter. No changes have been made to the TSD because the OAQ prefers that the Technical Support Document reflect the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document (bolded language has been added, the language with a line through it has been deleted). This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision.

~~326 IAC 8-8.1 (Municipal Solid Waste Landfills)~~

~~This source is subject to 326 IAC 8-8.1 (Municipal Solid Waste Landfills) because it is an existing municipal soild waste landfill that has not commenced construction, reconstruction, or modification of a municipal solid waste land on or after May 30, 1991. Pursuant to 326 IAC 8-8.1-3 the source is subject to applicable provisions of 40 CFR 60, Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills.~~

Comment 6: Technical Support Document, Appendices B and C:
The source requested additional information on the source of the data presented in the appendices. The source has not been able to duplicate some of the calculations, particularly the flare emission calculations.

1. In the first equation that calculates the Btu/hr based on methane content, the percentage of methane in landfill gas used is 58%. All other calculations in the original TSD are based on 50% methane in the landfill gas. Is the 58% a typographical error?

2. The source is interested in getting more details on the source of the flare emission factors used in calculating the individual components in the flare emissions. The note at the end generally references manufacturers' data, AP-42 emission estimates and mass balances for similar units. The source wasn't able to determine what data from AP-42 were used in these calculations, and don't know the specific manufacturer and unit data referenced in the note, and requested any background information on this.

IDEM Response to Comment 6:

IDEM, OAQ agrees with the source. The calculations for the PTE for the flare were adjusted to 50% instead of 58%. The calculations are shown as an attachment in the Addendum to the TSD.

No changes have been made to the TSD because the OAQ prefers that the Technical Support Document reflect the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document.

Emission Factors are from AP-42 Chapter 2.4 - Municipal Solid Waste Landfills - Table 2.4-5 and Table 13.5-1 Industrial Flares
The total inlet concentration of Sulfur content compounds in AP-42, Chapter 2.4
The NMOC concentration is from site specific test data

PTE of PM/PM10/NOx/CO Emissions (tons/year) = Total Flow Rate (scfm landfill gas) / 10^6 * Emission Factor (lb/10^6 dscf) * 0.5 (concentration Methane in landfill gas * 60 (min/hr) * 8760 * 0.0005 (ton/lb)

PTE of SO2 Emissions (tons/yr) = Flow Rate (scfm) * Emission Factor (ppmv) / 10^6 * 1 atm / Gas Constant (0.7302 atm-cf/lb more- R) / Temp (60F + 460) * Mole Weight of SO2 (64 lbs/lbs mole) * 60 min/hr * 8760 hr/yr * 1 ton/2000 lbs

Attached is a calculation sheet for the flare.

In addition to the changes requested by the source, all occurrences of IDEM's mailing addresses have been updated in the permit. Any occurrences of the zip code 46204 have been revised to **46204-2251**, and all addresses have been revised to include a mail code (MC) as follows:

Asbestos Section:	**MC 61-52 IGCN 1003**
Compliance Branch:	**MC 61-53 IGCN 1003**
Permits Branch:	**MC 61-53 IGCN 1003**
Technical Support and Modeling Section:	**MC 61-50 IGCN 1003**

Attachment

Appendix A: Emission Calculations
Total Emission Summary
One (1) Flare firing Landfill Gas

Company Name: **Randolph Farms, Inc.**
Address City IN Zip: **7256 W. CR 600S, Modoc, IN 47358**
Permit Number: **T 035-17760-00030**
Reviewer: **Janet Mobley**
Date: **July 19, 2007**

Total Fuel Input MMBtu/hr	NMOC ppmv	Flow Rate scfm	
68.2	500	2,500	**For the one (1) flare**

	Pollutant					
	PM*	PM10*	SO2	NOx	NMOC	CO
Emission Factors for the one (1) flare	17	17	49.6	40	500	370
Potential Emission in tons/yr for the one (1) flare	0.78	0.78	14.64	38.83	0.01	59.7

Methodology

PTE of PM/PM10/NOx/CO Emissions (tons/year) = Total Flow Rate (scfm landfill gas) / 10^6 * Emission Factor (lb/10^6 dscf) * 0.5 (concentration Methane in landfill gas * 60 (min/hr) * 8760 * 0.0005 (ton/lb)
PTE of SO2 Emissions (tons/yr) = Flow Rate (scfm) * Emission Factor (ppmv) / 10^6 * 1 atm / Gas Constant (0.7302 atm-cf/lb more- R) / Temp (60F + 460) * Mole Weight of SO2 (64 lbs/lbs mole) * 60 min/hr * 8760 hr/yr * 1 ton/2000 lbs
PTE of NMOC Emissions (tons/yr) = Flow Rate (scfm) * Emission Factor (ppmv) / 10^6 * 1 atm / Gas Constant (0.7302 atm-cf/lb more- R) / Temp (60F + 460) * Mole Weight of Hexane (86 lbs/lbs mole) * 60 min/hr * 8760 hr/yr * 1 ton/2000 lbs * (1-assumed destruction from flare or IC engine obtained from AP-42 Section 2.4)

Emission Factors are from AP-42 Chapter 2.4 - Municipal Solid Wase Landfills - Table 2.4-5 and Table 13.5-1 Industrial Flares
The total inlet concentration of Sulfur content compounds in AP-42, Chapter 2.4
The NMOC concentration is from site specific test data

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70 Operating Permit Renewal

Source Background and Description

Source Name:	Randolph Farms, Inc.
Source Location:	7256 W. CR 600 South, Modoc, IN 47358
County:	Randolph
SIC Code:	4953
Operation Permit No.:	T135-8313-00030
Operation Permit Issuance Date:	April 15, 1999
Permit Renewal No.:	T135-17760-00030
Permit Reviewer:	Janet Mobley

The Office of Air Quality (OAQ) has reviewed a Part 70 Operating Permit Renewal application from Randolph Farms, Inc. relating to the operation of a municipal solid waste landfill (MSWLF), opened in 1973, with a design capacity of 5,184,497 Megagrams (Mg).

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

(a) One (1) municipal solid waste landfill, beginning operation in 1973, with a design capacity of 5,184,497 Megagrams (Mg), controlled by a landfill gas well field collection system and open flare control device, with a maximum capacity of 2,500 scfm, designed to minimize gas migration from the developing landfill. Subsequent modifications have occurred at the facility in order to expand the landfill capacity. Under 40 CFR Part 61, Subpart M this is an active waste disposal site where asbestos containing waste materials have been deposited. Under 40 CFR Part 63, Subpart AAAA this is a municipal solid waste landfill that has accepted waste since November 8, 1987 and has a design capacity equal to or grater than 2.5 million Megagrams (Mg).

b) One (1) main control flare, combusting landfill gas, constructed in 1973, with a maximum capacity of 2,500 scfm, with three (3) candlestick flares for backup, with a maximum capacity of 640 cfm each, to be constructed in 2007.

Note: the three backup candlestick flares will not increase the potential to emit from the source and will comply with the same compliance monitoring conditions as the main control flare.

Insignificant Activities

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

(a) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3-2][326 IAC 8-3-5]

(b) Space heaters, process heaters, or boilers using the following fuels:

(1) Propane or liquefied petroleum gas, or butane-fired combustion sources with heat input equal to or less than six million (6,000,000) Btu per hour.

(c) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 Btu/hr, except where the total capacity of equipment operated by one stationary source exceeds 2,000,000 Btu/hr.

(d) A petroleum fuel, other than gasoline, dispensing facility having a storage capacity less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month.

(e) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.

(f) Activities associated with the treatment of wastewater streams with an oil and grease content less than or equal to 1% by volume.

(g) Any operation using aqueous solutions containing less than 1% by weight of VOCs excluding HAPs.

(h) Stockpiled soils from soil remediation activities that are covered and waiting transport for disposal.

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

(j) Purging of gas lines and vessels that is related to routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process.

(k) Emergency generators as follows:

(1) Gasoline generators not exceeding 110 horsepower

(2) Diesel generators not exceeding 1600 horsepower

(l) Landfill gas (LFG) fueled furnaces and engines.

(m) One (1) 10,000 gallon per day leachate evaporator, prior to the flare combustion unit.

Existing Approvals

The source has constructed or has been operating under the following previous approvals:

(a) T135-8313-00030, issued on April 15, 1999; and

(b) First Administrative Amendment (135-10911-00030), issued on May 13, 1999; and

(c) Second Administrative Amendment (135-11170-00030), issued on January 5, 2001; and

(d) First Permit Reopening (R135-13460-00030), issued on January 8, 2002; and

(e) Third Administrative Amendment (135-16584-00030), issued on January 2, 2003; and

(f) Fourth Administrative Amendment (135-20704-00030), issued on October 13, 2005.

All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the Part 70 permit renewal 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 renewal application for the purposes of this review was received on July 16, 2003 and additional information was received on February 28, 2007.

Emission Calculations

Emission estimates are based on projected emission rates for the year 2014 using the EPA Landfill Gas Emissions Model (LandGEM 3.02) pages 1 through 11. A summary of the calculations is included in Appendix B (pages 1 and 2) and Appendix C (pages 1 through 5).

Unrestricted Potential Emissions

Pollutant	tons/year
PM	0.90
PM-10	0.90
SO_2	16.98
VOC	21.83
CO	75.23
NO_x	45.05

HAPs	tons/year
Toluene	5.43
All others	10.03
Total	15.46

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all other criteria pollutants are less than 100 tons per year.

(b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

(c) Pursuant to 326 IAC 2-7-2(e), all fugitive emissions are included in the determination of Part 70 applicability.

(d) Pursuant to New Source Performance Standard (NSPS) 40 CFR 60, Subpart WWW, the source is subject to 326 IAC 2-7.

Potential to Emit of the Source

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."

The source was issued a Part 70 Operating Permit on April 15, 1999. The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered enforceable only after issuance of the original Part 70 operating Permit and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/year)						
Process/emission unit	PM	PM10	SO_2	VOC	CO	NO_X	HAPs
Main Control Flare	0.90	0.90	16.98	2.60	69.31	45.05	Single HAP < 10
Stationary Municipal Solid Waste Landfill				13.99	4.20		
Total PTE	0.90	0.90	16.98	16.59	73.51	45.05	Combined HAPs < 25

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all criteria pollutants is less than or equal to 100 tons per year.

(b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year.

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 2002 OAQ emission data.

Pollutant	Actual Emissions (tons/year)
PM	3.0
PM10	2.0
SO_2	2.0
VOC	3.0
CO	79.0
NO_x	4.0
HAP	Single - < 10 Combined - < 25

County Attainment Status

The source is located in Randolph County.

Pollutant	Status
PM10	Attainment
PM2.5	Attainment
SO_2	Attainment
NO_x	Attainment
8-hour Ozone	Attainment
CO	Attainment
Lead	Attainment

(a) Volatile organic compounds (VOC) and nitrogen oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Randolph County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) Randolph County has been classified as attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM2.5 emissions. Therefore, until the U.S.EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as a surrogate for PM2.5 emissions.

(c) Randolph County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.

(d) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 redesignating Delaware, Greene, Jackson, Vanderburgh, Vigo and Warrick Counties to attainment for the eight-hour ozone standard, redesignating Lake County to attainment for the sulfur dioxide standard, and revoking the one-hour ozone standard in Indiana.

(e) 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 particulate matter (PM) and volatile organic compound (VOC) 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

Compliance Assurance Monitoring

This renewal does not involve a pollutant-specific emissions unit as defined in 40 CFR 64.1 for PM10, PM, NOx, SO_2, CO, VOC, Lead:

(1) with the potential to emit before controls equal to or greater than the major source threshold for PM10, PM, NOx, SO_2, CO, VOC, and Lead,

(2) that is subject to an emission limitation or standard for PM10, PM, NOx, SO_2, CO, VOC, and Lead, and

(3) uses a control device as defined in 40 CFR 64.1 to comply with that emission limitation or standard.

Therefore, the requirements of 40 CFR Part 64, Compliance Assurance Monitoring, are not applicable to this renewal.

New Source Performance Standards

(a) Randolph Farms, Inc. is subject to the New Source Performance Standard for Municipal Solid Waste Landfills, (40 CFR 60, Subpart WWW). The source has not commenced construction, reconstruction, or modification of a municipal solid waste landfill on or after May 30, 1991.

Nonapplicable portions of 40 CFR 60, Subpart WWW will not be included in the permit. The existing affected municipal solid waste landfill is subject to the following portions of 40 CFR Part 60, Subpart WWW:

40 CFR Part 60.751
40 CFR Part 60.752(b)(2) and (d)
40 CFR Part 60.753(a), (b), (c), (d), (e), (f), (g)
40 CFR Part 60.754(a), (b), (d) and (e)
40 CFR Part 60.755
40 CFR Part 60.756(a), (c), (e) and (f)
40 CFR Part 60.757(a), (b), (c), (d), (e) and (g)
40 CFR Part 60.758
40 CFR Part 60.759

The provisions of 40 CFR 60, Subpart A – General Provisions apply to the facility as described in 40 CFR 60, Subpart WWW and 326 IAC 12.

National Emission Standards for Hazardous Air Pollutants

(a) Randolph Farms, Inc. is subject to the National Emission Standards for Hazardous Air Pollutants for Municipal Solid Waste Landfills, 326 IAC 20, (40 CFR 63, Subpart AAAA), because the 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).

Nonapplicable portions of the NESHAP will not be included in the permit. The existing affected source associated with the active waste disposal site receiving asbestos containing waste material is subject to the following portion of 40 CFR 63, Subpart AAAA:

40 CFR Part 63.1930
40 CFR Part 63.1935(a)
40 CFR Part 63.1940(a) and (c)
40 CFR Part 63. 1945(b) and (f)
40 CFR Part 63.1950
40 CFR Part 63.1955(a)(1), (b), and (c)
40 CFR Part 63.1960
40 CFR Part 63.1965(a), (b), and (c)
40 CFR Part 63.1975(a), (b), (c), and (d)
40 CFR Part 63.1980(a) and (b)
40 CFR Part 63.1985(a), (b), and (c)
40 CFR Part 63.1990
Table 1 of 40 CFR Part 63, Subpart AAAA

The provisions of 40 CFR 63 Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility as described in this section.

(b) Randolph Farms, Inc. is subject to the National Emission Standards for Hazardous Air Pollutants for Asbestos, 326 IAC 14-2 (40 CFR 61, Subpart M). This rule applies to sources that are active waste disposal sites that receive asbestos containing waste material.

Nonapplicable portions of the NESHAP will not be included in the permit. The existing affected source associated with the active waste disposal site receiving asbestos containing waste material is subject to the following portion of 40 CFR Part 61, Subpart M:

40 CFR Part 61.140
40 CFR Part 61.141
40 CFR Part 61.151(a), (b), (d), and (e)
40 CFR Part 61.153
40 CFR Part 61.154(a), (b), (c), (e), (f), (g), (h), (i), and (j)
40 CFR Part 61.156
40 CFR Part 61.157(a) and (b)

The provisions of 40 CFR 61, Subpart A – General Provisions apply to the facility as described in 40 CFR 61, Subpart M and 326 IAC 14-1.

State Rule Applicability – Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration)
This source does not have potential emissions of 250 tons per year or more of any pollutant subject to regulation under the Clean Air Act (CAA) and it is not one of the twenty-eight (28) listed sources, therefore, this source is a minor source for PSD purposes.

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

326 IAC 4-1 (Open Burning)
Pursuant to 326 IAC 4-1 (Open Burning), open burning is prohibited except as allowed in this rule.

326 IAC 8-8.1 (Municipal Solid Waste Landfills)
This source is subject to 326 IAC 8-8.1 (Municipal Solid Waste Landfills) because it is an existing municipal soild waste landfill that has not commenced construction, reconstruction, or modification of a municipal solid waste land on or after May 30, 1991. Pursuant to 326 IAC 8-8.1-3 the source is subject to applicable provisions of 40 CFR 60, Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills.

326 IAC 2-6 (Emission Reporting)
Since this source is required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program, this source is subject to 326 IAC 2-6 (Emission Reporting). In accordance with the compliance schedule in 326 IAC 2-6-3(b)(2), an emission statement must be submitted triennially by July 1 beginning in 2005 and every 3 years thereafter. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

326 IAC 2-4.1 (New Source Toxics Control)
The operation of a municipal solid waste landfill will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 6-4 (Fugitive Dust)
This source is subject to 326 IAC 6-4 because it is a source of fugitive dust emissions.

State Rule Applicability – Individual Facilities

326 IAC 8-3 (Degreasing Operations)

(a) Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), the owner or operator shall control degreasing operations by the following:

(1) Equip the cleaner with a cover;

(2) Equip the cleaner with a facility for draining cleaned parts;

(3) Close the degreaser cover whenever parts are not being handled in the cleaner;

(4) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(5) Provide a permanent, conspicuous label summarizing the operation requirements;

(6) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

(b) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning degreaser facility construction of which commenced after July 1, 1990, shall ensure that the following operating requirements are met:

(1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:

(A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38^{O}C) (one hundred degrees Fahrenheit (100^{O}F));

(B) The solvent is agitated; or

(C) The solvent is heated.

(2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38^{O}C) (one hundred degrees Fahrenheit (100^{O}F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).

(4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.

(5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38^{O}C) (one hundred degrees Fahrenheit (100^{O}F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9^{O}C) (one hundred twenty degrees Fahrenheit (120^{O}F)):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when the solvent used is insoluble in, and heavier than, water.

(C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

(c) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility construction of which commenced after July 1, 1990, shall ensure that the following operating requirements are met:

(1) Close the cover whenever articles are not being handled in the degreaser.

(2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.

(3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

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 2,500 scfm open 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 2,500 scfm open flare.

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 in 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 approporiate corrective actions within a specific time period.

326 IAC 8-8.1-3(a)(2) Compliance Requirements

Each owner or operator of an MSW landfill with a gas collection and control system used to comply with the provisions of §60.752(b)(2)(ii) of this subpart shall:

(a) Operate the collection system such that gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for:

(1) 5 years or more if active; or

(2) 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) A fire or increased well temperature. The owner or operator 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 §60.757(f)(1);

(2) Use of a geomembrane or synthetic cover. The owner or operator 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 Administrator;

(c) Operate each interior wellhead in the collection system with a landfill gas temperature less than 55°C and with either a nitrogen level less than 20 percent or an oxygen level less than 5 percent. The owner or operator 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 test method is established as allowed by §60.752(b)(2)(i) of this subpart.

(2) Unless an alternative test method is established as allowed by §60.752(b)(2)(i) of this subpart, the oxygen shall be determined by an oxygen meter using Method 3A or 3C except that:

(i) The span shall be set so that the regulatory limit is between 20 and 50 percent of the span;

(ii) A data recorder is not required;

(iii) Only two calibration gases are required, a zero and span, and ambient air may be used as the span;

(iv) A calibration error check is not required;

(v) The allowable sample bias, zero drift, and calibration drift are ±10 percent.

(d) Operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the owner or operator 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 owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30 meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing.

(e) Operate the system such that all collected gases are vented to a control system designed and operated in compliance with §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 1 hour; and

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

(g) If monitoring demonstrates that the operational requirements in paragraphs (b), (c), or (d) of this section are not met, corrective action shall be taken as specified in §60.755(a)(3) through (5) or §60.755(c) of this subpart. If corrective actions are taken as specified in §60.755, the monitored exceedance is not a violation of the operational requirements in this section.

326 IAC 8-8.1-3(a)(5) Compliance Requirements

(a) Except as provided in §60.752(b)(2)(i)(B), the specified methods in paragraphs (a)(1) through (a)(6) of this section shall be used to determine whether the gas collection system is in compliance with §60.752(b)(2)(ii).

(1) For the purposes of calculating the maximum expected gas generation flow rate from the landfill to determine compliance with §60.752(b)(2)(ii)(A)(*1*), one of the following equations shall be used. The k and L_o kinetic factors should be those published in the most recent Compilation of Air Pollutant Emission Factors (AP–42) or other site specific values demonstrated to be appropriate and approved by the Administrator. If k has been determined as specified in §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.

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

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

where,
Q_m = maximum expected gas generation flow rate, cubic meters per year
L_o = methane generation potential, cubic meters per megagram solid waste
R = average annual acceptance rate, megagrams per year
k = methane generation rate constant, $year^{-1}$
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 = O and $e^{-kc} = 1$)

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

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

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

(iii) 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 paragraphs (a)(1) (i) and (ii) of this section. 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 paragraphs (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 collectors for compliance with §60.752(b)(2)(ii)(A)(*2*), the owner or operator shall design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the Administrator, 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 §60.752(b)(2)(ii)(A)(*3*), the owner or operator 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 5 calendar days, except for the three conditions allowed under §60.753(b). If negative pressure cannot be achieved without excess air infiltration within 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) Owners or operators are not required to expand the system as required in paragraph (a)(3) of this section during the first 180 days after gas collection system startup.

(5) For the purpose of identifying whether excess air infiltration into the landfill is occurring, the owner or operator shall monitor each well monthly for temperature and nitrogen or oxygen as provided in §60.753(c). If a well exceeds one of these operating parameters, action shall be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 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) An owner or operator seeking to demonstrate compliance with §60.752(b)(2)(ii)(A)(*4*) through the use of a collection system not conforming to the specifications provided in §60.759 shall provide information satisfactory to the Administrator as specified in §60.752(b)(2)(i)(C) demonstrating that off-site migration is being controlled.

(b) For purposes of compliance with §60.753(a), each owner or operator of a controlled landfill shall place each well or design component as specified in the approved design plan as provided in §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:

(1) 5 years or more if active; or

(2) 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 §60.753(d).

(1) After installation of the collection system, the owner or operator 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 paragraph (d) of this section.

(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 the perimeter wells.

(3) Surface emission monitoring shall be performed in accordance with section 4.3.1 of Method 21 of appendix A of this part, except that the probe inlet shall be placed within 5 to 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 paragraphs (c)(4) (i) through (v) of this section shall be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of §60.753(d).

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

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

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

(iv) 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 paragraph (c)(4) (ii) or (iii) of this section shall be re-monitored 1 month from the initial exceedance. If the 1-month remonitoring 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 1-month remonitoring shows an exceedance, the actions specified in paragraph (c)(4) (iii) or (v) shall be taken.

(v) 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 days 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 Administrator for approval.

(5) The owner or operator shall implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.

(d) Each owner or operator seeking to comply with the provisions in paragraph (c) of this section 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 this part, except that “methane” shall replace all references to 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 this part, the instrument evaluation procedures of section 4.4 of Method 21 of appendix A of this part shall be used.

(4) The calibration procedures provided in section 4.2 of Method 21 of appendix A of this part shall be followed immediately before commencing a surface monitoring survey.

(e) The provisions of this subpart 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 5 days for collection systems and shall not exceed 1 hour for treatment or control devices.

Conclusion

The operation of this Municipal Solid Waste Landfill shall be subject to the conditions of the attached Part 70 Operating Permit Renewal No.T135-17760-00030.

Indiana Department of Environmental Management
Office of Air Quality

Appendix A – LandGEM 3.02 Modeling Results
Technical Support Document (TSD) for a
Part 70 Renewal

Source Background and Description

Source Name:	Randolph Farms, Inc.
Source Location:	7256 W. CR 600 South, Modoc, Indiana 47358
County:	Randolph
SIC Code:	4953
Operation Permit Renewal No.:	T 135-17760-00030
Permit Reviewer:	Janet Mobley

Summary of the Landfill Gas Emissions Model (LandGEM)

The details included with this attachment documents the results for the Randolph Farms, Inc. used to calculate the potential to emit for the facility provided in Attachment B.

The Landfill Gas Emissions Model (LandGEM) is an automated estimation tool with a Microsoft Excel interface that can be used to estimate emission rates for total landfill gas, methane (CH_4), carbon dioxide (CO_2), nonmethane organic compounds (NMOCs), and individual air pollutants from municipal solid waste landfills. LandGEM can use either site-specific data to estimate emissions or default parameters if no site-specific data are available. LandGEM contains two sets of default parameters.

> **CAA Defaults** – The CAA defaults are based on requirements for MSW landfills laid out by the Clean Air Act (CAA), including the NSPS/EG and NESHAP. This set of default parameters yields conservative emission estimates and can be used for determining whether a landfill is subject to the control requirements of the NSPS/EG or NESHAP.
>
> **Inventory Defaults** – With the exception of wet landfill defaults, the inventory defaults are based on emission factors in the U.S. Environmental Protection Agency's (EPA's) Compilation of Air Pollutant Emission Factors (AP-42). This set of defaults yields average emissions and can be used to generate emission estimates for use in emission inventories and air permits in the absence of site-specific test data.

The default parameters in Version 3.02 of LandGEM represent values specified by NSPS/EG and NESHAP for determining applicability of CAA requirements.

The LandGEM software provides a relatively simple approach to estimating landfill gas emissions. Model defaults are based on empirical data from U.S. landfills. Field test data can also be used in place of model defaults when available. LandGEM uses the following first-order decomposition rate equation for quantifying emissions from the decomposition of landfilled waste in municipal solid waste (MSW) landfills to estimate annual emissions over a specified time period.

$$Q_{CH_4} = \sum_{i=1}^{n} \sum_{j=0.1}^{1} kL_o \left(\frac{M_i}{10}\right) e^{-kt_{ij}}$$

where
Q_{CH4} = annual methane generation in the year of the calculation (m^3/year)
i = 1 year time increment
n = (year of the calculation) – (initial year of waste acceptance)
j = 0.1 year time increment
k = methane generation rate (year-1)
L_o = potential methane generation capacity (m3/Mg)
M_i = mass of waste accepted in the i^{th} year (Mg)
t_{ij} = age of the j^{th} section of waste mass M_i accepted in the i^{th} year (decimal years, e.g., 3.2 years)

Further guidance on EPA test methods, Clean Air Act (CAA) regulations, and other guidance regarding landfill gas emissions and control technology requirements can be found at www.epa.gov/ttnatw01/landfill/landflpg.html.

INPUT REVIEW

Landfill Name or Identifier: Randolph Farms, Inc.

LANDFILL CHARACTERISTICS

Landfill Open Year	**1973**	
Landfill Closure Year (with 80-year limit)	**2014**	
Actual Closure Year (without limit)	***2014***	
Have Model Calculate Closure Year?	**No**	
Waste Design Capacity	**5,184,497**	*megagrams*

MODEL PARAMETERS

Methane Generation Rate, k	**0.040**	$year^{-1}$
Potential Methane Generation Capacity, L_o	**100**	m^3/Mg
NMOC Concentration	**595**	*ppmv as hexane*
Methane Content	**50**	*% by volume*

GASES / POLLUTANTS SELECTED

Gas / Pollutant #1:	**Carbon monoxide**
Gas / Pollutant #2:	**Methane**
Gas / Pollutant #3:	**VOC**
Gas / Pollutant #4:	**NMOC**

Description/Comments:

WASTE ACCEPTANCE RATES

Year	*(Mg/year)*	*(short tons/year)*
1973	70,748	77,823
1974	70,748	77,823
1975	70,748	77,823
1976	70,748	77,823
1977	70,748	77,823
1978	70,748	77,823
1979	70,748	77,823
1980	70,748	77,823
1981	70,748	77,823
1982	70,748	77,823
1983	70,748	77,823
1984	70,748	77,823
1985	70,748	77,823
1986	70,748	77,823
1987	70,748	77,823
1988	70,748	77,823
1989	70,748	77,823
1990	70,748	77,823
1991	70,940	78,034
1992	136,419	150,061
1993	142,450	156,695
1994	187,752	206,527
1995	186,897	205,587
1996	219,018	240,920
1997	234,359	257,795
1998	170,456	187,502
1999	128,583	141,441
2000	161,346	177,481
2001	172,311	189,542
2002	172,207	189,428
2003	172,207	189,428
2004	172,207	189,428
2005	172,207	189,428
2006	172,207	189,428
2007	172,207	189,428
2008	172,207	189,428
2009	172,207	189,428
2010	172,207	189,428
2011	172,207	189,428
2012	172,207	189,428
2013	172,207	189,428
2014	0	0

POLLUTANTS

Landfill Name or Identifier: Randolph Farms, Inc.

Enter New Pollutant Parameters | Edit Existing Pollutant Parameters

Default parameters will be used by model unless alternate parameters are entered.

		Gas / Pollutant Default Parameters:			*Enter User-specified Pollutant Parameters for Existing Pollutants:*	
	Compound	Concentration (*ppmv*)	Molecular Weight	Notes	Concentration (*ppmv*)	Molecular Weight
Gases	Total landfill gas		30.03			
	Methane		16.04			
	Carbon dioxide		44.01			
	NMOC	595	86.18			
Pollutants	1,1,1-Trichloroethane (methyl chloroform) - HAP	0.48	133.41	A		
	1,1,2,2-Tetrachloroethane - HAP/VOC	1.1	167.85	A, B		
	1,1-Dichloroethane (ethylidene dichloride) - HAP/VOC	2.4	98.97	A, B		
	1,1-Dichloroethene (vinylidene chloride) - HAP/VOC	0.20	96.94	A, B		
	1,2-Dichloroethane (ethylene dichloride) - HAP/VOC	0.41	98.96	A, B		
	1,2-Dichloropropane (propylene dichloride) - HAP/VOC	0.18	112.99	A, B		
	2-Propanol (isopropyl alcohol) - VOC	50	60.11	B		
	Acetone	7.0	58.08			
	Acrylonitrile - HAP/VOC	6.3	53.06	A, B		
	Benzene - No or Unknown Co-disposal - HAP/VOC	1.9	78.11	A, B		
	Benzene - Co-disposal - HAP/VOC	11	78.11	A, B		
	Bromodichloromethane - VOC	3.1	163.83	B		
	Butane - VOC	5.0	58.12	B		
	Carbon disulfide - HAP/VOC	0.58	76.13	A, B		
	Carbon monoxide	140	28.01			
	Carbon tetrachloride - HAP/VOC	4.0E-03	153.84	A, B		
	Carbonyl sulfide - HAP/VOC	0.49	60.07	A, B		
	Chlorobenzene - HAP/VOC	0.25	112.56	A, B		
	Chlorodifluoromethane	1.3	86.47			
	Chloroethane (ethyl chloride) - HAP/VOC	1.3	64.52	A, B		
	Chloroform - HAP/VOC	0.03	119.39	A, B		
	Chloromethane - VOC	1.2	50.49	B		
	Dichlorobenzene - (HAP for para isomer/VOC)	0.21	147	B, C		
	Dichlorodifluoromethane	16	120.91			
	Dichlorofluoromethane - VOC	2.6	102.92	B		
	Dichloromethane (methylene chloride) - HAP	14	84.94	A		
	Dimethyl sulfide (methyl sulfide) - VOC	7.8	62.13	B		
	Ethane	890	30.07			
	Ethanol - VOC	27	46.08	B		
	Ethyl mercaptan (ethanethiol) - VOC	2.3	62.13	B		
	Ethylbenzene - HAP/VOC	4.6	106.16	A, B		
	Ethylene dibromide - HAP/VOC	1.0E-03	187.88	A, B		
	Fluorotrichloromethane - VOC	0.76	137.38	B		
	Hexane - HAP/VOC	6.6	86.18	A, B		
	Hydrogen sulfide	36	34.08			
	Mercury (total) - HAP	2.9E-04	200.61	A		
	Methyl ethyl ketone - HAP/VOC	7.1	72.11	A, B		
	Methyl isobutyl ketone - HAP/VOC	1.9	100.16	A, B		
	Methyl mercaptan - VOC	2.5	48.11	B		
	Pentane - VOC	3.3	72.15	B		
	Perchloroethylene (tetrachloroethylene) - HAP	3.7	165.83	A		
	Propane - VOC	11	44.09	B		
	t-1,2-Dichloroethene - VOC	2.8	96.94	B		
	Toluene - No or Unknown Co-disposal - HAP/VOC	39	92.13	A, B		
	Toluene - Co-disposal - HAP/VOC	170	92.13	A, B		
	Trichloroethylene (trichloroethene) - HAP/VOC	2.8	131.40	A, B		
	Vinyl chloride - HAP/VOC	7.3	62.50	A, B		
	Xylenes - HAP/VOC	12	106.16	A, B		

Enter New Compound	Enter Concentration (*ppmv*)	Enter Molecular Weight
VOC	235.00	86.18

Return to USER INPUTS

A. Hazardous air pollutants (HAP) listed in Title III of the 1990 Clean Air Act Amendments.
B. Considered volatile organic compounds (VOC), as defined by U.S. EPA in 40 CFR 51.100(s).
C. Source tests did not indicate whether this compound was the para- or ortho- isomer. The para- isomer is a Title III-listed HAP.

Source: Tables 2.4-1 and 2.4-2 of *Compilation of Air Pollutant Emission Factors, AP-42, Volume 1: Stationary Point and Area Sources*, 5th ed., Chapter 2.4 Municipal Solid Waste Landfills. U.S. EPA, Office of Air Quality Planning and Standards. Research Triangle Park, NC. November 1998. http://www.epa.gov/ttn/chief/ap42/ch02/final/c02s04.pdf

METHANE

Landfill Name or Identifier: Randolph Farms, Inc.

First-Order Decomposition Rate Equation:

$$Q_{CH_4} = \sum_{i=1}^{n} \sum_{j=0.1}^{1} kL_o \left(\frac{M_i}{10}\right) e^{-kt_{ij}}$$

Where,

Q_{CH4} = annual methane generation in the year of the calculation ($m^3/year$)

i = 1-year time increment

n = (year of the calculation) - (initial year of waste acceptance)

j = 0.1-year time increment

k = methane generation rate ($year^{-1}$)

L_o = potential methane generation capacity (m^3/Mg)

M_i = mass of waste accepted in the i^{th} year (Mg)

t_{ij} = age of the j^{th} section of waste mass M_i accepted in the i^{th} year (*decimal years*, e.g., 3.2 years)

Model Parameters from User Inputs:

k = 0.040 $year^{-1}$

L_o = 100 m^3/Mg

When Model Calculates Closure Year ...

Final Non-Zero Acceptance Entered = 172,207 *megagrams* in 2002

Waste Design Capacity = 5,184,497 *megagrams*

Closure Year (with 80-year limit) = 2014

Actual Closure Year (without limit) = 2014

Model Waste Acceptance Limit = 80 *years*

Year	User Waste Acceptance Inputs (Mg/year)	User Waste-In Place (Mg)	Waste Acceptance (Mg/year)	Waste-In-Place (Mg)			Year	Methane Emissions (m^3/year)
1973	70,748	0	70,748	0	0	0		
1974	70,748	70,748	70,748	70,748	0	0	1974	2.780E+05
1975	70,748	141,496	70,748	141,496	0	0	1975	5.450E+05
1976	70,748	212,244	70,748	212,244	0	0	1976	8.016E+05
1977	70,748	282,992	70,748	282,992	0	0	1977	1.048E+06
1978	70,748	353,740	70,748	353,740	0	0	1978	1.285E+06
1979	70,748	424,488	70,748	424,488	0	0	1979	1.513E+06
1980	70,748	495,236	70,748	495,236	0	0	1980	1.731E+06
1981	70,748	565,984	70,748	565,984	0	0	1981	1.941E+06
1982	70,748	636,732	70,748	636,732	0	0	1982	2.143E+06
1983	70,748	707,480	70,748	707,480	0	0	1983	2.337E+06
1984	70,748	778,228	70,748	778,228	0	0	1984	2.523E+06
1985	70,748	848,976	70,748	848,976	0	0	1985	2.702E+06
1986	70,748	919,724	70,748	919,724	0	0	1986	2.874E+06
1987	70,748	990,472	70,748	990,472	0	0	1987	3.040E+06
1988	70,748	1,061,220	70,748	1,061,220	0	0	1988	3.198E+06
1989	70,748	1,131,968	70,748	1,131,968	0	0	1989	3.351E+06
1990	70,748	1,202,716	70,748	1,202,716	0	0	1990	3.498E+06
1991	70,940	1,273,464	70,940	1,273,464	0	0	1991	3.638E+06
1992	136,419	1,344,404	136,419	1,344,404	0	0	1992	3.774E+06
1993	142,450	1,480,823	142,450	1,480,823	0	0	1993	4.162E+06
1994	187,752	1,623,273	187,752	1,623,273	0	0	1994	4.559E+06
1995	186,897	1,811,025	186,897	1,811,025	0	0	1995	5.118E+06
1996	219,018	1,997,922	219,018	1,997,922	0	0	1996	5.651E+06
1997	234,359	2,216,940	234,359	2,216,940	0	0	1997	6.290E+06
1998	170,456	2,451,299	170,456	2,451,299	0	0	1998	6.964E+06
1999	128,583	2,621,755	128,583	2,621,755	0	0	1999	7.361E+06
2000	161,346	2,750,338	161,346	2,750,338	0	0	2000	7.578E+06
2001	172,311	2,911,684	172,311	2,911,684	0	0	2001	7.914E+06
2002	172,207	3,083,995	172,207	3,083,995	172207	2002	2002	8.281E+06
2003	0	3,256,202	172,207	3,256,202	0	0	2003	8.633E+06
2004	0	3,256,202	172,207	3,428,409	0	0	2004	8.971E+06
2005	0	3,256,202	172,207	3,600,616	0	0	2005	9.296E+06
2006	0	3,256,202	172,207	3,772,823	0	0	2006	9.608E+06
2007	0	3,256,202	172,207	3,945,030	0	0	2007	9.908E+06
2008	0	3,256,202	172,207	4,117,237	0	0	2008	1.020E+07
2009	0	3,256,202	172,207	4,289,444	0	0	2009	1.047E+07
2010	0	3,256,202	172,207	4,461,651	0	0	2010	1.074E+07
2011	0	3,256,202	172,207	4,633,858	0	0	2011	1.099E+07
2012	0	3,256,202	172,207	4,806,065	0	0	2012	1.124E+07
2013	0	3,256,202	172,207	4,978,272	0	0	2013	1.148E+07
2014	0	3,256,202	0	5,150,479	0	0	2014	1.170E+07

RESULTS **Landfill Name or Identifier:** Randolph Farms, Inc.

Closure Year (with 80-year limit) = 2014

Methane = 50 *% by volume*

Please choose a third unit of measure to represent all of the emission rates below.

User-specified Unit: *av ft^3/min*

Year	Waste Accepted		Waste-In-Place		Carbon monoxide		
	(Mg/year)	*(short tons/year)*	*(Mg)*	*(short tons)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
1973	70,748	77,823	0	0	0	0	0
1974	70,748	77,823	70,748	77,823	9.067E-02	7.783E+01	5.229E-03
1975	70,748	77,823	141,496	155,646	1.778E-01	1.526E+02	1.025E-02
1976	70,748	77,823	212,244	233,468	2.615E-01	2.245E+02	1.508E-02
1977	70,748	77,823	282,992	311,291	3.419E-01	2.935E+02	1.972E-02
1978	70,748	77,823	353,740	389,114	4.192E-01	3.598E+02	2.418E-02
1979	70,748	77,823	424,488	466,937	4.934E-01	4.235E+02	2.846E-02
1980	70,748	77,823	495,236	544,760	5.647E-01	4.847E+02	3.257E-02
1981	70,748	77,823	565,984	622,582	6.333E-01	5.436E+02	3.652E-02
1982	70,748	77,823	636,732	700,405	6.991E-01	6.001E+02	4.032E-02
1983	70,748	77,823	707,480	778,228	7.624E-01	6.544E+02	4.397E-02
1984	70,748	77,823	778,228	856,051	8.231E-01	7.066E+02	4.747E-02
1985	70,748	77,823	848,976	933,874	8.815E-01	7.567E+02	5.084E-02
1986	70,748	77,823	919,724	1,011,696	9.376E-01	8.048E+02	5.408E-02
1987	70,748	77,823	990,472	1,089,519	9.916E-01	8.511E+02	5.719E-02
1988	70,748	77,823	1,061,220	1,167,342	1.043E+00	8.956E+02	6.017E-02
1989	70,748	77,823	1,131,968	1,245,165	1.093E+00	9.383E+02	6.304E-02
1990	70,748	77,823	1,202,716	1,322,988	1.141E+00	9.793E+02	6.580E-02
1991	70,940	78,034	1,273,464	1,400,810	1.187E+00	1.019E+03	6.845E-02
1992	136,419	150,061	1,344,404	1,478,844	1.231E+00	1.057E+03	7.101E-02
1993	142,450	156,695	1,480,823	1,628,905	1.358E+00	1.165E+03	7.831E-02
1994	187,752	206,527	1,623,273	1,785,600	1.487E+00	1.276E+03	8.577E-02
1995	186,897	205,587	1,811,025	1,992,128	1.669E+00	1.433E+03	9.628E-02
1996	219,018	240,920	1,997,922	2,197,714	1.844E+00	1.582E+03	1.063E-01
1997	234,359	257,795	2,216,940	2,438,634	2.052E+00	1.761E+03	1.183E-01
1998	170,456	187,502	2,451,299	2,696,429	2.272E+00	1.950E+03	1.310E-01
1999	128,583	141,441	2,621,755	2,883,931	2.401E+00	2.061E+03	1.385E-01
2000	161,346	177,481	2,750,338	3,025,372	2.472E+00	2.122E+03	1.426E-01
2001	172,311	189,542	2,911,684	3,202,852	2.582E+00	2.216E+03	1.489E-01
2002	172,207	189,428	3,083,995	3,392,395	2.701E+00	2.319E+03	1.558E-01
2003	172,207	189,428	3,256,202	3,581,822	2.816E+00	2.417E+03	1.624E-01
2004	172,207	189,428	3,428,409	3,771,250	2.926E+00	2.512E+03	1.688E-01
2005	172,207	189,428	3,600,616	3,960,678	3.032E+00	2.603E+03	1.749E-01
2006	172,207	189,428	3,772,823	4,150,105	3.134E+00	2.690E+03	1.808E-01
2007	172,207	189,428	3,945,030	4,339,533	3.232E+00	2.774E+03	1.864E-01
2008	172,207	189,428	4,117,237	4,528,961	3.326E+00	2.855E+03	1.918E-01
2009	172,207	189,428	4,289,444	4,718,388	3.416E+00	2.932E+03	1.970E-01
2010	172,207	189,428	4,461,651	4,907,816	3.503E+00	3.007E+03	2.020E-01
2011	172,207	189,428	4,633,858	5,097,244	3.586E+00	3.078E+03	2.068E-01
2012	172,207	189,428	4,806,065	5,286,672	3.666E+00	3.147E+03	2.115E-01
2013	172,207	189,428	4,978,272	5,476,099	3.743E+00	3.213E+03	2.159E-01
2014	0	0	5,150,479	5,665,527	3.817E+00	3.277E+03	2.202E-01

RESULTS **Landfill Name or Identifier:** Randolph Farms, In

Closure Year (with 80-year limit) = 2014
Methane = 50 *% by volume*

Year	Waste Accepted		Waste-In-Place		Methane		
	(Mg/year)	*(short tons/year)*	*(Mg)*	*(short tons)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
1973	70,748	77,823	0	0	0	0	0
1974	70,748	77,823	70,748	77,823	1.854E+02	2.780E+05	1.868E+01
1975	70,748	77,823	141,496	155,646	3.636E+02	5.450E+05	3.662E+01
1976	70,748	77,823	212,244	233,468	5.348E+02	8.016E+05	5.386E+01
1977	70,748	77,823	282,992	311,291	6.993E+02	1.048E+06	7.042E+01
1978	70,748	77,823	353,740	389,114	8.573E+02	1.285E+06	8.634E+01
1979	70,748	77,823	424,488	466,937	1.009E+03	1.513E+06	1.016E+02
1980	70,748	77,823	495,236	544,760	1.155E+03	1.731E+06	1.163E+02
1981	70,748	77,823	565,984	622,582	1.295E+03	1.941E+06	1.304E+02
1982	70,748	77,823	636,732	700,405	1.430E+03	2.143E+06	1.440E+02
1983	70,748	77,823	707,480	778,228	1.559E+03	2.337E+06	1.570E+02
1984	70,748	77,823	778,228	856,051	1.683E+03	2.523E+06	1.695E+02
1985	70,748	77,823	848,976	933,874	1.803E+03	2.702E+06	1.816E+02
1986	70,748	77,823	919,724	1,011,696	1.918E+03	2.874E+06	1.931E+02
1987	70,748	77,823	990,472	1,089,519	2.028E+03	3.040E+06	2.042E+02
1988	70,748	77,823	1,061,220	1,167,342	2.134E+03	3.198E+06	2.149E+02
1989	70,748	77,823	1,131,968	1,245,165	2.236E+03	3.351E+06	2.252E+02
1990	70,748	77,823	1,202,716	1,322,988	2.333E+03	3.498E+06	2.350E+02
1991	70,940	78,034	1,273,464	1,400,810	2.427E+03	3.638E+06	2.445E+02
1992	136,419	150,061	1,344,404	1,478,844	2.518E+03	3.774E+06	2.536E+02
1993	142,450	156,695	1,480,823	1,628,905	2.777E+03	4.162E+06	2.797E+02
1994	187,752	206,527	1,623,273	1,785,600	3.041E+03	4.559E+06	3.063E+02
1995	186,897	205,587	1,811,025	1,992,128	3.414E+03	5.118E+06	3.439E+02
1996	219,018	240,920	1,997,922	2,197,714	3.770E+03	5.651E+06	3.797E+02
1997	234,359	257,795	2,216,940	2,438,634	4.197E+03	6.290E+06	4.226E+02
1998	170,456	187,502	2,451,299	2,696,429	4.646E+03	6.964E+06	4.679E+02
1999	128,583	141,441	2,621,755	2,883,931	4.911E+03	7.361E+06	4.946E+02
2000	161,346	177,481	2,750,338	3,025,372	5.055E+03	7.578E+06	5.091E+02
2001	172,311	189,542	2,911,684	3,202,852	5.280E+03	7.914E+06	5.318E+02
2002	172,207	189,428	3,083,995	3,392,395	5.525E+03	8.281E+06	5.564E+02
2003	172,207	189,428	3,256,202	3,581,822	5.759E+03	8.633E+06	5.800E+02
2004	172,207	189,428	3,428,409	3,771,250	5.985E+03	8.971E+06	6.028E+02
2005	172,207	189,428	3,600,616	3,960,678	6.202E+03	9.296E+06	6.246E+02
2006	172,207	189,428	3,772,823	4,150,105	6.410E+03	9.608E+06	6.456E+02
2007	172,207	189,428	3,945,030	4,339,533	6.610E+03	9.908E+06	6.657E+02
2008	172,207	189,428	4,117,237	4,528,961	6.802E+03	1.020E+07	6.851E+02
2009	172,207	189,428	4,289,444	4,718,388	6.987E+03	1.047E+07	7.037E+02
2010	172,207	189,428	4,461,651	4,907,816	7.164E+03	1.074E+07	7.215E+02
2011	172,207	189,428	4,633,858	5,097,244	7.335E+03	1.099E+07	7.387E+02
2012	172,207	189,428	4,806,065	5,286,672	7.499E+03	1.124E+07	7.552E+02
2013	172,207	189,428	4,978,272	5,476,099	7.656E+03	1.148E+07	7.710E+02
2014	0	0	5,150,479	5,665,527	7.807E+03	1.170E+07	7.863E+02

RESULTS **Landfill Name or Identifier:** Randolph Farms, In

Closure Year (with 80-year limit) = 2014
Methane = 50 *% by volume*

Year	Waste Accepted		Waste-In-Place		VOC		
	(Mg/year)	*(short tons/year)*	*(Mg)*	*(short tons)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
1973	70,748	77,823	0	0	0	0	0
1974	70,748	77,823	70,748	77,823	4.683E-01	1.306E+02	8.778E-03
1975	70,748	77,823	141,496	155,646	9.182E-01	2.562E+02	1.721E-02
1976	70,748	77,823	212,244	233,468	1.350E+00	3.768E+02	2.531E-02
1977	70,748	77,823	282,992	311,291	1.766E+00	4.926E+02	3.310E-02
1978	70,748	77,823	353,740	389,114	2.165E+00	6.040E+02	4.058E-02
1979	70,748	77,823	424,488	466,937	2.548E+00	7.109E+02	4.777E-02
1980	70,748	77,823	495,236	544,760	2.917E+00	8.137E+02	5.467E-02
1981	70,748	77,823	565,984	622,582	3.271E+00	9.124E+02	6.131E-02
1982	70,748	77,823	636,732	700,405	3.611E+00	1.007E+03	6.768E-02
1983	70,748	77,823	707,480	778,228	3.937E+00	1.098E+03	7.380E-02
1984	70,748	77,823	778,228	856,051	4.251E+00	1.186E+03	7.969E-02
1985	70,748	77,823	848,976	933,874	4.553E+00	1.270E+03	8.534E-02
1986	70,748	77,823	919,724	1,011,696	4.843E+00	1.351E+03	9.077E-02
1987	70,748	77,823	990,472	1,089,519	5.121E+00	1.429E+03	9.599E-02
1988	70,748	77,823	1,061,220	1,167,342	5.388E+00	1.503E+03	1.010E-01
1989	70,748	77,823	1,131,968	1,245,165	5.645E+00	1.575E+03	1.058E-01
1990	70,748	77,823	1,202,716	1,322,988	5.892E+00	1.644E+03	1.105E-01
1991	70,940	78,034	1,273,464	1,400,810	6.130E+00	1.710E+03	1.149E-01
1992	136,419	150,061	1,344,404	1,478,844	6.359E+00	1.774E+03	1.192E-01
1993	142,450	156,695	1,480,823	1,628,905	7.012E+00	1.956E+03	1.314E-01
1994	187,752	206,527	1,623,273	1,785,600	7.680E+00	2.143E+03	1.440E-01
1995	186,897	205,587	1,811,025	1,992,128	8.622E+00	2.405E+03	1.616E-01
1996	219,018	240,920	1,997,922	2,197,714	9.521E+00	2.656E+03	1.785E-01
1997	234,359	257,795	2,216,940	2,438,634	1.060E+01	2.956E+03	1.986E-01
1998	170,456	187,502	2,451,299	2,696,429	1.173E+01	3.273E+03	2.199E-01
1999	128,583	141,441	2,621,755	2,883,931	1.240E+01	3.460E+03	2.325E-01
2000	161,346	177,481	2,750,338	3,025,372	1.277E+01	3.561E+03	2.393E-01
2001	172,311	189,542	2,911,684	3,202,852	1.333E+01	3.720E+03	2.499E-01
2002	172,207	189,428	3,083,995	3,392,395	1.395E+01	3.892E+03	2.615E-01
2003	172,207	189,428	3,256,202	3,581,822	1.454E+01	4.057E+03	2.726E-01
2004	172,207	189,428	3,428,409	3,771,250	1.511E+01	4.216E+03	2.833E-01
2005	172,207	189,428	3,600,616	3,960,678	1.566E+01	4.369E+03	2.936E-01
2006	172,207	189,428	3,772,823	4,150,105	1.619E+01	4.516E+03	3.034E-01
2007	172,207	189,428	3,945,030	4,339,533	1.669E+01	4.657E+03	3.129E-01
2008	172,207	189,428	4,117,237	4,528,961	1.718E+01	4.792E+03	3.220E-01
2009	172,207	189,428	4,289,444	4,718,388	1.764E+01	4.922E+03	3.307E-01
2010	172,207	189,428	4,461,651	4,907,816	1.809E+01	5.047E+03	3.391E-01
2011	172,207	189,428	4,633,858	5,097,244	1.852E+01	5.167E+03	3.472E-01
2012	172,207	189,428	4,806,065	5,286,672	1.894E+01	5.283E+03	3.549E-01
2013	172,207	189,428	4,978,272	5,476,099	1.933E+01	5.393E+03	3.624E-01
2014	0	0	5,150,479	5,665,527	1.971E+01	5.500E+03	3.695E-01

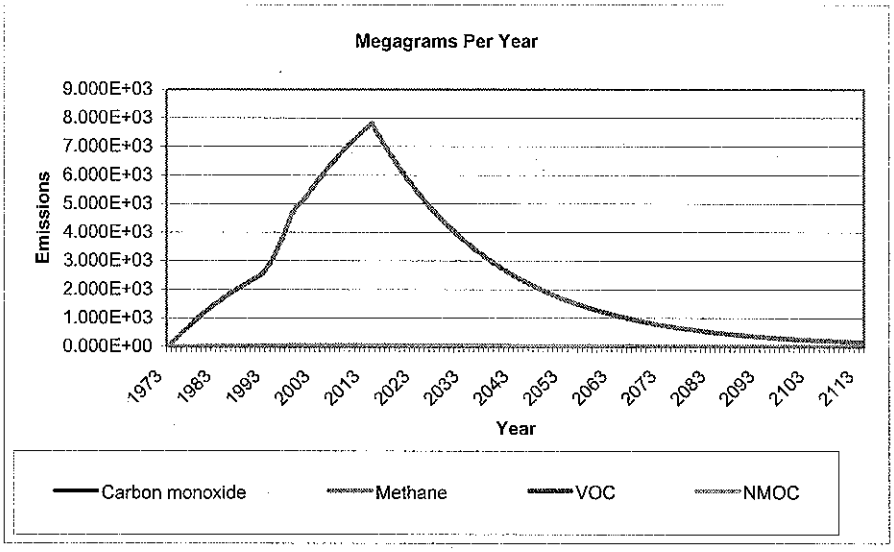
RESULTS **Landfill Name or Identifier:** Randolph Farms, In

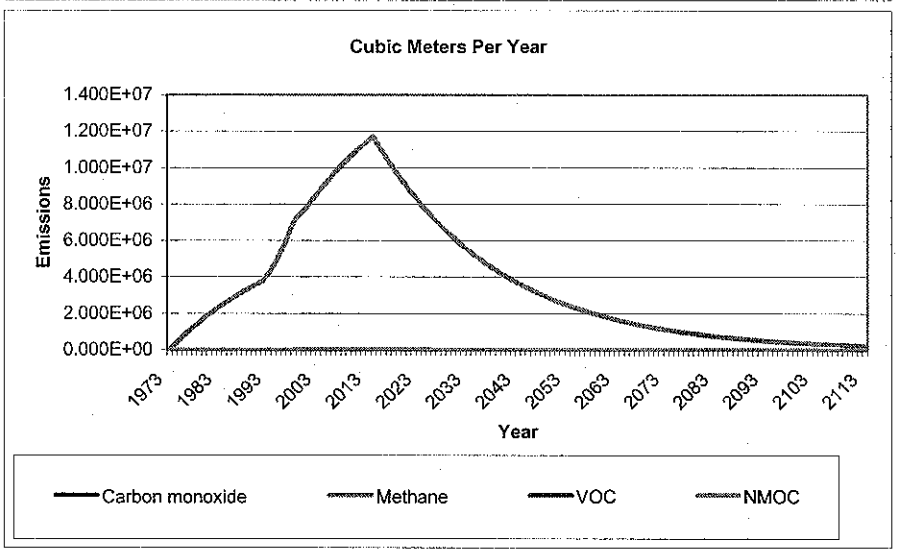
Closure Year (with 80-year limit) = 2014
Methane = 50 *% by volume*

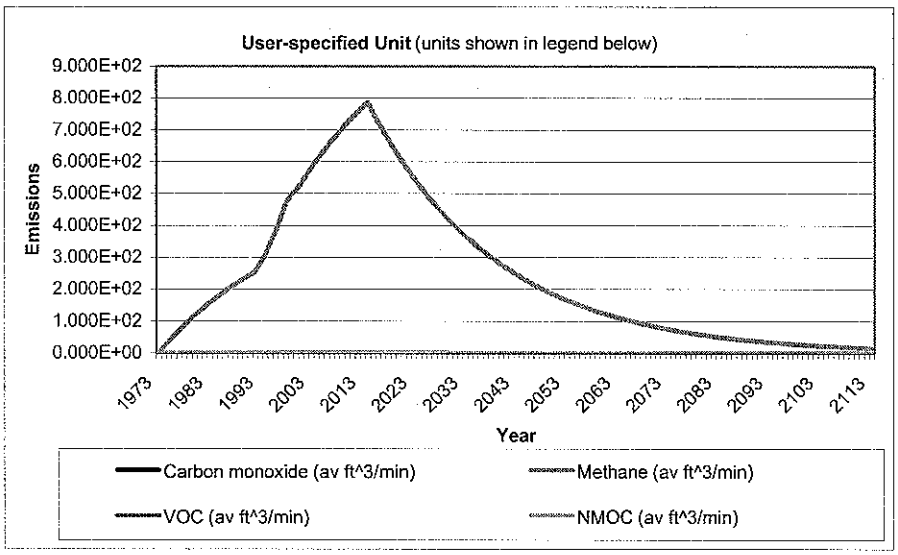
Year	Waste Accepted		Waste-In-Place		NMOC		
	(Mg/year)	*(short tons/year)*	*(Mg)*	*(short tons)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
1973	70,748	77,823	0	0	0	0	0
1974	70,748	77,823	70,748	77,823	1.186E+00	3.308E+02	2.222E-02
1975	70,748	77,823	141,496	155,646	2.325E+00	6.486E+02	4.358E-02
1976	70,748	77,823	212,244	233,468	3.419E+00	9.539E+02	6.409E-02
1977	70,748	77,823	282,992	311,291	4.471E+00	1.247E+03	8.381E-02
1978	70,748	77,823	353,740	389,114	5.481E+00	1.529E+03	1.027E-01
1979	70,748	77,823	424,488	466,937	6.452E+00	1.800E+03	1.209E-01
1980	70,748	77,823	495,236	544,760	7.385E+00	2.060E+03	1.384E-01
1981	70,748	77,823	565,984	622,582	8.281E+00	2.310E+03	1.552E-01
1982	70,748	77,823	636,732	700,405	9.142E+00	2.550E+03	1.714E-01
1983	70,748	77,823	707,480	778,228	9.969E+00	2.781E+03	1.869E-01
1984	70,748	77,823	778,228	856,051	1.076E+01	3.003E+03	2.018E-01
1985	70,748	77,823	848,976	933,874	1.153E+01	3.216E+03	2.161E-01
1986	70,748	77,823	919,724	1,011,696	1.226E+01	3.421E+03	2.298E-01
1987	70,748	77,823	990,472	1,089,519	1.297E+01	3.617E+03	2.430E-01
1988	70,748	77,823	1,061,220	1,167,342	1.364E+01	3.806E+03	2.557E-01
1989	70,748	77,823	1,131,968	1,245,165	1.429E+01	3.988E+03	2.679E-01
1990	70,748	77,823	1,202,716	1,322,988	1.492E+01	4.162E+03	2.797E-01
1991	70,940	78,034	1,273,464	1,400,810	1.552E+01	4.330E+03	2.909E-01
1992	136,419	150,061	1,344,404	1,478,844	1.610E+01	4.492E+03	3.018E-01
1993	142,450	156,695	1,480,823	1,628,905	1.775E+01	4.953E+03	3.328E-01
1994	187,752	206,527	1,623,273	1,785,600	1.945E+01	5.425E+03	3.645E-01
1995	186,897	205,587	1,811,025	1,992,128	2.183E+01	6.090E+03	4.092E-01
1996	219,018	240,920	1,997,922	2,197,714	2.411E+01	6.725E+03	4.519E-01
1997	234,359	257,795	2,216,940	2,438,634	2.683E+01	7.485E+03	5.029E-01
1998	170,456	187,502	2,451,299	2,696,429	2.971E+01	8.288E+03	5.568E-01
1999	128,583	141,441	2,621,755	2,883,931	3.140E+01	8.760E+03	5.886E-01
2000	161,346	177,481	2,750,338	3,025,372	3.232E+01	9.017E+03	6.059E-01
2001	172,311	189,542	2,911,684	3,202,852	3.376E+01	9.418E+03	6.328E-01
2002	172,207	189,428	3,083,995	3,392,395	3.532E+01	9.854E+03	6.621E-01
2003	172,207	189,428	3,256,202	3,581,822	3.682E+01	1.027E+04	6.903E-01
2004	172,207	189,428	3,428,409	3,771,250	3.827E+01	1.068E+04	7.173E-01
2005	172,207	189,428	3,600,616	3,960,678	3.965E+01	1.106E+04	7.433E-01
2006	172,207	189,428	3,772,823	4,150,105	4.098E+01	1.143E+04	7.682E-01
2007	172,207	189,428	3,945,030	4,339,533	4.226E+01	1.179E+04	7.922E-01
2008	172,207	189,428	4,117,237	4,528,961	4.349E+01	1.213E+04	8.152E-01
2009	172,207	189,428	4,289,444	4,718,388	4.467E+01	1.246E+04	8.374E-01
2010	172,207	189,428	4,461,651	4,907,816	4.581E+01	1.278E+04	8.586E-01
2011	172,207	189,428	4,633,858	5,097,244	4.690E+01	1.308E+04	8.790E-01
2012	172,207	189,428	4,806,065	5,286,672	4.794E+01	1.338E+04	8.987E-01
2013	172,207	189,428	4,978,272	5,476,099	4.895E+01	1.366E+04	9.175E-01
2014	0	0	5,150,479	5,665,527	4.992E+01	1.393E+04	9.357E-01

GRAPHS

Landfill Name or Identifier: Randolph Farms, Inc.







INVENTORY **Landfill Name or Identifier:** Randolph Farms, Inc.

Enter year of emissions inventory: 2014

Gas / Pollutant	Emission Rate				
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(ft^3/year)*	*(short tons/year)*
Total landfill gas	2.923E+04	2.340E+07	1.573E+03	8.265E+08	3.215E+04
Methane	7.807E+03	1.170E+07	7.863E+02	4.133E+08	8.588E+03
Carbon dioxide	2.142E+04	1.170E+07	7.863E+02	4.133E+08	2.356E+04
NMOC	4.992E+01	1.393E+04	9.357E-01	4.918E+05	5.491E+01
1,1,1-Trichloroethane (methyl chloroform) - HAP	6.234E-02	1.123E+01	7.548E-04	3.967E+02	6.857E-02
1,1,2,2-Tetrachloroethane - HAP/VOC	1.797E-01	2.574E+01	1.730E-03	9.092E+02	1.977E-01
1,1-Dichloroethane (ethylidene dichloride) - HAP/VOC	2.312E-01	5.617E+01	3.774E-03	1.984E+03	2.543E-01
1,1-Dichloroethene (vinylidene chloride) - HAP/VOC	1.887E-02	4.681E+00	3.145E-04	1.653E+02	2.076E-02
1,2-Dichloroethane (ethylene dichloride) - HAP/VOC	3.950E-02	9.596E+00	6.447E-04	3.389E+02	4.345E-02
1,2-Dichloropropane (propylene dichloride) - HAP/VOC	1.980E-02	4.213E+00	2.831E-04	1.488E+02	2.178E-02
2-Propanol (isopropyl alcohol) - VOC	2.926E+00	1.170E+03	7.863E-02	4.133E+04	3.218E+00
Acetone	3.958E-01	1.638E+02	1.101E-02	5.786E+03	4.353E-01
Acrylonitrile - HAP/VOC	3.254E-01	1.474E+02	9.907E-03	5.207E+03	3.579E-01
Benzene - No or Unknown Co-disposal - HAP/VOC	1.445E-01	4.447E+01	2.988E-03	1.570E+03	1.589E-01
Benzene - Co-disposal - HAP/VOC	8.364E-01	2.574E+02	1.730E-02	9.092E+03	9.200E-01
Bromodichloromethane - VOC	4.944E-01	7.255E+01	4.875E-03	2.562E+03	5.438E-01
Butane - VOC	2.829E-01	1.170E+02	7.863E-03	4.133E+03	3.112E-01
Carbon disulfide - HAP/VOC	4.298E-02	1.357E+01	9.121E-04	4.794E+02	4.728E-02
Carbon monoxide	3.817E+00	3.277E+03	2.202E-01	1.157E+05	4.199E+00
Carbon tetrachloride - HAP/VOC	5.990E-04	9.362E-02	6.290E-06	3.306E+00	6.589E-04
Carbonyl sulfide - HAP/VOC	2.865E-02	1.147E+01	7.705E-04	4.050E+02	3.152E-02
Chlorobenzene - HAP/VOC	2.739E-02	5.851E+00	3.931E-04	2.066E+02	3.013E-02
Chlorodifluoromethane	1.094E-01	3.043E+01	2.044E-03	1.074E+03	1.204E-01
Chloroethane (ethyl chloride) - HAP/VOC	8.165E-02	3.043E+01	2.044E-03	1.074E+03	8.981E-02
Chloroform - HAP/VOC	3.487E-03	7.021E-01	4.718E-05	2.480E+01	3.835E-03
Chloromethane - VOC	5.898E-02	2.809E+01	1.887E-03	9.918E+02	6.488E-02
Dichlorobenzene - (HAP for para isomer/VOC)	3.005E-02	4.915E+00	3.302E-04	1.736E+02	3.306E-02
Dichlorodifluoromethane	1.883E+00	3.745E+02	2.516E-02	1.322E+04	2.072E+00
Dichlorofluoromethane - VOC	2.605E-01	6.085E+01	4.089E-03	2.149E+03	2.865E-01
Dichloromethane (methylene chloride) - HAP	1.158E+00	3.277E+02	2.202E-02	1.157E+04	1.273E+00
Dimethyl sulfide (methyl sulfide) - VOC	4.717E-01	1.826E+02	1.227E-02	6.447E+03	5.189E-01
Ethane	2.605E+01	2.083E+04	1.400E+00	7.356E+05	2.866E+01
Ethanol - VOC	1.211E+00	6.319E+02	4.246E-02	2.232E+04	1.332E+00
Ethyl mercaptan (ethanethiol) - VOC	1.391E-01	5.383E+01	3.617E-03	1.901E+03	1.530E-01
Ethylbenzene - HAP/VOC	4.754E-01	1.077E+02	7.234E-03	3.802E+03	5.229E-01
Ethylene dibromide - HAP/VOC	1.829E-04	2.340E-02	1.573E-06	8.265E-01	2.012E-04
Fluorotrichloromethane - VOC	1.016E-01	1.779E+01	1.195E-03	6.282E+02	1.118E-01
Hexane - HAP/VOC	5.537E-01	1.545E+02	1.038E-02	5.455E+03	6.091E-01
Hydrogen sulfide	1.194E+00	8.426E+02	5.661E-02	2.975E+04	1.314E+00
Mercury (total) - HAP	5.663E-05	6.787E-03	4.560E-07	2.397E-01	6.230E-05
Methyl ethyl ketone - HAP/VOC	4.984E-01	1.662E+02	1.116E-02	5.868E+03	5.482E-01
Methyl isobutyl ketone - HAP/VOC	1.853E-01	4.447E+01	2.988E-03	1.570E+03	2.038E-01
Methyl mercaptan - VOC	1.171E-01	5.851E+01	3.931E-03	2.066E+03	1.288E-01
Pentane - VOC	2.318E-01	7.723E+01	5.189E-03	2.728E+03	2.550E-01
Perchloroethylene (tetrachloroethylene) - HAP	5.973E-01	8.660E+01	5.818E-03	3.058E+03	6.570E-01
Propane - VOC	4.721E-01	2.574E+02	1.730E-02	9.092E+03	5.193E-01
t-1,2-Dichloroethene - VOC	2.642E-01	6.553E+01	4.403E-03	2.314E+03	2.906E-01
Toluene - No or Unknown Co-disposal - HAP/VOC	3.498E+00	9.128E+02	6.133E-02	3.223E+04	3.847E+00
Toluene - Co-disposal - HAP/VOC	1.525E+01	3.979E+03	2.673E-01	1.405E+05	1.677E+01
Trichloroethylene (trichloroethene) - HAP/VOC	3.582E-01	6.553E+01	4.403E-03	2.314E+03	3.940E-01
Vinyl chloride - HAP/VOC	4.441E-01	1.709E+02	1.148E-02	6.034E+03	4.886E-01
Xylenes - HAP/VOC	1.240E+00	2.809E+02	1.887E-02	9.918E+03	1.364E+00
VOC	1.971E+01	5.500E+03	3.695E-01	1.942E+05	2.169E+01

Appendix A: Emission Summary
Company Name: Randolph Landfill, Inc.
Address City IN Zip: 7256 W. CR 600 South, Modoc, IN 47358
Permit No: T135-17760-00030
Reviewer: Janet Mobley
Date: March 1, 2007

Emissions

Emission Units	PM	PM10	SO2	VOC	CO	NOx	HAPs
Control Flare	0.90	0.90	16.98	2.6	69.31	45.05	Single HAP <10
Municipal Landfill				13.99	4.2		
Total	0.90	0.90	16.98	16.59	73.51	45.05	Total HAPs < 25

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

Company Name: Randolph Farms
Address: 7256 W. CR 600 South, Modoc Indiana 47358
Title V: T135-17760-00030
Reviewer: Janet Mobley
Date: March 1, 2007

Inputs from Landfill Gas Model (Emissions Before Controls)			
Product	m^3/yr	mg/yr	tons/year
Methane	7.27E+06	4.85E+03	5,333
CO_2	3.85E+07	7.04E+04	77,440
CO	3.28E+03	3.82E+00	4.20
NMOC	8.99E+03	3.22E+01	35
Fugitive Emissions from Landfill after Controls			tons/yr
CO	3.28E+03	3.82	4.20
VOC	3.55E+03	12.72	13.99

1. Landfill Gas (LFG) Production Rate: **4.57E+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	0.136	0.034	0.002	0.036
79-34-5	1,1,2,2-Tetrachloroethane	1.11	167.85	0.396	0.099	0.006	0.105
75-34-3	1,1-Dichloroethane (ethylidene dichloride)	2.35	98.97	0.495	0.124	0.007	0.131
75-35-4	1,1-Dichloroethene (vinylidene chloride)	0.20	96.94	0.041	0.010	0.001	0.011
107-06-2	1,2-Dichloroethane (ethylene dichloride)	0.41	98.96	0.086	0.022	0.001	0.023
78-87-5	1,2-Dichloropropane (propylene dichloride)	0.18	112.99	0.043	0.011	0.001	0.011
107-13-1	Acrylonitrile	6.33	53.06	0.714	0.179	0.011	0.189
75-15-0	Carbon disulfide	0.58	76.13	0.094	0.023	0.001	0.025
56-23-5	Carbon tetrachloride	0.00	153.84	0.001	0.000	0.000	0.000
463-58-1	Carbonyl sulfide	0.49	60.07	0.063	0.016	0.001	0.017
108-90-7	Chlorobenzene	0.25	112.56	0.060	0.015	0.001	0.016
75-00-3	Chloroethane (ethyl chloride)	1.25	64.52	0.171	0.043	0.003	0.045
67-66-3	Chloroform	0.03	119.39	0.008	0.002	0.000	0.002
75-09-2	Dichloromethane (methylene chloride)	14.30	84.94	2.583	0.646	0.039	0.684
100-41-4	Ethylbenzene	4.61	106.16	1.041	0.260	0.016	0.276
110-54-3	Hexane	6.57	86.18	1.204	0.301	0.018	0.319
127-18-4	Perchloroethylene (tetrachloroethene)	3.73	165.83	1.315	0.329	0.020	0.349
79-01-6	Trichloroethlyene (trichloroethene)	2.82	131.4	0.788	0.197	0.012	0.209
75-01-4	Vinyl chloride	7.34	62.5	0.975	0.244	0.015	0.258
71-43-2	Benzene	1.91	78.11	0.317	0.079	0.005	0.084
74-87-3	Methyl chloride (Chloromethane)	1.21	50.49	0.130	0.032	0.002	0.034
108-88-3	Toluene	39.30	92.13	7.698	1.925	0.115	2.040
1330-20-7	Xylene (isomers and mixture)	12.10	106.16	2.731	0.683	0.041	0.724
	Mercury Compounds	0.000292	200.61	0.000	0.000	0.000	0.000
7647-01-0	**Hydrogen Chloride	42.0	36.46	-	-	**2.442**	2.442
Total Emissions				**21.1**	**5.3**	**2.76**	**8.0**

*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 (m^3/yr) x 35.31 ft^3/m^3x (Concentration (ppmv) /1000,000) x 1 atm / Gas Constant (0.7302 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 (m^3/yr) x 35.31 ft^3/m^3x Chlorinated Compound Concentrations (ppmv) /1000,000 x 1 atm / Gas Constant (0.7302 atm-cf/lb mole-R) / Temp (60F+ 460) x Mole weight of HCl (lbs/lbs mole) x (1 ton/2000 lbs) x Collection Efficiency
Total HAP Emissions (tons/yr) = Fugitive HAP Emissions (tons/yr) + HAPs after Control Device (tons/yr)

Appendix C

Emission Calculations

Randolph Farms Landfill

Model Parameters

Lo : 100.00 m^3 / Mg
k : 0.0400 1/yr
NMOC : 595.00 ppmv
Methane : 48.1090 % volume (2002 avg. conc. from LFG collection system data)
Carbon Dioxide : 51.8910 % volume

Landfill Parameters

Landfill type : No Co-Disposal
Year Opened : 1973 Current Year : 2003 Closure Year: 2011
Capacity : 5184497 Mg
Average Acceptance Rate Required from
Current Year to Closure Year : 296042.47 Mg/year

Model Results

Year	Refuse In Place (Mg)	**Methane Emission Rate** (Mg/yr)	(Cubic m/yr)
1974	7.075E+04	1.888E+02	2.830E+05
1975	1.415E+05	3.702E+02	5.549E+05
1976	2.122E+05	5.445E+02	8.161E+05
1977	2.830E+05	7.119E+02	1.067E+06
1978	3.537E+05	8.728E+02	1.308E+06
1979	4.245E+05	1.027E+03	1.540E+06
1980	4.952E+05	1.176E+03	1.763E+06
1981	5.660E+05	1.319E+03	1.976E+06
1982	6.367E+05	1.456E+03	2.182E+06
1983	7.075E+05	1.587E+03	2.379E+06
1984	7.782E+05	1.714E+03	2.569E+06
1985	8.490E+05	1.836E+03	2.751E+06
1986	9.197E+05	1.952E+03	2.926E+06
1987	9.905E+05	2.065E+03	3.095E+06
1988	1.061E+06	2.172E+03	3.256E+06
1989	1.132E+06	2.276E+03	3.412E+06
1990	1.203E+06	2.376E+03	3.561E+06
1991	1.273E+06	2.471E+03	3.704E+06
1992	1.344E+06	2.564E+03	3.843E+06
1993	1.481E+06	2.827E+03	4.238E+06
1994	1.623E+06	3.096E+03	4.641E+06
1995	1.811E+06	3.476E+03	5.210E+06
1996	1.996E+06	3.833E+03	5.745E+06
1997	2.118E+06	4.007E+03	6.007E+06
1998	2.262E+06	4.237E+03	6.351E+06
1999	2.361E+06	4.335E+03	6.498E+06
2000	2.437E+06	4.366E+03	6.544E+06
2001	2.550E+06	4.497E+03	6.741E+06

2002	2.680E+06	4.669E+03	6.998E+06
2003	2.816E+06	4.848E+03	7.267E+06

Randolph Farms Landfill

Model Parameters

Lo : 100.00 m^3 / Mg
k : 0.0400 1/yr
NMOC : 595.00 ppmv
Methane : 48.1100 % volume
Carbon Dioxide : 51.8900 % volume
Air Pollutant : VOC (AP-42, Supp. E)
Molecular Wt = 86.18 Concentration = 235.000000 ppmV

Landfill Parameters

Landfill type : No Co-Disposal
Year Opened : 1973 Current Year : 2003 Closure Year: 2011
Capacity : 5184497 Mg
Average Acceptance Rate Required from
Current Year to Closure Year : 296042.47 Mg/year

Model Results

Year	Refuse In Place (Mg)	**VOC (AP-42, Supp. E) Emission Rate** (Mg/yr)	(Cubic m/yr)
1974	7.075E+04	4.955E-01	1.382E+02
1975	1.415E+05	9.715E-01	2.710E+02
1976	2.122E+05	1.429E+00	3.986E+02
1977	2.830E+05	1.868E+00	5.212E+02
1978	3.537E+05	2.291E+00	6.390E+02
1979	4.245E+05	2.696E+00	7.522E+02
1980	4.952E+05	3.086E+00	8.610E+02
1981	5.660E+05	3.461E+00	9.654E+02
1982	6.367E+05	3.820E+00	1.066E+03
1983	7.075E+05	4.166E+00	1.162E+03
1984	7.782E+05	4.498E+00	1.255E+03
1985	8.490E+05	4.817E+00	1.344E+03
1986	9.197E+05	5.124E+00	1.429E+03
1987	9.905E+05	5.418E+00	1.512E+03
1988	1.061E+06	5.701E+00	1.591E+03
1989	1.132E+06	5.973E+00	1.666E+03
1990	1.203E+06	6.235E+00	1.739E+03
1991	1.273E+06	6.486E+00	1.809E+03
1992	1.344E+06	6.728E+00	1.877E+03
1993	1.481E+06	7.420E+00	2.070E+03
1994	1.623E+06	8.127E+00	2.267E+03
1995	1.811E+06	9.123E+00	2.545E+03
1996	1.996E+06	1.006E+01	2.806E+03
1997	2.118E+06	1.052E+01	2.934E+03
1998	2.262E+06	1.112E+01	3.102E+03
1999	2.361E+06	1.138E+01	3.174E+03
2000	2.437E+06	1.146E+01	3.196E+03
2001	2.550E+06	1.180E+01	3.293E+03
2002	2.680E+06	1.225E+01	3.418E+03
2003	2.816E+06	1.272E+01	3.550E+03

Randolph Farms Landfill

Model Parameters

Lo : 100.00 m^3 / Mg
k : 0.0400 1/yr
NMOC : 595.00 ppmv
Methane : 48.1090 % volume
Carbon Dioxide : 51.8910 % volume

Landfill Parameters

Landfill type : No Co-Disposal
Year Opened : 1973 Current Year : 2003 Closure Year: 2011
Capacity : 5184497 Mg
Average Acceptance Rate Required from
Current Year to Closure Year : 296042.47 Mg/year

Model Results

Year	Refuse In Place (Mg)	NMOC Emission Rate (Mg/yr)	NMOC Emission Rate (Cubic m/yr)
1974	7.075E+04	1.255E+00	3.500E+02
1975	1.415E+05	2.460E+00	6.863E+02
1976	2.122E+05	3.618E+00	1.009E+03
1977	2.830E+05	4.731E+00	1.320E+03
1978	3.537E+05	5.800E+00	1.618E+03
1979	4.245E+05	6.827E+00	1.905E+03
1980	4.952E+05	7.814E+00	2.180E+03
1981	5.660E+05	8.762E+00	2.444E+03
1982	6.367E+05	9.673E+00	2.699E+03
1983	7.075E+05	1.055E+01	2.943E+03
1984	7.782E+05	1.139E+01	3.177E+03
1985	8.490E+05	1.220E+01	3.403E+03
1986	9.197E+05	1.297E+01	3.619E+03
1987	9.905E+05	1.372E+01	3.827E+03
1988	1.061E+06	1.444E+01	4.027E+03
1989	1.132E+06	1.512E+01	4.219E+03
1990	1.203E+06	1.579E+01	4.404E+03
1991	1.273E+06	1.642E+01	4.581E+03
1992	1.344E+06	1.704E+01	4.753E+03
1993	1.481E+06	1.879E+01	5.241E+03
1994	1.623E+06	2.058E+01	5.740E+03
1995	1.811E+06	2.310E+01	6.444E+03
1996	1.996E+06	2.547E+01	7.106E+03
1997	2.118E+06	2.663E+01	7.429E+03
1998	2.262E+06	2.815E+01	7.854E+03
1999	2.361E+06	2.881E+01	8.036E+03
2000	2.437E+06	2.901E+01	8.093E+03
2001	2.550E+06	2.988E+01	8.337E+03
2002	2.680E+06	3.102E+01	8.655E+03
2003	2.816E+06	3.221E+01	8.987E+03

Flare PTE

2500 cubic ft/min * 60 min/hr * 909.4 Btu/cubic ft * MMBtu/1,000,000 Btu * 50% CH4 = 68.2 MMBtu/hr

NOx

68.2 MMBtu/hr * 0.13 lb/MMBtu * 8760 hr/yr *ton/2000 lb = 38.83 ton/yr

CO

68.2 MMBtu/hr * 0.20 lb/MMBtu * 8760 hr/yr *ton/2000 lb = 59.74 ton/yr

VOC

68.2 MMBtu/hr * 0.0075 lb/MMBtu * 8760 hr/yr *ton/2000 lb = 2.24 ton/yr

SO2

68.2 MMBtu/hr * 0.049 lb/MMBtu * 8760 hr/yr *ton/2000 lb = 14.64 ton/yr

PM10

68.2 MMBtu/hr * 0.0026 lb/MMBtu * 8760 hr/yr *ton/2000 lb = 0.78 ton/yr

Note: Flare emission factors based on representative manufacturers data, AP-42 emission estimate averages, and mass balance calculations for similar units.