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
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

TO: Interested Parties / Applicant

DATE: April 5, 2007

RE: Deercroft Recycling and Disposal Facility / 091-23852-00067

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 13-17-3-4 and 326 IAC 2, this permit modification 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 13-15-7-3 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 Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

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

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Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of a Title V operating permit 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.

Enclosures
FNTV-PMOD.doc 03/23/06

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April 5, 2007

Mr. Michael L. Peterson
Project Manager, Closed Sites Group
North 96 West 13600 County Line Road
Germantown, WI 53022

Re: 091-23852-00067
Significant Permit Modification to
Part 70 No.: T 091-18150-00067

Dear Mr. Peterson:

Deercroft Recycling and Disposal Facility was issued a Part 70 Operating Permit Renewal on June 28, 2006 for a closed stationary municipal solid waste landfill. A letter requesting changes to this permit was received on October 25, 2006. Pursuant to the provisions of 326 IAC 2-7-12, a significant permit modification to this permit is hereby approved as described in the attached Technical Support Document. The modification consists of adding the following emission units:

- Four (4) landfill gas fueled 4-stroke, lean-burn reciprocating engine/generator sets each rated at 1148 break horsepower, identified as EG-5 through EG-8, permitted to be constructed in 2007. The maximum heat input capacity of each engine/generator set is 9.1 MMBtu per hour and the maximum flow rate of each engine/generator set is 333 standard cubic feet per minute (scfm) of landfill gas.

All other conditions of the permit shall remain unchanged and in effect. For your convenience, the entire Part 70 Operating Permit as modified will be provided at issuance.

This decision is subject to the Indiana Administrative Orders and Procedures Act – IC 4-21.5-3-5. If you have any questions on this matter, please contact Kimberly Cottrell, OAQ, 100 North Senate Avenue, Indianapolis, Indiana, 46204-2251, or call at (800) 451-6027, and ask for Kimberly Cottrell or extension (3-0870), or dial (317) 233-0870.

Sincerely,

Original Signed by:

Nisha Sizemore, Chief
Permits Branch
Office of Air Quality

KLC

cc: File – LaPorte County
LaPorte County Health Department
U.S. EPA, Region V
Air Compliance Inspectors – Letty Zepeda
Compliance Data Section
Northwest Regional Office

Permits Administration and Development

Ms. Laura Niemann, P.E.
Environmental Information Logistics, LLC
203 East Street, Suite D
Caledonia, MI 49316

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PART 70 OPERATING PERMIT RENEWAL
OFFICE OF AIR QUALITY

Deercroft Recycling and Disposal Facility
10501 West 300 North
Michigan City, Indiana 46361

(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 Renewal No.: T091-18150-00067	
Issued by: Original signed by Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date: June 28, 2006 Expiration Date: June 28, 2011

First Administrative Amendment No.: 091-23303-00067, issued on August 1, 2006

Significant Permit Modification No.: 091-23852-00067	
Original signed by: Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date: April 5, 2007 Expiration Date: June 28, 2011

TABLE OF CONTENTS

A SOURCE SUMMARY 5
- A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)] [326 IAC 2-7-1(22)]
- A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]
- A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]
- A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

B GENERAL CONDITIONS 7
- B.1 Definitions [326 IAC 2-7-1]
- B.2 Permit Term [326 IAC 2-7-5(2)] [326 IAC 2-1.1-9.5]
- B.3 Enforceability [326 IAC 2-7-7]
- B.4 Termination of Right to Operate [326 IAC 2-7-10] [326 IAC 2-7-4(a)]
- B.5 Severability [326 IAC 2-7-5(5)]
- B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]
- B.7 Duty to Provide Information [326 IAC 2-7-5(6)(E)]
- B.8 Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)(C)]
- B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]
- B.10 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3)and (13)] [326 IAC 2-7-6(1)and(6)] [326 IAC 1-6-3]
- B.11 Emergency Provisions [326 IAC 2-7-16]
- B.12 Permit Shield [326 IAC 2-7-15] [326 IAC 2-7-20] [326 IAC 2-7-12]
- B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5]
- B.14 Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)]
- B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)] [326 IAC 2-7-8(a)] [326 IAC 2-7-9]
- B.16 Permit Renewal [326 IAC 2-7-4]
- B.17 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]
- B.18 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)] [326 IAC 2-7-12 (b)(2)]
- B.19 Operational Flexibility [326 IAC 2-7-20] [326 IAC 2-7-10.5]
- B.20 Source Modification Requirement [326 IAC 2-7-10.5]
- B.21 Inspection and Entry [326 IAC 2-7-6] [IC 13-14-2-2] [IC 13-17-3-2] [IC 13-30-3-1]
- B.22 Transfer of Ownership or Operational Control [326 IAC 2-7-11]
- B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)] [326 IAC 2-1.1-7]
- B.24 Credible Evidence [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [62 FR 8314]

C SOURCE OPERATION CONDITIONS 17

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]
- C.2 Opacity [326 IAC 5-1]
- C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]
- C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]
- C.5 Fugitive Dust Emissions [326 IAC 6-4]
- C.6 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

Testing Requirements [326 IAC 2-7-6(1)]
- C.7 Performance Testing [326 IAC 3-6]

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

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)]
- C.10 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

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

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]
C.12 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]
C.13 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68]
C.14 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]
C.15 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]
C.16 Emission Statement [326 IAC 2-7-5(3)(C)(iii)] [326 IAC 2-7-5(7)] [326 IAC 2-7-19(c)] [326 IAC 2-6]
C.17 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]
C.18 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]

Stratospheric Ozone Protection
C.19 Compliance with 40 CFR 82 and 326 IAC 22-1

D.1 FACILITY OPERATION CONDITIONS – Landfill and Flare 24

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] [326 IAC 8-8.1] [40 CFR Part 60, Subpart A] [326 IAC 20-1-1] [40 CFR 63, Subpart A] [326 IAC 14-1-1] [40 CFR Part 61, Subpart A]
D.1.2 Operational Standards for Collection and Control Systems [40 CFR 60.753] [326 IAC 8-8.1] [326 IAC 12]
D.1.3 Municipal Solid Waste Landfill NESHAP [326 IAC 20] [40 CFR 63, Subpart AAAA]
D.1.4 NESHAP for Inactive Asbestos Waste Disposal Sites [40 CFR 61.151, Subpart M] [326 IAC 14]
D.1.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

Compliance Determination Requirements
D.1.6 Monitoring [40 CFR 60.756] [326 IAC 8-8.1] [326 IAC 12]
D.1.7 Compliance Provisions [40 CFR 60.755] [326 IAC 8-8.1] [326 IAC 12]
D.1.8 Calculation of Non-Methane Organic Compound (NMOC) Rate [40 CFR 60.754] [326 IAC 8-8.1] [326 IAC 12]
D.1.9 Testing Requirements [326 IAC 2-7-6(1),(6)] [40 CFR 60.754(b)] [326 IAC 8-8.1] [326 IAC 12]
D.1.10 Compliance Determination [40 CFR 63.1960] [326 IAC 20]

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]
D.1.11 Record Keeping Requirements [326 IAC 12] [326 IAC 8-8.1] [40 CFR 60.758]
D.1.12 Reporting Requirements [40 CFR 60.757] [326 IAC 8-8.1]
D.1.13 Record keeping and Reporting Requirements for NESHAP for Inactive Asbestos Waste Disposal Sites [40 CFR 61.151] [326 IAC 14]
D.1.14 Record Keeping and Reporting Requirements for NESHAP for Municipal Solid Waste Landfills [40 CFR 63.1980] [326 IAC 20]

D.2 FACILITY OPERATION CONDITIONS – Engines 36

Emission Limitations and Standards [326 IAC 2-7-5(1)]
None

D.3 FACILITY OPERATION CONDITIONS – VOL Storage Tank 37

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]
D.3.1 Record keeping and Reporting Requirements for Volatile Organic Liquid Storage Vessels [326 IAC 12]

Certification 38

Emergency Occurrence Report 39

Quarterly Deviation and Compliance Monitoring Report 41

SECTION A SOURCE SUMMARY

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

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)] [326 IAC 2-7-1(22)]

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

Source Address:	10501 West 300 North, Michigan City, Indiana 46361
Mailing Address:	N96W 13600 County Line Road, Germantown, Wisconsin 53022
Source Phone Number:	(219) 879-4690
SIC Code:	4953
County Location:	LaPorte
Source Location Status:	Nonattainment for 8-hour Ozone Standard Attainment for all other criteria pollutants
Source Status:	Part 70 Permit Program Minor Source, under PSD Rules; Minor Source, under 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)] [326 IAC 2-7-5(15)]

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

(a) One (1) solid waste disposal facility meeting the definition in 40 CFR 60.751, constructed in 1980, modified in 2002, with a maximum design capacity of 9.615 million megagrams of solid waste, with landfill gas emissions collected by a collection system installed in 1994.

(b) Four (4) landfill gas fueled reciprocating engine/generator sets each rated at 1138 break horsepower, identified as EG-1 through EG-3, installed in 1994, and EG-4 was installed in 1999. The maximum heat input capacity of each engine/generator set is 8.9 MMBtu per hour and the maximum gas input flow rate of each engine/generator set is 275 standard cubic feet per minute (scfm) of landfill gas.

(c) Four (4) landfill gas fueled 4-stroke, lean-burn reciprocating engine/generator sets each rated at 1148 break horsepower, identified as EG-5 through EG-8, permitted to be constructed in 2007. The maximum heat input capacity of each engine/generator set is 9.1 MMBtu per hour and the maximum flow rate of each engine/generator set is 333 standard cubic feet per minute (scfm) of landfill gas.

(d) One (1) open flare, identified as FL-3, constructed in 2004, with a maximum heat input capacity of 144 MMBtu per hour and a maximum flow rate of 4,000 standard cubic feet per minute (scfm) of landfill gas. This flare does not have a bypass.

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):

One (1) 20,000 gallon leachate storage tank, constructed in 1980, containing a liquid having a vapor pressure less than 3.5 kPa and emitting less than fifteen lbs per day of VOC. [326 IAC 12]

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

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

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

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

SECTION 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 15-13-6(a)]

(a) This permit, T091-18150-00067, 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 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.4 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.5 Severability [326 IAC 2-7-5(5)]

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

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

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

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

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ, may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34). Upon request, the Permittee shall also furnish to IDEM, OAQ, copies of records required to be kept by this permit.

(b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

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

(a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

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

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

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. 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
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.10 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall 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) The Permittee shall implement the PMPs, including any required record keeping as necessary to ensure that failure to implement a PMP does not cause or contribute to an exceedance of any limitation on emissions or potential to emit.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMP does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

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

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, and Northern Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

IDEM – Main Office
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

and

Northern Regional Office
Telephone Number: 1-800-753-5519
Telephone Number: 574-245-4870
Facsimile Number: 574-245-4877

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

(a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed in compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

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

(b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.

(c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.

(d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:

(1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;

(2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;

(3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and

(4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.

(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.13 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 to T091-18150-00067 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 combined permit, all previous registrations and permits are superseded by this Part 70 operating permit.

B.14 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.15 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
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.16 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)] [326 IAC 2-7-8(a)] [326 IAC 2-7-9]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)] The notification by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ, determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]

(c) Proceedings by IDEM, OAQ, to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ, at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ, may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

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

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

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

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
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 emissions allowable under this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
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 which document, on a rolling five (5) year basis, all such changes and emissions trading that are subject to 326 IAC 2-7-20(b), (c), or (e) and makes such records available, upon reasonable request, for public review.

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

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

(1) A brief description of the change within the source;

(2) The date on which the change will occur;

(3) Any change in emissions; and

(4) Any permit term or condition that is no longer applicable as a result of the change.

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

(c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade increases and decreases in emissions in the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).

(d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.

(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]

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

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
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]

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

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) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

(1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

(2) If there is a change in the following:

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Asbestos Section, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Demolition and renovation
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).

(g) Indiana Accredited Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Accredited Asbestos inspector is not federally enforceable.

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

C.7 Performance Testing [326 IAC 3-6]

(a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

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

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
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, 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
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 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee prepared and submitted written emergency reduction plans (ERPs) consistent with safe operating procedures on October 1, 1999.

(b) Upon direct notification by IDEM, OAQ, that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.13 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68]

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

C.14 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.15 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C – Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate 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.16 Emission Statement [326 IAC 2-7-5(3)(C)(iii)] [326 IAC 2-7-5(7)] [326 IAC 2-7-19(c)] [326 IAC 2-6]

(a) In accordance with the compliance schedule specified in 326 IAC 2-6-3(b)(1), starting in 2004 and every three (3) years thereafter, the Permittee shall submit by July 1 an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(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
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.17 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.18 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
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.

Stratospheric Ozone Protection

C.19 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) solid waste disposal facility meeting the definition in 40 CFR 60.751, constructed in 1980, modified in 2002, with a maximum design capacity of 9.615 million megagrams of solid waste, with landfill gas emissions collected by a collection system installed in 1994.

(d) One (1) open flare, identified as FL-3, constructed in 2004, with a maximum heat input capacity of 144 MMBtu per hour and a maximum flow rate of 4,000 standard cubic feet per minute (scfm) of landfill gas. This flare does not have a bypass.

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] [326 IAC 8-8.1] [40 CFR Part 60, Subpart A] [326 IAC 20-1-1] [40 CFR 63, Subpart A] [326 IAC 14-1-1] [40 CFR Part 61, 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 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.

(c) 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.

D.1.2 Operational Standards for Collection and Control Systems [40 CFR 60.753] [326 IAC 8-8.1] [326 IAC 12]

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

(a) Operate the collection system such that gas is collected from each area, cell, or group of cells in the municipal solid waste landfill in which solid waste has been in place for five years if active or 2 years or more if closed or at final grade.

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

(1) Fire or increased well temperature. The Permittee shall record instances when positive pressure occurs in efforts to avoid a fire. These records shall be submitted with the annual reports as provided in 40 CFR 60.757(f)(1).

(2) Use of a geomembrane or synthetic cover. The Permittee shall develop acceptable pressure limits in the design plan.

(3) A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes shall be approved by the Office of Air Quality (OAQ).

(c) Operate each interior wellhead in the collection system with a landfill gas temperature less than 55°C (except for the Gas Well #55, which shall operate at less than 60°C (140°F), and Gas Wells #34 and #58, which shall operate at less than 57.2°C (135°F)) and with either a nitrogen level less than 20 percent or an oxygen level less than 5 percent. The Permittee may establish a higher operating temperature, nitrogen, or oxygen value at a particular well. A higher operating value demonstration shall show supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens.

(1) The nitrogen level shall be determined using Method 3C, unless an alternative method is established as allowed by 40 CFR 60.752 (b)(2)(i).

(2) Unless an alternative test method is established as allowed by 40 CFR 60.752 (b)(2)(i), the oxygen shall be determined by an oxygen meter using Method 3A except that; the span shall be set so that the regulatory limit is between 20 and 50 percent of the span; a data recorder is not required; only two calibration gases are required, a zero and span, and ambient air may be used as the span; a calibration error check is not required; the allowable sample bias, zero drift, and calibration drift are ±10 percent.

(d) Operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the Permittee shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The Permittee may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30 meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing.

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

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

(g) If monitoring demonstrates that the operational requirements in 40 CFR 60.753(b), (c), or (d) are not met, corrective action shall be taken as specified in 40 CFR 60.755(a)(3) through (5) or 40 CFR 60.755(c). If corrective actions are taken as specified in 40 CFR 60.755, the monitored exceedance is not a violation of the operational requirements in 40 CFR 60.753.

D.1.3 Municipal Solid Waste Landfill NESHAP [326 IAC 20] [40 CFR 63, Subpart AAAA]

Pursuant to 40 CFR 63.1955, the Permittee shall:

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

(b) If the Permittee is required by 40 CFR 60.752(b)(2) to install a collection and control system, the Permittee shall comply with the general and continuing compliance requirements in 40 CFR 63.1960 through 40 CFR 63.1985.

(c) For approval of collection and control systems that include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions, the Permittee must follow the procedures in 40 CFR 60.752(b)(2). If alternatives have already been approved under 40 CFR 60, Subpart WWW or the Federal plan, or EPA approved and effective State or tribal plan, these alternatives can be used to comply with 40 CFR 63, Subpart AAAA, except that all affected sources must comply with the Startup, Shutdown, and Malfunction (SSM) requirements in Subpart A of 40 CFR 63 as specified in Table 1 of 40 CFR 63, Subpart AAAA and all affected sources must submit compliance reports every six (6) months as specified in 40 CFR 63.1980(a) and (b), including information on all deviations that occurred during the six (6)-month reporting period. Deviations (as defined in 40 CFR 63.1965) for continuous emission monitors or numerical continuous parameter monitors must be determined using a three (3) hour monitoring block average (as defined in 40 CFR 63.1975).

D.1.4 NESHAP for Inactive Asbestos Waste Disposal Sites [40 CFR 61.151, Subpart M] [326 IAC 14]

Pursuant to 40 CFR 60.151, the Permittee of any inactive waste disposal site that received deposits of asbestos-containing waste material 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 40 CFR 61.151; 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 eight (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 40 CFR 61.151(a)(1-3). 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 40 CFR 61.151(a)(2) or 40 CFR 61.151(a)(3).

(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:

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

(B) Conform to the requirements for 51 cm × 36 cm (20 inch × 14 inch) upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and

(C) Conform to the requirements for the legend text and notation for the warning sign as specified in 40 CFR 61.151(b)(1)(iii).

(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.

(c) The owner or operator may use an alternative control method that has received prior approval of the Administrator rather than comply with the requirements of 40 CFR 61.151(a) or 40 CFR 61.151(b).

D.1.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

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

Compliance Determination Requirements

D.1.6 Monitoring [40 CFR 60.756] [326 IAC 8-8.1] [326 IAC 12]

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

(a) The Permittee seeking to comply with 40 CFR 60.752(b)(2)(ii)(A) for an active gas collection system shall install a sampling port and a thermometer, other temperature measuring device or an access port for temperature measurements at each wellhead and:

(1) Measure the gauge pressure in the gas collection header on a monthly basis as provided in 40 CFR 60.755(a)(3);

(2) Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as provided in 40 CFR 60.755(a)(5); and

(3) Monitor temperature of the landfill gas on a monthly basis as provided in 40 CFR 60.755(a)(5).

(b) The Permittee seeking to comply with 40 CFR 60.752(b)(2)(iii) using an open flare shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment:

(1) Heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame

(2) A device that records flow to or bypass of the flare. The Permittee shall either:

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

(B) Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. If the Permittee elects this option, a visual inspection of the seal or closure of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

(c) The Permittee seeking to demonstrate compliance with 40 CFR 60.755(c), shall monitor surface concentrations of methane according to the instrument specifications and procedures provided in 40 CFR 60.755(d). Any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring.

D.1.7 Compliance Provisions [40 CFR 60.755] [326 IAC 8-8.1] [326 IAC 12]

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

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

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

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

where,
Q_m = maximum expected gas generation flow rate, cubic meters per year
L_o = methane generation potential, cubic meters per megagram solid waste
R = average annual acceptance rate, megagrams per year
k = methane generation rate constant, $year^{-1}$
t = age of the landfill at equipment installation plus the time the owner or operator intends to use the gas mover equipment or active life of the landfill, whichever is less. If the equipment is installed after closure, t is the age of the landfill at installation, years.
c = time since closure, years (for an active landfill c = 0 and $e^{-kc} = 1$)

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

$$Q_M = \Sigma\ 2\ k\ L_O\ M_i\ (e^{-kt}i)$$

where,
Q_M = maximum expected gas generation flow rate, cubic meters per year
k = methane generation rate constant, $year^{-1}$
L_o = methane generation potential, cubic meters per megagram solid waste
M_i = mass of solid waste in the ith section, megagrams
t_i = age of the ith section, years

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

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

(3) For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with 40 CFR 60.752(b)(2)(ii)(A)(3), the Permittee shall measure gauge pressure in the gas collection header at each individual well, monthly. If a positive pressure exists, action shall be initiated to correct the exceedance within five (5) calendar days, except for the three conditions allowed under 40 CFR 60.753(b). If negative pressure cannot be achieved without excess air infiltration within fifteen (15) calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval.

(4) The Permittee is not required to expand the system as required in 40 CFR 60.755(a)(3) during the first 180 days after gas collection system start-up.

(5) For the purpose of identifying whether excess air infiltration into the landfill is occurring, the Permittee shall monitor each well monthly for temperature and nitrogen or oxygen as provided in 40 CFR 60.753(c). If a well exceeds one of these operating parameters, action shall be initiated to correct the exceedance within five (5) calendar days. If correction of the exceedance cannot be achieved within fifteen (15) calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval.

(6) If the Permittee seeks to demonstrate compliance with 40 CFR 60.752(b)(2)(ii)(A)(4) through the use of a collection system not conforming to the specifications provided in 40 CFR 60.759, then the Permittee shall provide information satisfactory to the Office of Air Quality (OAQ) as specified in 40 CFR 60.752 (b)(2)(i)(C) demonstrating that off-site migration is being controlled.

(b) For purposes of compliance with 40 CFR 60.753(a), the Permittee shall place each well or design component of a controlled landfill as specified in the approved design plan as provided in 40 CFR 60.752(b)(2)(i). Each well shall be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of five (5) years or more if active or two (2) years or more if closed or at final grade.

(c) The following procedures shall be used for compliance with the surface methane operational standard as provided in 40 CFR 60.753 (d):

(1) After installation of the collection system, the Permittee shall monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals (or a site-specific established spacing) for each collection area on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in 40 CFR 60.755(d).

(2) The background concentration shall be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from perimeter wells.

(3) Surface emission monitoring shall be performed in accordance with section 4.3.1 of Method 21 of Appendix A of 40 CFR 60, except that the probe inlet shall be placed within five (5) to ten (10) centimeters of the ground. Monitoring shall be performed during typical meteorological conditions.

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

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

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

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

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

For any location where monitored methane concentration equals or exceeds 500 parts per million above background three times within a quarterly period, a new well or other collection device shall be installed within 120 calendar 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 Office of Air Quality (OAQ) for approval.

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

(d) The Permittee seeking to comply with the provisions of 40 CFR 60.755(c) shall comply with the following instrumentation specifications and procedures for surface emission monitoring devices:

(1) The portable analyzer shall meet the instrument specifications provided in section 3 of Method 21 of Appendix A of 40 CFR 60, except that “methane” shall replace all references to volatile organic compound (VOC).

(2) The calibration gas shall be methane, diluted to a nominal concentration of 500 parts per million in air.

(3) To meet the performance evaluation requirements in section 3.1.3 of Method 21 of Appendix A of 40 CFR 60, the instrument evaluation procedures of section 4.4 of Method 21 of Appendix A of 40 CFR 60 shall be used.

(4) The calibration procedures provided in section 4.2 of Method 21 of Appendix A of 40 CFR 60 shall be followed immediately before commencing a surface monitoring survey.

(e) The provisions of 40 CFR 60.755 shall apply at all times, except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction, shall not exceed five (5) days for collection systems and shall not exceed one (1) hour for treatment or control devices.

D.1.8 Calculation of Non-Methane Organic Compound (NMOC) Rate [40 CFR 60.754] [326 IAC 8-8.1] [326 IAC 12]

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

D.1.9 Testing Requirements [326 IAC 2-7-6(1),(6)] [40 CFR 60.754(b)] [326 IAC 8-8.1] [326 IAC 12]

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

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

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 40 CFR 60.

(2) The average NMOC concentration, C_{NMOC}, shall be determined by collecting and analyzing landfill gas sampled from the common header pipe before the gas moving or condensate removal equipment using the procedures in Method 25C or Method 18 of appendix A of 40 CFR 60. If using Method 18 of Appendix A of 40 CFR 60, the minimum list of compounds to be tested shall be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42). The sample location on the common header pipe shall be before any condensate removal or other gas refining units. The Permittee shall divide the NMOC concentration from Method 25C of Appendix A of 40 CFR 60 by six to convert from C_{NMOC} as carbon to C_{NMOC} as hexane.

(3) The Permittee may use another method to determine landfill gas flow rate and NMOC concentration if the method has been approved by the Office of Air Quality (OAQ).

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

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

where,

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

(c) For the performance test required in 40 CFR 60.752(b)(2)(iii)(A), the net heating value of the combusted landfill gas as determined in 40 CFR 60.18(f)(3) is calculated from the concentration of methane in the landfill gas as measured by Method 3C. A minimum of three 30-minute Method 3C samples are determined. The measurement of other organic components, hydrogen, and carbon monoxide is not applicable. Method 3C may be used to determine the landfill gas molecular weight for calculating the flare gas exit velocity under 40 CFR 60.18(f)(4).

D.1.10 Compliance Determination [40 CFR 63.1960] [326 IAC 20]

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

(a) The same way it is determined for 40 CFR 60, Subpart WWW, including performance testing, monitoring of the collection system, continuous parameter monitoring, and other credible evidence.

(b) Continuous parameter monitoring data, collected under 40 CFR 60.756(b)(1), (c)(1), and (d) of 40 CFR 60, Subpart WWW, are used to demonstrate compliance with the operating conditions for control systems. If a deviation (as defined in 40 CFR 63.1965) occurs, the Permittee has failed to meet the control device operating conditions described in 40 CFR 60, Subpart WWW and has deviated from the requirements of 40 CFR 63, Subpart AAAA.

(c) The Permittee must develop and implement a written Startup, Shutdown and Malfunction (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 40 CFR 63, Subpart AAAA.

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

D.1.11 Record Keeping Requirements [326 IAC 12] [326 IAC 8-8.1] [40 CFR 60.758]

(a) Except as provided in 40 CFR 60.752(b)(2)(i)(B) the Permittee subject to 40 CFR 60.752(b) shall keep for at least five years up-to-date, readily accessible, continuous on-site records of the design capacity report which triggered 40 CFR 60.752(b), the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within four (4) hours. Either paper copy or electronic formats are acceptable.

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

(1) Where the Permittee subject to the provisions of 40 CFR 60.758 seeks to demonstrate compliance with 40 CFR 60.752(b)(2)(ii):

The maximum expected gas generation flow rate as calculated in 40 CFR 60.755(a)(1). The Permittee may use another method to determine the maximum gas generation flow rate, if the method has been approved by the Office of Air Quality (OAQ).

The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in 40 CFR 60.759(a)(1).

(2) Where the Permittee subject to the provisions of 40 CFR 60.758 seeks to demonstrate compliance with 40 CFR 60.752(b)(2)(iii)(A) through use of an open flare, the flare type (i.e., steam-assisted, air -assisted, or nonassisted), all visible emission readings, heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations made during the performance test as specified in 40 CFR 60.18; continuous records of the flare pilot flame or flare flame monitoring and records of all periods of operations during which the pilot flame of the flare flame is absent.

(c) Except as provided in 40 CFR 60.752(b)(2)(i)(B) the Permittee of a controlled landfill subject to the provisions of this subpart shall keep for five years up-to-date, readily accessible, continuous on-site records of the equipment operating parameters specified to be monitored in 40 CFR 60.756 as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded.

(1) The Permittee subject to 40 CFR 60.758 shall keep up-to-date, readily accessible continuous records of the indication of flow to the control device or the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under 40 CFR 60.756.

(2) The Permittee seeking to comply with the provisions of 40 CFR 60.758 by use of an open flare shall keep up-to-date, readily accessible continuous records of the flame or flare pilot flame monitoring specified under 40 CFR 60.756(c), and up-to-date, readily accessible records of all periods of operation in which the flame or flare pilot flame is absent.

(d) Except as provided in 40 CFR 60.752(b)(2)(i)(B) the Permittee subject to the provisions of this subpart shall keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector.

(1) The Permittee subject to the provisions of 40 CFR 60.758 shall keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors as specified in 40 CFR 60.755 (b).

(2) The Permittee subject to the provisions of 40 CFR 60.758 shall keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as provided in 40 CFR 60.759 (a)(3)(i) as well as any non-productive areas excluded from collection as provided in 40 CFR 60.759 (a)(3)(ii).

(e) Except as provided in 40 CFR 60.752(b)(2)(i)(B) the Permittee subject to the provisions of this subpart shall keep for at least five years up-to-date, readily accessible records of all collection and control system exceedances of the operational standards in 40 CFR 60.753, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance.

D.1.12 Reporting Requirements [40 CFR 60.757] [326 IAC 8-8.1]

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

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

(b) Submit an equipment removal report to the Office of Air Quality (OAQ) thirty (30) days prior to removal or cessation of operation of the control equipment. The equipment removal report shall contain all of the following items: a copy of the closure report submitted in accordance with 40 CFR 60.757(d), a copy of the initial performance test report demonstrating that the fifteen (15) year minimum control period has expired, and dated copies of three (3) successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year. The Office of Air Quality (OAQ) may request such additional information as may be necessary to verify that all of the conditions for removal in 40 CFR 60.752(b)(2)(v) have been met.

(c) Submit annual reports of the following recorded information by July 30 of each year. 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). Pursuant to 40 CFR 63.1980(a) and Condition D.1.14(a), these reports shall be submitted every six (6) months.

(1) Value and length of time for exceedance of applicable parameters monitored under 40 CFR 60.756(a), (b), (c), and (d).

(2) Description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow as specified under 40 CFR 60.756.

(3) Description and duration of all periods when the control device was not operating for a period exceeding one (1) hour and length of time the control device was not operating.

(4) All periods when the collection system was not operating in excess of five (5) days.

(5) Location of each exceedance of the 500 parts per million methane concentration as provided in 40 CFR 60.753(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month.

(6) Date of installation and the location of each well or collection system expansion added pursuant to 40 CFR 60.755(a)(3), (b), (c)(4), and (d).

(d) The Permittee seeking to comply with 40 CFR 40.752(b)(2)(iii) shall include the following information with the initial performance test report required under 40 CFR 60.8:

(1) A diagram of the collection system showing collection system positioning including all wells, horizontal collectors, surface collectors, or other gas extraction devices, including the locations of any areas excluded from collection and the proposed sites for the future collection system expansion.

(2) The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based.

(3) The documentation of the presence of asbestos or nondegradable material for each area from which collection wells have been excluded based on the presence of asbestos or nondegradable material.

(4) The sum of the gas generation flow rates for all areas from which collection wells have been excluded based on nonproductivity and the calculations of gas generation flow rate for each excluded area.

(5) The provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the landfill

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

(e) A summary of the above information shall be submitted to the address listed in Section C – General Reporting Requirements, of this permit.

D.1.13 Record keeping and Reporting Requirements for NESHAP for Inactive Asbestos Waste Disposal Sites [40 CFR 61.151] [326 IAC 14]

Pursuant to 40 CFR 61, Subpart M, the Permittee shall:

(a) 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 subject to 40 CFR 61.151, 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 ten (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.

(b) Within 60 days of a site becoming inactive and after the effective date of 40 CFR 61, Subpart M, 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 40 CFR 61.154(f) have been filed with the Administrator; and

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

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

Pursuant to 40 CFR 63.1980, the Permittee shall:

(a) Keep records and reports as specified in 40 CFR 60, Subpart WWW, or in the Federal plan, EPA approved State plan or tribal plan that implements 40 CFR 60, Subpart Cc, whichever applies to this landfill, with one exception: The Permittee must submit the annual report described in 40 CFR 60.757(f) and Condition D.1.12(e) every 6 months.

(b) Keep records and reports as specified in the general provisions of 40 CFR 60 and 40 CFR 63 as shown in Table 1 of 40 CFR 63, Subpart AAAA. Applicable records in the general provisions include items such as SSM plans and the SSM plan reports. The SSM Plan report shall be submitted semi-annually to IDEM, OAQ.

SECTION D.2 FACILITY OPERATION CONDITIONS

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

(b) Four (4) landfill gas fueled reciprocating engine/generator sets each rated at 1138 break horsepower, identified as EG-1 through EG-3, installed in 1994, and EG-4 was installed in 1999. The maximum heat input capacity of each engine/generator set is 8.9 MMBtu per hour and the maximum gas input flow rate of each engine/generator set is 275 standard cubic feet per minute (scfm) of landfill gas.

(c) Four (4) landfill gas fueled 4-stroke, lean-burn reciprocating engine/generator sets each rated at 1148 break horsepower, identified as EG-5 through EG-8, permitted to be constructed in 2007. The maximum heat input capacity of each engine/generator set is 9.1 MMBtu per hour and the maximum flow rate of each engine/generator set is 333 standard cubic feet per minute (scfm) of landfill gas.

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)]

There are no applicable state or federal requirements for these emissions units.

SECTION D.3 FACILITY OPERATION CONDITIONS

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

Insignificant Activity:

(a) One (1) 20,000 gallon leachate storage tank, constructed in 1980, containing a liquid having a vapor pressure less than 3.5 kPa and emitting less than fifteen pounds per day of VOC [326 IAC 12].

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

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

D.3.1 Record keeping and Reporting Requirements for Volatile Organic Liquid Storage Vessels [326 IAC 12]

Pursuant to 326 IAC 12, the Permittee shall maintain records of the dimensions of the one (1) 20,000 gallon leachate storage tank and an analysis showing the capacity of the tank. These records shall be maintained for the life of the source.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

PART 70 OPERATING PERMIT
CERTIFICATION

Source Name:	Deercroft Recycling and Disposal Facility
Source Address:	10501 West 300 North, Michigan City, Indiana 46361
Mailing Address:	N96W 13600 County Line Road, Germantown, Wisconsin 53022
Part 70 Permit Renewal No.:	T 091-18150-00067

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
Indianapolis, Indiana 46204-2251
Phone: 317-233-0178
Fax: 317-233-6865

PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT

Source Name:	Deercroft Recycling and Disposal Facility
Source Address:	10501 West 300 North, Michigan City, Indiana 46361
Mailing Address:	N96W 13600 County Line Road, Germantown, Wisconsin 53022
Part 70 Permit Renewal No.:	T 091-18150-00067

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**) 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 Describe: Type of Pollutants Emitted: ☐ TSP ☐ PM-10 ☐ SO_2 ☐ VOC ☐ NO_X ☐ CO ☐ Pb ☐ other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed By: _____

Title/Position: _____

Date: _____

Phone: _____

Attach a signed certification to complete 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:	Deercroft Recycling and Disposal Facility
Source Address:	10501 West 300 North, Michigan City, Indiana 46361
Mailing Address:	N96W 13600 County Line Road, Germantown, Wisconsin 53022
Part 70 Permit Renewal No.:	T 091-18150-00067

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 (TSD)
for a Part 70 Significant Source Modification and a
Part 70 Significant Permit Modification

Source Description and Location

Source Name:	Deercroft Recycling and Disposal Facility
Source Location:	10501 West 300 North, Michigan City, Indiana 46361
County:	LaPorte
SIC Code:	4953 and 4911
Operation Permit Renewal No.:	T 091-18150-00067
Operation Permit Renewal Issuance Date:	June 28, 2006
Significant Source Modification No.:	091-23825-00067
Significant Permit Modification No.:	091-23852-00067
Permit Reviewer:	Kimberly Cottrell

Public Notice Information

On December 23, 2006, the Office of Air Quality (OAQ) had a notice published in The News Dispatch in Michigan City, Indiana, stating that the Deercroft Recycling and Disposal Facility had applied for a significant modification to their Part 70 Operating Permit Renewal issued on June 28, 2006 to install a landfill gas treatment system consisting of four (4) engine/generator sets. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On February 28, 2007, the Office of Air Quality (OAQ) held a public meeting at the Michigan City Public Library for citizens and interested parties to discuss questions and concerns related to the project. The public comment period was extended until March 5, 2007. No additional written comments were received during the extended public comment period.

Comments Received

On January 8, 2007, OAQ received comments from Michael Peterson of the Deercroft Recycling and Disposal Facility. The comments are summarized in the subsequent pages, with IDEM's corresponding responses.

The IDEM does not amend the Technical Support Document (TSD). The TSD is maintained to document the original review. This addendum to the TSD is used to document responses to comments and changes made from the time the permit was drafted until a final decision is made.

The summary of the comments and IDEM, OAQ responses, including changes to the permit (language deleted is shown in ~~strikeout~~ and language added is shown in **bold**) are as follows:

Comment 1:

Both permits indicate that the new engines will be installed / constructed in 2006. Construction will take place during the first and second quarters of 2007.

IDEM Response 1:

The emission unit descriptions on each cover letter, in paragraph (c) of each Condition A.2, and in paragraph (c) of each of the facility description for Section D.2 have been updated as follows:

> Four (4) landfill gas fueled 4-stroke, lean-burn reciprocating engine/generator sets each rated at 1148 break horsepower, identified as EG-5 through EG-8, permitted to be constructed in ~~2006~~ **2007**. The maximum heat input capacity of each engine/generator set is 9.1 MMBtu per hour and the maximum flow rate of each engine/generator set is 333 standard cubic feet per minute (scfm) of landfill gas.

Other Changes

Upon further review, the OAQ has decided to make the following revisions to the permit:

Change No. 1:

To minimize future amendments to the issued Part 70 Permits, the OAQ decided to delete the name and/or title of the Responsible Official (RO) in Section A.1, General Information, of the permit. However, OAQ will still be evaluating if a change in RO meets the criteria specified in 326 IAC 2-7-1(34). The revised permit condition is as follows:

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 closed stationary municipal solid waste landfill.

~~Responsible Official:~~	~~Project Manager, Closed Sites Group~~
Source Address:	10501 West 300 North, Michigan City, Indiana 46361
Mailing Address:	N96W 13600 County Line Road, Germantown, Wisconsin 53022
Source Phone Number:	(219) 879-4690
SIC Code:	4953
County Location:	LaPorte
Source Location Status:	Nonattainment for 8-hour Ozone Standard Attainment for all other criteria pollutants
Source Status:	Part 70 Permit Program Minor Source, under PSD Rules; Minor Source, under Emission Offset; Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

IDEM Contact

Questions regarding this proposed permit can be directed to Kimberly Cottrell at the Indiana Department Environmental Management, Office of Air Quality, 100 North Senate Avenue, Indianapolis, Indiana 46204-2251 or by telephone at (317) 233-0870 or toll free at 1-800-451-6027 extension 3-0870.

Indiana Department of Environmental Management
Office of Air Quality

Appendix A – LandGEM 3.02 Modeling Results
Technical Support Document (TSD) for a
Part 70 Significant Source Modification and
Part 70 Significant Permit Modification

Source Background and Description

Source Name:	Deercroft Recycling and Disposal Facility
Source Location:	10501 West 300 North, Michigan City, Indiana 46361
County:	LaPorte
SIC Code:	4953 and 4911
Operation Permit Renewal No.:	T 091-18150-00067
Operation Permit Renewal Issuance Date:	June 28, 2006
Significant Source Modification No.:	091-23825-00067
Significant Permit Modification No.:	091-23852-00067
Permit Reviewer:	Kimberly Cottrell

Summary of the Landfill Gas Emissions Model (LandGEM)

The details included with this attachment documents the results for the Deercroft Recycling and Disposal Facility 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.

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

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 ith year (Mg)
t_{ij} = age of the jth section of waste mass M_i accepted in the ith 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.

IDEM Contact

Questions regarding this proposed permit can be directed to Kimberly Cottrell at the Indiana Department Environmental Management, Office of Air Quality, 100 North Senate Avenue, Indianapolis, Indiana 46204-2251 or by telephone at (317) 233-0870 or toll free at 1-800-451-6027 extension 3-0870.

Indiana Department of Environmental Management
Office of Air Quality

Appendix B - Emission Calculations
Technical Support Document (TSD)
CO, VOC and HAP Emissions From the Landfill

Company Name: Deercroft Recycling and Disposal Facility
Address City IN Zip: 10501 West 300 North, Michigan City, Indiana, 46360
County: LaPorte
SIC Code: 4953, 4911
Part 70 Operating Permit Renewal Number: 091-18150-00067
Source Modification Number: 091-23825-00067
Permit Modification Number: 091-23852-00067
Permit Reviewer: Kimberly Cottrell
Date: November 30, 2006

Inputs from Landfill Gas Model [a] (Emissions Before Controls)			
Product	m^3/yr	mg/yr	ton/yr
Methane	2.519E+07	1.681E+04	18,489
CO_2	2.061E+07	3.773E+04	41,507
CO	6.413E+03	7.471E+00	8.2
NMOC	2.749E+04	9.852E+01	108
Fugitive Emissions from Landfill (after controls)			ton/yr
CO			2.05
VOC			27.1

Assume landfill gas is 55% methane (AP 42, 4.4.4.1)

Landfill Gas (LFG) Production Rate:	4.581E+07	m^3/yr (= CH_4 + CO_2 production rate from the EPA Landfill Air Emission Model - Appendix A)
Collection Efficiency:	75%	(AP42, Chapter 2.4) Assume collection efficiency of 75%.
Control Efficiency:	97.2%	(required by NSPS)

CAS Number	Compound	[b] HAP Concentration (ppmv)	Molecular Weight	Uncontrolled HAPs Emissions (ton/yr)	Fugitive HAPs Emissions (ton/yr)	Captured HAPs after Control Devices (ton/yr)	Total HAP Emissions (ton/yr)
71-55-6	1,1,1-Trichloroethane (methyl chloroform)	0.48	133.41	0.136	0.034	0.003	0.037
79-34-5	1,1,2,2-Tetrachloroethane	1.11	167.85	0.397	0.099	0.008	0.108
75-34-3	1,1-Dichloroethane (ethylidene dichloride)	2.35	98.97	0.495	0.124	0.010	0.134
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	0.002	0.023
78-87-5	1,2-Dichloropropane (propylene dichloride)	0.18	112.99	0.043	0.011	0.001	0.012
107-13-1	Acrylonitrile	6.33	53.06	0.715	0.179	0.015	0.194
75-15-0	Carbon disulfide	0.58	76.13	0.094	0.024	0.002	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	0.172	0.043	0.004	0.047
67-66-3	Chloroform	0.03	119.39	0.008	0.002	0.000	0.002
75-09-2	Dichloromethane (methylene chloride)	14.3	84.94	2.587	0.647	0.054	0.701
100-41-4	Ethylbenzene	4.61	106.16	1.042	0.261	0.022	0.282
110-54-3	Hexane	6.57	86.18	1.206	0.301	0.025	0.327
78-93-3	Methyl ethyl ketone **(delisted HAP)**[d]	7.09	72.11	1.089	0.272	0.023	0.295
108-10-1	Methyl isobutyl ketone	1.87	100.16	0.399	0.100	0.008	0.108
127-18-4	Perchloroethylene (tetrachloroethene)	3.73	165.83	1.317	0.329	0.028	0.357
79-01-6	Trichloroethlyene (trichloroethene)	2.82	131.4	0.789	0.197	0.017	0.214
75-01-4	Vinyl chloride	7.34	62.5	0.977	0.244	0.021	0.265
71-43-2	Benzene	1.91	78.11	0.318	0.079	0.007	0.086
74-87-3	Methyl chloride (Chloromethane)	1.21	50.49	0.130	0.033	0.003	0.035
108-88-3	Toluene	39.3	92.13	7.712	1.928	0.162	2.090
1330-20-7	Xylene (isomers and mixture)	12.1	106.16	2.736	0.684	0.057	0.741
	Mercury Compounds	0.000292	200.61	0.000	0.000	0.000	0.000
7647-01-0	[c] Hydrogen Chloride	42.0	36.0	-	-	2.415	2.415
Total Emissions				**21.527**	**5.382**	**2.867**	**8.249**

[a] These input values come from the LandGEM (version 3.02) output done for this landfill. Values represent maximum uncontrolled emissions at closure
[b] 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)
[c] 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
[d] MEK emissions have been deleted from the total since MEK was removed from the HAP list by EPA and IDEM

Methodology

Uncontrolled Emissions of CO and VOC (ton/yr) = CO / VOC Emissions at Closure (Mg/yr) (from LandGEM 3.02) x 1.1 tons/Mg
Fugitive CO and VOC Emissions from Landfill Emissions = Uncontrolled Emissions of CO and VOC (ton/yr) x (1 - Collection Efficiency)
Uncontrolled HAPs Emissions (ton/yr) = LFG Production Rate (m^3/yr) x 35.31 ft^3/m^3 x (Concentration (ppmv) /1,000,000) x 1 atm / Gas Constant (0.7302 atm-ft^3/lb mole-R) / Temp (60F+ 460) x Mole weight of HAPs (lb/lb mole) x (1 ton/2000 lb)
Fugitive HAP Emissions = Uncontrolled HAPs Emissions (ton/yr) x (1 - Collection Efficiency)
Captured HAPs after Control Device = Uncontrolled HAPs Emissions (ton/yr) x Collection Efficiency x (1 - Control Efficiency)
HCl Emissions (ton/yr) = LFG Production Rate (m^3/yr) x 35.31 ft^3/m^3x Chlorinated Compound Concentrations (ppmv) /1,000,000 x 1 atm / Gas Constant (0.7302 atm-ft^3/lb mole-R) / Temp (60F+ 460) x Mole weight of HCl (lb/lb mole) x (1 ton/2000 lb) x Collection Efficiency
Total HAP Emissions (ton/yr) = Fugitive HAP Emissions (ton/yr) + HAPs after Control Device (ton/yr)

Combustion Emissions From the Open Flare and Engines

INPUTS				
Fuel Input (MMBtu/hr)	**NMOC** [c] (ppmv)	**Flow Rate** (scfm)	**Facility Description:**	**Emission Unit ID #**
35.6	600	1,173	Four (4) landfill gas engine/generators (1138 brake horsepower each)	EG-1, EG-2, EG-3, EG-4
36.4	600	1,199	Four (4) landfill gas engine/generators (1148 brake horsepower each)	EG-5, EG-6, EG-7, EG-8
121.4	600	4,000	One (1) open flare w/ capacity of 4,000 scfm landfill gas	FL-3

Operating Scenario 1: Operation of all eight (8) engines only
Operating Scenario 2: Operation of Engines (EG-1 through EG-4) and operation of the flare (FL-3) because EG-5 through EG-8 are not operating.
Operating Scenario 3: Operation of all Engines (EG-1 through EG-8) and minimal operation of the flare (FL-3) for remaining landfill gas emissions.

Pollutant Emission Factors						
Emission Unit	**PM**[a]	**PM_{10}**[a]	**SO_2**[b]	**NO_X**[a, d]	**CO**[a, d]	**NMOC**[c]
	($lb/10^6$ dscf methane)	($lb/10^6$ dscf methane)	(ppmv)	($lb/10^6$ dscf methane)	($lb/10^6$ dscf methane)	(ppmv)
Engines 1-4	48	48	49.6	250	470	600
Engines 5-8	48	48	49.6	250	470	600
Flare	17	17	49.6	80	444	600

Potential To Emit (ton/yr)						
Emission Unit	**PM**[a]	**PM_{10}**[a]	**SO_2**[b]	**NO_X**[a, d]	**CO**[a, d]	**NMOC**[c]
Engines 1-4	8.14	8.14	2.58	42.37	79.66	1.17
Engines 5-8	8.32	8.32	2.63	43.32	81.45	1.20
Flare	9.83	9.83	8.79	46.25	256.70	4.00
Operating Scenario 1: PTE Total	16.45	16.45	5.21	85.70	161.11	2.37
Operating Scenario 2: PTE Total	17.96	17.96	11.36	88.62	336.36	5.17
Operating Scenario 3: PTE Total	26.28	26.28	14.00	131.95	417.81	6.37
Change in PTE from Current Operating Scenario (#2) and the proposed new Operating Scenario (#1)	-1.51	-1.51	-6.15	-2.93	-175.25	-2.80
Change in PTE from Current Operating Scenario (#2) and the worst case Operating Scenario (#3)	8.32	8.32	2.63	43.32	81.45	1.20

Estimated heating value for the landfill gas is 506 British thermal units per cubic foot (Btu/ft^3).
Assume landfill gas is 55% methane and one (1) cubic foot of landfill gas has heat capacity of 550 Btu.
Fuel Input to Flares (MMBtu/hr) = Flow rate (scfm) x 60 (min/hr) x 506 (Btu/scf) x 1/1,000,000 (MMBtu/Btu).
Assume PM emissions equal to PM_{10} emissions.

[a] Emission Factors are from AP-42, Chapter 2.4 - Municipal Solid Waste Landfills, Table 2.4-5: Flares and IC Engines (AP-42, 11/98).
[b] The total inlet concentration of Sulfur content compounds in AP-42, Chapter 2.4 - Municipal Solid Waste Landfills - Table 2.4-1 (AP-42, 11/98).
[c] The NMOC concentration is the default value in EPA Landfill Gas Emissions Model, Version 3.02 and AP-42.
[d] The emission factors for NO_X and CO for the 4,000 scfm open flare are provided by the manufacturer as guaranteed stack gas emission factors for this equipment.

Methodology

PTE of PM / PM_{10} / NO_X / CO Emissions (ton/yr) = Flow Rate (scfm landfill gas) / 10^6 x Emission Factor ($lb/10^6$ dscf) x 0.55 (conc. Methane in landfill gas) x 60 (min/hr) x 8760 (hr/yr) / 2000 (lb/ton)
PTE of SO_2 Emissions (ton/yr) = Flow Rate (scfm) x Emission Factor (ppmv) / 1,000,000 x 1 atm / Gas Constant (0.7302 atm-cf/lb mole-R) / Temp (60F+ 460) x Mole weight of SO_2 (64 lb/lb mole) x 60 (min/hr) x 8760 (hr/yr) / 2000 (lb/ton)

PTE of NMOC Emissions (ton/yr) = Flow Rate (scfm) x Emission Factor (ppmv) / 1,000,000 x 1 atm / Gas Constant (0.7302 atm-cf/lb mole-R) / Temp (60F+ 460) x Mole weight of Hexane (lb/lb mole) x 60 (min/hr) x 8760 (hr/yr) / (2000 lb/ton) x (1-97.2% Control Efficiency)

Indiana Department of Environmental Management
Office of Air Quality

Appendix C - Minor Source Modeling Analysis
Technical Support Document (TSD)
Screening Form - Raw Data

Permit Summary

Company Name: Deercroft Recycling and Disposal Facility
Source Location: 10501 West 300 North, Michigan City, Indiana, 46360
County: LaPorte
SIC Code: 4953, 4911
Part 70 Operating Permit Renewal No.: 091-18150-00067
Source Modification No.: 091-23825-00067
Permit Modification No.: 091-23852-00067
Permit Reviewer: Kimberly Cottrell

Source Specific Information

TABLE 1 - Pollutant Emission Rates (lb/hr) - based on the highest allowable emissions rate

Unit ID	Stack ID	CO	NO_X	PM_{10}	Pb	SO_2
EG-5	ES-5	18.73326	9.9645	1.913184	0	0.658538946
EG-6	ES-6	18.73326	9.9645	1.913184	0	0.658538946
EG-7	ES-7	18.73326	9.9645	1.913184	0	0.658538946
EG-8	ES-8	18.73326	9.9645	1.913184	0	0.658538946
Max. Emissions Rate *(lb/hr)* **:**		*74.93304*	*39.858*	*7.652736*	*0*	*2.634155784*

TABLE 2 - Stack Information: (all heights are from ground level)

For non-circular stacks, take the average of the stack dimensions as the stack diameter.
If there is no building near the stack, zero out the building height, width, and length.

					Closest building related to stack:			Closest Property Line (ft)
Stack ID	Stack Height (ft)	Flow Rate (acfm)	Stack Temp. (^oF)	Stack Diameter (ft)	Height (ft)	Width (ft)	Length (ft)	
ES-5	29	6000	800	0.83	23	25	150	300
ES-6	29	6000	800	0.83	23	25	150	300
ES-7	29	6000	800	0.83	23	25	150	300
ES-8	29	6000	800	0.83	23	25	150	300

Modeling Data

TABLE 3 - Pollutant Modeling Data - grams per second

Pollutant:	CO	NO_X	PM_{10}	Pb	SO_2
Totals (g/s):	*9.44156304*	*5.022108*	*0.964244736*	*0*	*0.331903629*

TABLE 4 - Stack Modeling Data

The M-Value is calculated using a unit emission rate of 1 g/s.
The stack with the lowest M value represents the lowest dispersion coefficient and should be modeled.

Stack ID	Stack Height (m)	Stack Gas Velocity (m/s)	Stack Temp. (K)	Stack Diameter (m)	Closest building related to stack			Closest Property Line (m)	Volumetric Flow Rate (m^3/s)	Stack M-Value
					Height (m)	Width (m)	Length (m)			
ES-5	8.841463415	56.37678618	699.82	0.25304878	7.012195122	7.62195122	45.73170732	91.46341463	2.835304512	348825.9216
ES-6	8.841463415	56.37678618	699.82	0.25304878	7.012195122	7.62195122	45.73170732	91.46341463	2.835304512	348825.9216
ES-7	8.841463415	56.37678618	699.82	0.25304878	7.012195122	7.62195122	45.73170732	91.46341463	2.835304512	348825.9216
ES-8	8.841463415	56.37678618	699.82	0.25304878	7.012195122	7.62195122	45.73170732	91.46341463	2.835304512	348825.9216

INTRODUCTION

LandGEM - Landfill Gas Emissions Model, Version 3.02

U.S. Environmental Protection Agency

Model Design:

Worksheet Name	Function
INTRO	Contains an overview of the model and important notes about using LandGEM
USER INPUTS	Allows users to provide landfill characteristics, determine model parameters, select up to four gases/pollutants (total landfill gas, methane, carbon dioxide, NMOC, and 46 air pollutants), and enter waste acceptance rates
POLLUTANTS	Allows users to edit air pollutant concentrations and molecular weights for existing pollutants and add up to 10 new pollutants
INPUT REVIEW	Allows users to review and print model inputs
METHANE	Calculates methane emission estimates using the first-order decomposition rate equation
RESULTS	Shows tabular emission estimates for up to four gases/pollutants (selected in the USER INPUTS worksheet) in megagrams per year, cubic meters per year, and user's choice of a third unit of measure (average cubic feet per minute, cubic feet per year, or short tons per year)
GRAPHS	Shows graphical emission estimates for up to four gases/pollutants (selected in the USER INPUTS worksheet) in megagrams per year, cubic meters per year, and user's choice of a third unit of measure (selected in the RESULTS worksheet)
INVENTORY	Displays tabular emission estimates for all gases/pollutants for a single year specified by users
REPORT	Allows users to review and print model inputs and outputs in a summary report

IMPORTANT NOTES!

The following user inputs MUST be completed in the USER INPUTS worksheet:

- Landfill open year
- Landfill closure year or Waste design capacity
- Annual waste acceptance rates from open year to current year or closure year

Other Important Notes:

- LandGEM is based on the gas generated from anaerobic decomposition of landfilled waste which has a methane content between 40 and 60 percent.
- When using LandGEM to comply with the CAA, the methane content of the landfill gas must remain fixed at 50% by volume (the model default value).
- Default pollutant concentrations used by LandGEM have already been corrected for air infiltration, as stated in AP-42. If a user-specified value for NMOC concentration is used based on site-specific data, then it must be corrected for air infiltration.
- When comparing results from LandGEM with measurements of extracted gas collected at a site, the landfill owner/operator must adjust for air infiltration prior to any comparisons.
- One megagram is equivalent to one metric ton.

About LandGEM:

LandGEM is based on a first-order decomposition rate equation for quantifying emissions from the decomposition of landfilled waste in municipal solid waste (MSW) landfills. The 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. 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

http://www.epa.gov/ttnatw01/landfill/landflpg.html .

LandGEM is considered a screening tool — the better the input data, the better the estimates. Often, there are limitations with the available data regarding waste quantity and composition, variation in design and operating practices over time, and changes occurring over time that impact the emissions potential. Changes to landfill operation, such as operating under wet conditions through leachate recirculation or other liquid additions, will result in generating more gas at a faster rate. Defaults for estimating emissions for this type of operation are being developed to include in LandGEM along with defaults for convential landfills (no leachate or liquid additions) for developing emission inventories and determining CAA applicability. Refer to the Web site identified above for future updates.

USER INPUTS

Landfill Name or Identifier: Deercroft Recycling and Disposal Facility

Clear ALL Non-Parameter Inputs/Selections

1: PROVIDE LANDFILL CHARACTERISTICS

Landfill Open Year	1980	**Waste Design Capacity entered is not used by the model unless 'Have Model Calculate Closure Year?' option is Yes.**
Landfill Closure Year	2002	
Have Model Calculate Closure Year?	○ Yes ◉ No	
Waste Design Capacity	9,615,000	megagrams

Restore Default Model Parameters

2: DETERMINE MODEL PARAMETERS

Methane Generation Rate, k (*year*$^{-1}$)

Inventory Conventional - 0.04

Potential Methane Generation Capacity, L_o (*m^3/Mg*)

Inventory Conventional - 100

NMOC Concentration (*ppmv as hexane*)

Inventory No or Unknown Co-disposal - 600

Methane Content (*% by volume*)

User-specified

User-specified value: 55

3: SELECT GASES/POLLUTANTS

Default pollutant parameters are currently being used by model.

Gas / Pollutant #1

Carbon monoxide

Gas / Pollutant #2

Methane

Gas / Pollutant #3

Carbon dioxide

Gas / Pollutant #4

NMOC

Edit Existing or Add New Pollutant Parameters

Restore Default Pollutant Parameters

Description/Comments:

4: ENTER WASTE ACCEPTANCE RATES

Input Units: Mg/year

Year	Input Units (Mg/year)	Calculated Units (short tons/year)
1980	418,050	459,855
1981	418,050	459,855
1982	418,050	459,855
1983	418,050	459,855
1984	418,050	459,855
1985	418,050	459,855
1986	418,050	459,855
1987	418,050	459,855
1988	418,050	459,855
1989	418,050	459,855
1990	418,050	459,855
1991	418,050	459,855
1992	418,050	459,855
1993	418,050	459,855
1994	418,050	459,855
1995	418,050	459,855
1996	418,050	459,855
1997	418,050	459,855
1998	418,050	459,855
1999	418,050	459,855
2000	418,050	459,855
2001	418,050	459,855
2002	417,900	459,690
2003		
2004		
2005		
2006		
2007		
2008		
2009		

POLLUTANTS

Landfill Name or Identifier: Deercroft Recycling and Disposal Facility

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		30.83			
	Methane		16.04			
	Carbon dioxide		44.01			
	NMOC	600	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

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

INPUT REVIEW

Landfill Name or Identifier: Deercroft Recycling and Disposal Facility

LANDFILL CHARACTERISTICS

Landfill Open Year	**1980**	
Landfill Closure Year (with 80-year limit)	**2002**	
Actual Closure Year (without limit)	***2002***	
Have Model Calculate Closure Year?	**No**	
Waste Design Capacity	**9,615,000**	*megagrams*

MODEL PARAMETERS

Methane Generation Rate, k	**0.040**	*$year^{-1}$*
Potential Methane Generation Capacity, L_o	**100**	*m^3/Mg*
NMOC Concentration	**600**	*ppmv as hexane*
Methane Content	**55**	*% by volume*

GASES / POLLUTANTS SELECTED

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

Description/Comments:

WASTE ACCEPTANCE RATES

Year	*(Mg/year)*	*(short tons/year)*
1980	418,050	459,855
1981	418,050	459,855
1982	418,050	459,855
1983	418,050	459,855
1984	418,050	459,855
1985	418,050	459,855
1986	418,050	459,855
1987	418,050	459,855
1988	418,050	459,855
1989	418,050	459,855
1990	418,050	459,855
1991	418,050	459,855
1992	418,050	459,855
1993	418,050	459,855
1994	418,050	459,855
1995	418,050	459,855
1996	418,050	459,855
1997	418,050	459,855
1998	418,050	459,855
1999	418,050	459,855
2000	418,050	459,855
2001	418,050	459,855
2002	417,900	459,690
2003	0	0

METHANE

Landfill Name or Identifier: Deercroft Recycling and Disposal Facility

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 ith year (*Mg*)

t_{ij} = age of the jth section of waste mass M_i accepted in the ith 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 = 417,900 *megagrams* in 2002

Waste Design Capacity = 9,615,000 *megagrams*

Closure Year (with 80-year limit) = 2002

Actual Closure Year (without limit) = 2002

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)		
1980	418,050	0	418,050	0	0	0
1981	418,050	418,050	418,050	418,050	0	0
1982	418,050	836,100	418,050	836,100	0	0
1983	418,050	1,254,150	418,050	1,254,150	0	0
1984	418,050	1,672,200	418,050	1,672,200	0	0
1985	418,050	2,090,250	418,050	2,090,250	0	0
1986	418,050	2,508,300	418,050	2,508,300	0	0
1987	418,050	2,926,350	418,050	2,926,350	0	0
1988	418,050	3,344,400	418,050	3,344,400	0	0
1989	418,050	3,762,450	418,050	3,762,450	0	0
1990	418,050	4,180,500	418,050	4,180,500	0	0
1991	418,050	4,598,550	418,050	4,598,550	0	0
1992	418,050	5,016,600	418,050	5,016,600	0	0
1993	418,050	5,434,650	418,050	5,434,650	0	0
1994	418,050	5,852,700	418,050	5,852,700	0	0
1995	418,050	6,270,750	418,050	6,270,750	0	0
1996	418,050	6,688,800	418,050	6,688,800	0	0
1997	418,050	7,106,850	418,050	7,106,850	0	0
1998	418,050	7,524,900	418,050	7,524,900	0	0
1999	418,050	7,942,950	418,050	7,942,950	0	0
2000	418,050	8,361,000	418,050	8,361,000	0	0
2001	418,050	8,779,050	418,050	8,779,050	0	0
2002	417,900	9,197,100	417,900	9,197,100	417900	2002
2003	0	9,615,000	0	9,615,000	0	0
2004	0	9,615,000	0	9,615,000	0	0
2005	0	9,615,000	0	9,615,000	0	0
2006	0	9,615,000	0	9,615,000	0	0
2007	0	9,615,000	0	9,615,000	0	0
2008	0	9,615,000	0	9,615,000	0	0
2009	0	9,615,000	0	9,615,000	0	0
2010	0	9,615,000	0	9,615,000	0	0
2011	0	9,615,000	0	9,615,000	0	0
2012	0	9,615,000	0	9,615,000	0	0
2013	0	9,615,000	0	9,615,000	0	0
2014	0	9,615,000	0	9,615,000	0	0
2015	0	9,615,000	0	9,615,000	0	0
2016	0	9,615,000	0	9,615,000	0	0
2017	0	9,615,000	0	9,615,000	0	0
2018	0	9,615,000	0	9,615,000	0	0
2019	0	9,615,000	0	9,615,000	0	0
2020	0	9,615,000	0	9,615,000	0	0
2021	0	9,615,000	0	9,615,000	0	0

Year	Methane Emissions (m^3/year)
1981	1.642E+06
1982	3.221E+06
1983	4.737E+06
1984	6.193E+06
1985	7.593E+06
1986	8.938E+06
1987	1.023E+07
1988	1.147E+07
1989	1.266E+07
1990	1.381E+07
1991	1.491E+07
1992	1.597E+07
1993	1.698E+07
1994	1.796E+07
1995	1.890E+07
1996	1.980E+07
1997	2.067E+07
1998	2.150E+07
1999	2.230E+07
2000	2.307E+07
2001	2.380E+07
2002	2.451E+07
2003	2.519E+07
2004	2.421E+07
2005	2.326E+07
2006	2.235E+07
2007	2.147E+07
2008	2.063E+07
2009	1.982E+07
2010	1.904E+07
2011	1.830E+07
2012	1.758E+07
2013	1.689E+07
2014	1.623E+07
2015	1.559E+07
2016	1.498E+07
2017	1.439E+07
2018	1.383E+07
2019	1.328E+07
2020	1.276E+07
2021	1.226E+07

RESULTS **Landfill Name or Identifier:** Deercroft Recycling and Disposal Facility

Closure Year (with 80-year limit) = 2002

Methane = 55 *% by volume*

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

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

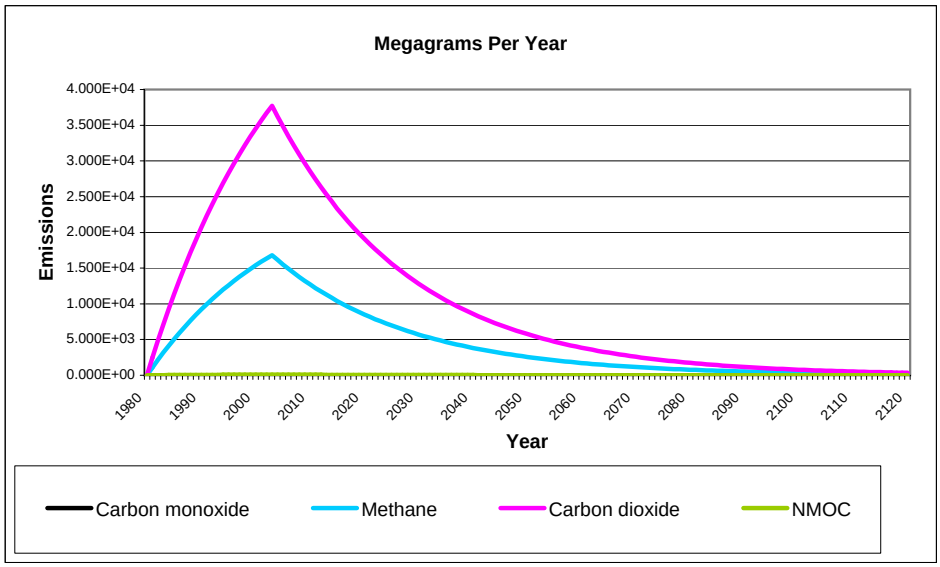
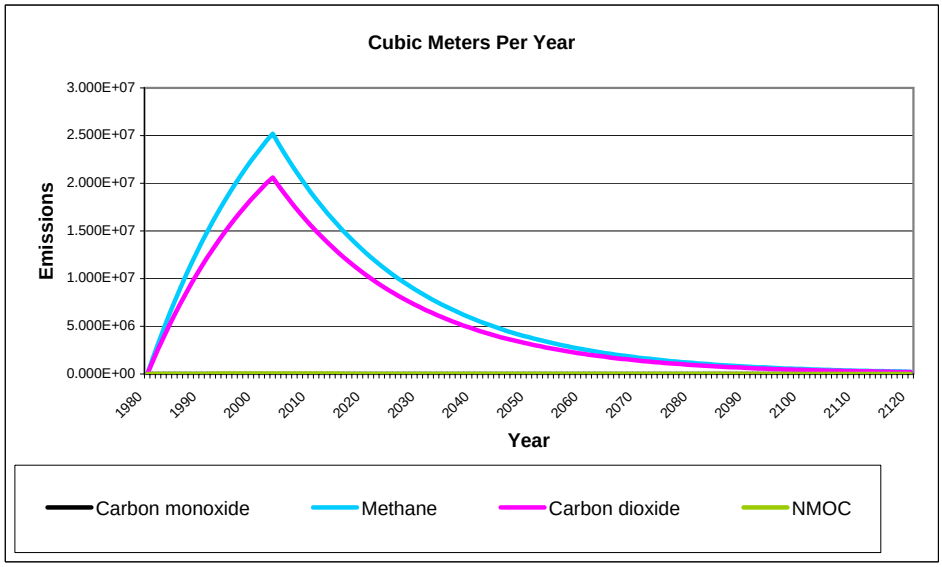
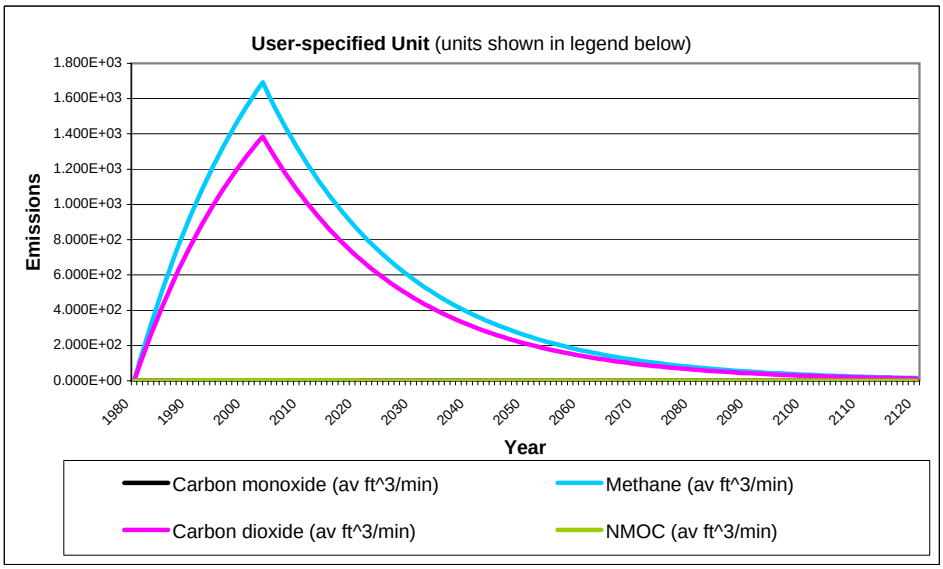
Year	Waste Accepted		Waste-In-Place		Carbon monoxide			Methane		
	(Mg/year)	*(short tons/year)*	*(Mg)*	*(short tons)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
1980	418,050	459,855	0	0	0	0	0	0	0	0
1981	418,050	459,855	418,050	459,855	4.871E-01	4.181E+02	2.809E-02	1.096E+03	1.642E+06	1.104E+02
1982	418,050	459,855	836,100	919,710	9.551E-01	8.198E+02	5.508E-02	2.149E+03	3.221E+06	2.164E+02
1983	418,050	459,855	1,254,150	1,379,565	1.405E+00	1.206E+03	8.101E-02	3.160E+03	4.737E+06	3.183E+02
1984	418,050	459,855	1,672,200	1,839,420	1.837E+00	1.577E+03	1.059E-01	4.132E+03	6.193E+06	4.161E+02
1985	418,050	459,855	2,090,250	2,299,275	2.252E+00	1.933E+03	1.299E-01	5.066E+03	7.593E+06	5.102E+02
1986	418,050	459,855	2,508,300	2,759,130	2.651E+00	2.275E+03	1.529E-01	5.963E+03	8.938E+06	6.005E+02
1987	418,050	459,855	2,926,350	3,218,985	3.034E+00	2.604E+03	1.750E-01	6.825E+03	1.023E+07	6.873E+02
1988	418,050	459,855	3,344,400	3,678,840	3.402E+00	2.920E+03	1.962E-01	7.653E+03	1.147E+07	7.708E+02
1989	418,050	459,855	3,762,450	4,138,695	3.755E+00	3.224E+03	2.166E-01	8.449E+03	1.266E+07	8.509E+02
1990	418,050	459,855	4,180,500	4,598,550	4.095E+00	3.515E+03	2.362E-01	9.213E+03	1.381E+07	9.279E+02
1991	418,050	459,855	4,598,550	5,058,405	4.422E+00	3.795E+03	2.550E-01	9.948E+03	1.491E+07	1.002E+03
1992	418,050	459,855	5,016,600	5,518,260	4.735E+00	4.065E+03	2.731E-01	1.065E+04	1.597E+07	1.073E+03
1993	418,050	459,855	5,434,650	5,978,115	5.037E+00	4.323E+03	2.905E-01	1.133E+04	1.698E+07	1.141E+03
1994	418,050	459,855	5,852,700	6,437,970	5.326E+00	4.572E+03	3.072E-01	1.198E+04	1.796E+07	1.207E+03
1995	418,050	459,855	6,270,750	6,897,825	5.605E+00	4.811E+03	3.232E-01	1.261E+04	1.890E+07	1.270E+03
1996	418,050	459,855	6,688,800	7,357,680	5.872E+00	5.040E+03	3.387E-01	1.321E+04	1.980E+07	1.330E+03
1997	418,050	459,855	7,106,850	7,817,535	6.129E+00	5.261E+03	3.535E-01	1.379E+04	2.067E+07	1.389E+03
1998	418,050	459,855	7,524,900	8,277,390	6.376E+00	5.473E+03	3.677E-01	1.434E+04	2.150E+07	1.445E+03
1999	418,050	459,855	7,942,950	8,737,245	6.613E+00	5.676E+03	3.814E-01	1.488E+04	2.230E+07	1.498E+03
2000	418,050	459,855	8,361,000	9,197,100	6.840E+00	5.872E+03	3.945E-01	1.539E+04	2.307E+07	1.550E+03
2001	418,050	459,855	8,779,050	9,656,955	7.059E+00	6.059E+03	4.071E-01	1.588E+04	2.380E+07	1.599E+03
2002	417,900	459,690	9,197,100	10,116,810	7.270E+00	6.240E+03	4.193E-01	1.635E+04	2.451E+07	1.647E+03
2003	0	0	9,615,000	10,576,500	7.471E+00	6.413E+03	4.309E-01	1.681E+04	2.519E+07	1.693E+03
2004	0	0	9,615,000	10,576,500	7.178E+00	6.162E+03	4.140E-01	1.615E+04	2.421E+07	1.626E+03
2005	0	0	9,615,000	10,576,500	6.897E+00	5.920E+03	3.978E-01	1.552E+04	2.326E+07	1.563E+03
2006	0	0	9,615,000	10,576,500	6.627E+00	5.688E+03	3.822E-01	1.491E+04	2.235E+07	1.501E+03
2007	0	0	9,615,000	10,576,500	6.367E+00	5.465E+03	3.672E-01	1.432E+04	2.147E+07	1.443E+03
2008	0	0	9,615,000	10,576,500	6.117E+00	5.251E+03	3.528E-01	1.376E+04	2.063E+07	1.386E+03
2009	0	0	9,615,000	10,576,500	5.877E+00	5.045E+03	3.390E-01	1.322E+04	1.982E+07	1.332E+03
2010	0	0	9,615,000	10,576,500	5.647E+00	4.847E+03	3.257E-01	1.270E+04	1.904E+07	1.279E+03
2011	0	0	9,615,000	10,576,500	5.425E+00	4.657E+03	3.129E-01	1.221E+04	1.830E+07	1.229E+03
2012	0	0	9,615,000	10,576,500	5.213E+00	4.474E+03	3.006E-01	1.173E+04	1.758E+07	1.181E+03
2013	0	0	9,615,000	10,576,500	5.008E+00	4.299E+03	2.888E-01	1.127E+04	1.689E+07	1.135E+03
2014	0	0	9,615,000	10,576,500	4.812E+00	4.130E+03	2.775E-01	1.083E+04	1.623E+07	1.090E+03
2015	0	0	9,615,000	10,576,500	4.623E+00	3.968E+03	2.666E-01	1.040E+04	1.559E+07	1.047E+03
2016	0	0	9,615,000	10,576,500	4.442E+00	3.813E+03	2.562E-01	9.993E+03	1.498E+07	1.006E+03
2017	0	0	9,615,000	10,576,500	4.268E+00	3.663E+03	2.461E-01	9.601E+03	1.439E+07	9.670E+02
2018	0	0	9,615,000	10,576,500	4.100E+00	3.520E+03	2.365E-01	9.225E+03	1.383E+07	9.290E+02
2019	0	0	9,615,000	10,576,500	3.940E+00	3.382E+03	2.272E-01	8.863E+03	1.328E+07	8.926E+02
2020	0	0	9,615,000	10,576,500	3.785E+00	3.249E+03	2.183E-01	8.516E+03	1.276E+07	8.576E+02
2021	0	0	9,615,000	10,576,500	3.637E+00	3.122E+03	2.097E-01	8.182E+03	1.226E+07	8.240E+02

RESULTS **Landfill Name or Identifier:** Deercroft Recycling

Closure Year (with 80-year limit) = 2002

Methane = 55 *% by volume*

Year	Waste Accepted		Waste-In-Place		Carbon dioxide			NMOC		
	(Mg/year)	*(short tons/year)*	*(Mg)*	*(short tons)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
1980	418,050	459,855	0	0	0	0	0	0	0	0
1981	418,050	459,855	418,050	459,855	2.460E+03	1.344E+06	9.029E+01	6.423E+00	1.792E+03	1.204E-01
1982	418,050	459,855	836,100	919,710	4.823E+03	2.635E+06	1.770E+02	1.259E+01	3.513E+03	2.361E-01
1983	418,050	459,855	1,254,150	1,379,565	7.094E+03	3.876E+06	2.604E+02	1.852E+01	5.167E+03	3.472E-01
1984	418,050	459,855	1,672,200	1,839,420	9.276E+03	5.067E+06	3.405E+02	2.422E+01	6.757E+03	4.540E-01
1985	418,050	459,855	2,090,250	2,299,275	1.137E+04	6.213E+06	4.174E+02	2.969E+01	8.283E+03	5.566E-01
1986	418,050	459,855	2,508,300	2,759,130	1.339E+04	7.313E+06	4.913E+02	3.495E+01	9.750E+03	6.551E-01
1987	418,050	459,855	2,926,350	3,218,985	1.532E+04	8.370E+06	5.624E+02	4.000E+01	1.116E+04	7.498E-01
1988	418,050	459,855	3,344,400	3,678,840	1.718E+04	9.386E+06	6.306E+02	4.486E+01	1.251E+04	8.408E-01
1989	418,050	459,855	3,762,450	4,138,695	1.897E+04	1.036E+07	6.962E+02	4.952E+01	1.382E+04	9.282E-01
1990	418,050	459,855	4,180,500	4,598,550	2.068E+04	1.130E+07	7.592E+02	5.400E+01	1.507E+04	1.012E+00
1991	418,050	459,855	4,598,550	5,058,405	2.233E+04	1.220E+07	8.197E+02	5.831E+01	1.627E+04	1.093E+00
1992	418,050	459,855	5,016,600	5,518,260	2.392E+04	1.307E+07	8.779E+02	6.244E+01	1.742E+04	1.170E+00
1993	418,050	459,855	5,434,650	5,978,115	2.544E+04	1.390E+07	9.337E+02	6.642E+01	1.853E+04	1.245E+00
1994	418,050	459,855	5,852,700	6,437,970	2.690E+04	1.470E+07	9.874E+02	7.024E+01	1.959E+04	1.317E+00
1995	418,050	459,855	6,270,750	6,897,825	2.831E+04	1.546E+07	1.039E+03	7.390E+01	2.062E+04	1.385E+00
1996	418,050	459,855	6,688,800	7,357,680	2.966E+04	1.620E+07	1.089E+03	7.743E+01	2.160E+04	1.451E+00
1997	418,050	459,855	7,106,850	7,817,535	3.095E+04	1.691E+07	1.136E+03	8.082E+01	2.255E+04	1.515E+00
1998	418,050	459,855	7,524,900	8,277,390	3.220E+04	1.759E+07	1.182E+03	8.407E+01	2.345E+04	1.576E+00
1999	418,050	459,855	7,942,950	8,737,245	3.340E+04	1.824E+07	1.226E+03	8.720E+01	2.433E+04	1.634E+00
2000	418,050	459,855	8,361,000	9,197,100	3.455E+04	1.887E+07	1.268E+03	9.020E+01	2.516E+04	1.691E+00
2001	418,050	459,855	8,779,050	9,656,955	3.565E+04	1.948E+07	1.309E+03	9.308E+01	2.597E+04	1.745E+00
2002	417,900	459,690	9,197,100	10,116,810	3.671E+04	2.006E+07	1.348E+03	9.586E+01	2.674E+04	1.797E+00
2003	0	0	9,615,000	10,576,500	3.773E+04	2.061E+07	1.385E+03	9.852E+01	2.749E+04	1.847E+00
2004	0	0	9,615,000	10,576,500	3.625E+04	1.981E+07	1.331E+03	9.466E+01	2.641E+04	1.774E+00
2005	0	0	9,615,000	10,576,500	3.483E+04	1.903E+07	1.279E+03	9.094E+01	2.537E+04	1.705E+00
2006	0	0	9,615,000	10,576,500	3.347E+04	1.828E+07	1.228E+03	8.738E+01	2.438E+04	1.638E+00
2007	0	0	9,615,000	10,576,500	3.215E+04	1.757E+07	1.180E+03	8.395E+01	2.342E+04	1.574E+00
2008	0	0	9,615,000	10,576,500	3.089E+04	1.688E+07	1.134E+03	8.066E+01	2.250E+04	1.512E+00
2009	0	0	9,615,000	10,576,500	2.968E+04	1.622E+07	1.090E+03	7.750E+01	2.162E+04	1.453E+00
2010	0	0	9,615,000	10,576,500	2.852E+04	1.558E+07	1.047E+03	7.446E+01	2.077E+04	1.396E+00
2011	0	0	9,615,000	10,576,500	2.740E+04	1.497E+07	1.006E+03	7.154E+01	1.996E+04	1.341E+00
2012	0	0	9,615,000	10,576,500	2.633E+04	1.438E+07	9.663E+02	6.873E+01	1.918E+04	1.288E+00
2013	0	0	9,615,000	10,576,500	2.529E+04	1.382E+07	9.284E+02	6.604E+01	1.842E+04	1.238E+00
2014	0	0	9,615,000	10,576,500	2.430E+04	1.328E+07	8.920E+02	6.345E+01	1.770E+04	1.189E+00
2015	0	0	9,615,000	10,576,500	2.335E+04	1.276E+07	8.570E+02	6.096E+01	1.701E+04	1.143E+00
2016	0	0	9,615,000	10,576,500	2.243E+04	1.226E+07	8.234E+02	5.857E+01	1.634E+04	1.098E+00
2017	0	0	9,615,000	10,576,500	2.155E+04	1.177E+07	7.911E+02	5.628E+01	1.570E+04	1.055E+00
2018	0	0	9,615,000	10,576,500	2.071E+04	1.131E+07	7.601E+02	5.407E+01	1.508E+04	1.014E+00
2019	0	0	9,615,000	10,576,500	1.990E+04	1.087E+07	7.303E+02	5.195E+01	1.449E+04	9.738E-01
2020	0	0	9,615,000	10,576,500	1.912E+04	1.044E+07	7.017E+02	4.991E+01	1.392E+04	9.356E-01
2021	0	0	9,615,000	10,576,500	1.837E+04	1.003E+07	6.742E+02	4.795E+01	1.338E+04	8.989E-01

GRAPHS

Landfill Name or Identifier: Deercroft Recycling and Disposal Facility