



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

TO: Interested Parties / Applicant

DATE: November 5, 2009

RE: INIG, Inc / 111-28419-00022

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision – Approval

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 326 IAC 2, this approval was effective immediately upon submittal of the application.

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days from the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

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

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

Enclosures
FNPER-AM.dot12/3/07



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Kevin Stangeland
INIG, Inc.
3126 East 500 South
Brook, IN 47922

November 5, 2009

Re: Exempt Construction and Operation Status,
111-28419-00022

Dear Mr. Stangeland:

The application from INIG, Inc., received on September 1, 2009, has been reviewed. INIG, Inc. is located at 3126 East 500 South, Brook, Indiana and receives landfill gas for combustion from the Newton County Landfill, located at 2266 East 500 South Road, Brook, Indiana. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following stationary molded fiber packaging manufacturer located at 3126 East 500 South, Brook, Indiana is classified as exempt from air pollution permit requirements:

- (a) Four (4) landfill gas-fired dryers, identified as EU-001 through EU-004, each with a maximum capacity of 11 MMBtu/hr and a flow rate of 363 scfm, all constructed in 2009, and with each dryer exhausting to its own stack.
- (b) Fugitive emissions from paved roads.

The following conditions shall be applicable:

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

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

- (a) Opacity shall not exceed an average of forty percent (40%) 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.

Compliance with these requirements shall be demonstrated by combusting only landfill gas in the four (4) landfill gas-fired dryers, identified as EU-001 through EU-004. Because landfill gas contains only a small amount of particulate, the Permittee is neither required to observe the visible emissions from the landfill gas-fired dryers' stacks at specified intervals nor keep records of visible emission notations.

2. **326 IAC 6-2-4 (Particulate Limitations for Sources of Indirect Heating)**

Pursuant to 326 IAC 6-2-4 (Particulate Limitations for Sources of Indirect Heating), the particulate emissions from each of the four (4) landfill gas-fired dryers shall be limited by the following equation:

$$Pt = \frac{1.09}{Q^{0.26}}$$

Where:

Pt = Pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input; and
Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr)
heat input.

This exemption is the first air approval issued to this source. A copy of the Exemption is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>. For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source. If you have any questions on this matter, please contact Meredith Jones, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251, at 317-234-5176 or at 1-800-451-6027 (ext 4-5176).

Sincerely,



Alfred C. Dumauval, Ph. D., Section Chief
Permits Branch
Office of Air Quality

ACD/MWJ

cc: File - Newton County
Newton County Health Department
Compliance and Enforcement Branch
Billing, Licensing and Training Section

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

Technical Support Document (TSD) for an Exemption

Source Description and Location

Source Name:	INIG, Inc.
Source Location:	3126 East 500 South, Brook, IN 47922
County:	Newton
SIC Code:	2621
Exemption No.:	111-28419-00022
Permit Reviewer:	Meredith W. Jones

On September 1, 2009, the Office of Air Quality (OAQ) received an application from INIG, Inc. related to the operation of an existing stationary molded fiber packaging manufacturer.

Source Definition

INIG, Inc. (INIG), source ID 111-00022, will produce egg cartons and will be located fifty (50) feet from the Newton County Landfill (Newton), source ID 111-00017. INIG will use landfill gas from Newton to power its dryers. OAQ has examined whether the INIG plant is part of the same major source as Newton. The term "major source" is defined at 326 IAC 2-7-1(22). In order for these two sources to be considered one major source, they must meet all three of the following criteria:

- (1) the sources must be under common ownership or common control;
- (2) the sources must have the same two-digit Standard Industrial Classification (SIC) Code or one must serve as a support facility for the other(s); and,
- (3) the sources must be located on contiguous or adjacent properties.

The two sources do not have a common owner, so common ownership does not exist.

IDEM's Nonrule Policy Document Air-005 sets out two independent tests to determine if common control exists. The first test is to determine whether one source performs an auxiliary activity which directly serves the purpose of a primary activity and whether the owner or operator of the primary activity has a major role in the day-to-day operations of the auxiliary activity. An auxiliary activity directly serves the purpose of a primary activity by supplying a necessary raw material to the primary activity or performing an integral part of the production process for the primary activity.

Newton produces landfill gas through a collection system throughout the landfill. The gas can be burned off by flaring. INIG is locating in an industrial park next to the landfill. The industrial park has a direct landfill gas pipeline connection to Newton. INIG will use the landfill gas to power its drying equipment as part of its production process. The fuel is a necessary raw material for INIG's process. However, supplying the fuel does not give Newton a major role in the day-to-day operations of INIG. Newton will make fuel available to all the businesses located in the industrial park. Newton will function as a utility that provides service to many customers. This role does not give Newton a major role in INIG's day-to-day operations. The first control test is not met.

The second common control test in the nonrule policy is the but/for test. This test focuses on whether the auxiliary activity would exist absent the needs of the primary activity. If all or a majority of the output of the auxiliary activity is consumed by the primary activity the but/for test is satisfied. Newton will continue to function as a landfill, so INIG will not be consuming a majority of Newton's output. None of INIG's products will go to Newton. If Newton were to stop supplying landfill gas to the industrial park, INIG could physically convert its dryers to run on other fuel. If the industrial park stops using landfill gas Newton could send all the gas to its flare. Therefore, the second common control test is not met. Newton and INIG are not under the common control.

The SIC Code Manual of 1987 sets out how to determine the proper SIC Code for each type of business. More information about SIC Codes is available at http://www.osha.gov/pls/imis/sic_manual.html on the internet. Newton has the two-digit SIC code 49 for the Major Group of Electric, Gas, and Sanitary Services. INIG has the two-digit SIC Code 26 for the Major Group of Paper and Allied Products.

A plant is considered a support facility if at least fifty percent of its output is dedicated to another plant. INIG will provide no output to Newton. Newton's total output of landfill gas is less than 50% of its total output as a working landfill. Neither source qualifies as a support facility. Since the sources have different two-digit SIC Codes and neither is a support facility, they do not meet the second part of the major source definition.

The last criterion of the definition is whether Newton and INIG are on contiguous or adjacent properties. The sources are located on properties that are separated only by a roadway. The property boundaries touch under the roadway. The properties are therefore contiguous. The third part of the definition is met.

Since Newton and INIG do not meet the first and second parts of the major source definition, OAQ finds that the two sources are not part of the same major source. INIG should be permitted separately from Newton.

Existing Approvals

There have been no previous approvals issued to this source.

County Attainment Status

The source is located in Newton County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard. ¹
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Not designated.
¹ Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005. Unclassifiable or attainment effective April 5, 2005, for PM _{2.5} .	

- (a) *Ozone Standards*
 Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Newton County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) *PM_{2.5}*
 Newton County has been classified as attainment for PM_{2.5}. On May 8, 2008, U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM_{2.5} emissions, and the effective date of these rules was July 15, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements. The May 8, 2008 rule revisions require IDEM to regulate PM₁₀ emissions as a surrogate for PM_{2.5} emissions until 326 IAC 2-2 is revised.
- (c) *Other Criteria Pollutants*
 Newton County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

The fugitive emissions of criteria pollutants and hazardous air pollutants are counted toward the determination of 326 IAC 2-1.1-3 (Exemptions) applicability.

Background and Description of Emission Units and Pollution Control Equipment

The Office of Air Quality (OAQ) has reviewed an application, submitted by INIG, Inc. on September 1, 2009, relating to the operation of an existing stationary molded fiber packaging manufacturer. INIG, Inc. is located at 3126 East 500 South, Brook, Indiana and receives landfill gas for combustion from the Newton County Landfill, located at 2266 East 500 South Road, Brook, Indiana.

The source consists of the following emission units:

- (a) Four (4) landfill gas-fired dryers, identified as EU-001 through EU-004, each with a maximum capacity of 11 MMBtu/hr and a flow rate of 363 scfm, all constructed in 2009, and with each dryer exhausting to its own stack.
- (b) Fugitive emissions from paved roads.

Enforcement Issues

There are no pending enforcement actions related to this source.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – Exemption

The following table reflects the unlimited potential to emit (PTE) of the entire source before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Process/ Emission Unit	Potential To Emit of the Entire Source (tons/year)								
	PM	PM ₁₀ *	PM _{2.5}	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Landfill Gas Combustion (EU-001 through EU-004)	1.56	1.56	1.56	3.19	6.30	0.55	1.09	1.42	1.12 (HCl)
Fugitive Emissions (paved roads)	1.90	1.90	1.90	-	-	-	-	-	-
Total PTE of Entire Source	3.47	3.47	3.47	3.19	6.30	0.55	1.09	1.42	1.12 (HCl)
Exemption Levels	5	5	5	10	10	5 or 10	25	25	10
Registration Levels	25	25	25	25	25	25	100	25	10
negl. = negligible *Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM ₁₀), not particulate matter (PM), is considered as a "regulated air pollutant."									

- (a) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of all regulated criteria pollutants are less

than the levels listed in 326 IAC 2-1.1-3(e)(1). Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3 (Exemptions).

- (b) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

- (a) The requirements of the New Source Performance Standards (NSPS) for Fossil-Fuel-Fired Steam Generators for Which Construction Is Commenced After August 17, 1971 (40 CFR Part 60, Subpart D) (326 IAC 12) are not included in the permit for any of the landfill gas-fired dryers since each of these units has a heat input capacity less than 250 million British thermal units per hour.
- (b) The requirements of the New Source Performance Standards (NSPS) for Industrial-Commercial-Institutional Steam Generating Units (40 CFR Part 60, Subpart Db) (326 IAC 12) are not included in the permit for any of the landfill gas-fired dryers since each of these units has a heat input capacity less than 100 million British thermal units per hour (MMBtu/hr).
- (c) The requirements of the New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units (40 CFR Part 60, Subpart Dc) (326 IAC 12) are not included in the permit for any of the landfill gas-fired dryers since none of these units generate steam.
- (d) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (e) The requirements of the National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry (40 CFR Part 63, Subpart S) (326 IAC 20-33) are not included in the permit for the molded fiber packaging manufacturing process since this source is not a major source of HAPs.
- (f) The requirements of the National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating (40 CFR Part 63, Subpart JJJJ) (326 IAC 20-65) are not included in the permit for the molded fiber packaging manufacturing process since this source does not contain a facility with web coating lines and it is not a major source of HAP.
- (g) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.

Compliance Assurance Monitoring (CAM)

- (h) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit because the unlimited potential to emit of the source is less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability Determination

The following state rules are applicable to the source:

326 IAC 2-1.1-3 (Exemptions)

Exemption applicability is discussed under the Permit Level Determination – Exemption section above.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The potential to emit of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-4.1.

326 IAC 2-6 (Emission Reporting)

Pursuant to 326 IAC 2-6-1, this source is not subject to this rule because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity Limitations)

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

- (a) Opacity shall not exceed an average of forty percent (40%) 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.

Compliance with these requirements shall be demonstrated by combusting only landfill gas in the four (4) landfill gas-fired dryers, identified as EU-001 through EU-004. Because landfill gas contains only a small amount of particulate, the Permittee is neither required to observe the visible emissions from the landfill gas-fired dryers' stacks at specified intervals nor keep records of visible emission notations.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

The source is not subject to the requirements of 326 IAC 6-3-2. The molded fiber packaging manufacturing process is a wet process and is therefore not a potential source of particulate emissions.

326 IAC 6-4 (Fugitive Dust Emissions Limitations)

The source is subject to the requirements of 326 IAC 6-4 because the paved roads have the potential to emit fugitive particulate emissions. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source 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.

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

The source is not subject to the requirements of 326 IAC 6-5 because the source does not have potential fugitive particulate emissions greater than 25 tons per year. Therefore, 326 IAC 6-5 does not apply.

326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)

Each of the emission units at this source is not subject to the requirements of 326 IAC 8-1-6 since the unlimited potential VOC emissions from each emission unit are less than twenty-five (25) tons per year.

Landfill Gas-fired Dryers

326 IAC 6-2-4 (Particulate Limitations for Sources of Indirect Heating)

Pursuant to 326 IAC 6-2-4 (Particulate Limitations for Sources of Indirect Heating), the particulate emissions from each of the four (4) landfill gas-fired dryers shall be limited by the following equation:

$$P_t = \frac{1.09}{Q^{0.26}}$$

Where:

Pt = Pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input; and
Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input.

$$Pt = \frac{1.09}{(44.0)^{0.26}} = 0.41 \text{ lb/MMBtu}$$

The potential particulate emissions from each of the four (4) landfill gas-fired dryers is 0.0081 lb/MMBtu. Therefore, all of the dryers are able to comply with this limit.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

None of the four (4) landfill gas-fired dryers has the potential to emit twenty-five (25) tons per year or ten (10) pounds per hour of sulfur dioxide. Therefore, 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations) does not apply.

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on September 1, 2009.

The operation of this source shall be subject to the conditions of the attached proposed Exemption No. 111-28419-00022. The staff recommends to the Commissioner that this Exemption be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Meredith Jones at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5176 or toll free at 1-800-451-6027 extension 4-5176.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

Company Name: INIG, Inc.
Address: 3126 East 500 South, Brook, IN 47922
Exemption No.: 111-28419-00022
Reviewer: Meredith W. Jones
Date: 9/29/09

Potential to Emit Summary (tons/yr)				
<i>Pollutant</i>	<i>326 IAC 2-1.1-3 Exemption Levels</i>	<i>Vehicular Traffic: Paved Roads</i>	<i>Landfill Gas Combustion (EU-001 through EU-004)</i>	<i>Total</i>
PM/PM₁₀/PM_{2.5}	5	1.90	1.56	3.47
SO_x	10	-	3.19	3.19
NO_x	10	-	6.30	6.30
VOC	10	-	0.55	0.55
CO	25	-	1.09	1.09
HAPs	10 (single HAP); 25 (any combination of HAPs)	-	1.12 (HCl); 1.42 (total HAPs)	1.12 (HCl); 1.42 (total HAPs)

Company Name: INIG, Inc.
Address: 3126 East 500 South, Brook, IN 47922
Exemption No.: 111-28419-00022
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****Landfill Gas Combustion (EU-001 through EU-004)****

The source contains four (4) landfill gas-fired dryers, identified as EU-001 through EU-004, each with a maximum capacity of 11 MMBtu/hr and a flow rate of 363 scfm.

Total Fuel Input (MMBtu/hr)	NMOC from Landfill (ppmv)	Total Flow Rate (scfm)	Emission Unit	
			Emission Unit Description	Unit ID
44.0	816.3	1452	One (1) landfill gas-fired dryer	EU-001 through EU-004

Pollutant Emission Factors					Inlet Conc.
PM ^a	PM10 ^a	SO ₂ ^b	NOx ^a	CO ^a	NMOC ^c
8.2	8.2	49.6	33.0	5.7	816.30
(lb/10 ⁶ dscf methane)	(lb/10 ⁶ dscf methane)	(ppmv)	(lb/10 ⁶ dscf methane)	(lb/10 ⁶ dscf methane)	(ppmv)

Potential To Emit (tons/year)							
Emission Unit	PM	PM10	SO ₂	NOx	CO	NMOC ^d	VOC
Landfill gas-fired dryers (EU-001 through EU-004)	1.56	1.56	3.19	6.30	1.09	1.41	0.55

^a Emission Factors are from AP-42, Chapter 2.4 - Municipal Solid Waste Landfills, Table 2.4-5. (AP-42, 11/98). PM emissions are assumed to be equal to PM10 emissions.

^b 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 flare inlet concentration is taken from Newton County Landfill's Title V permit (Significant Permit Modification No. T111-22779-00017) and is based on the results of Tier 2 testing done in 1998.

^d A 98% control efficiency from combustion is assumed (AP-42, Chapter 2.4 - Municipal Solid Waste Landfills, Table 2.4-3 (AP-42, 11/98)).

Methodology

PM/PM10/NOx/CO Emissions (tons/yr) = Flow Rate (scfm) / 10⁶ x Emission Factor (lb/10⁶ dscf) x 50% (% methane in landfill gas) x (60 min/hr) x (8760 hr/yr) x (0.0005 ton/lb)

SO₂ Emissions (tons/yr) = Flow Rate (scfm) x Emission Factor (ppmv) / 1000,000 x 1 atm / Gas Constant (0.7302 atm-cf/lb mole-R) / Temp (60F+ 460) x Mole weight of SO₂ (64 lbs/lbs mole) x (60 min/hr) x (8760 hr/yr) x (1 ton/2000 lbs)

NMOC Emissions (tons/yr) = Flow Rate (scfm) x Emission Factor (ppmv) / 1000,000 x 1 atm / Gas Constant (0.7302 atm-cf/lb mole-R) / Temp (60F+ 460) x Mole weight of Hexane (lbs/lbs mole) x (60 min/hr) x (8760 hr/yr) x (1 ton/2000 lbs) x (1- 98% control efficiency)

VOC Emissions (tons/yr) = 39% x NMOC Emissions (tons/yr) (AP-42, Chapter 2.4 - Municipal Solid Waste Landfills, 1998)

Company Name: INIG, Inc.
Address: 3126 East 500 South, Brook, IN 47922
Exemption No.: 111-28419-00022
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****Landfill Gas Combustion: HAPs (EU-001 through EU-004)****

Inputs from Landfill Gas Model (Emissions Before Controls)			
Product	m ³ /yr	mg/yr	tons/year
Methane ¹	2.12E+07	2.83E+04	3.11E+04
CO ₂	2.12E+07	7.77E+04	8.54E+04
CO	9.13E+03	1.38E+01	1.52E+01
NMOC	6.93E+04	2.48E+02	2.73E+02

1. Landfill Gas (LFG) Production Rate:	4.24E+07	m ³ /yr (=CH ₄ +CO ₂ production rate from EPA Landfill Air Emission Model - Appendix B)
2. Collection Efficiency:	75%	(AP-42, Chapter 2.4)
3. Control Efficiency:	98%	(AP-42, Chapter 2.4, Table 2.4-3)

CAS Number	Compound	HAP Concentration (ppmv)**	Molecular Weight	Uncontrolled HAPs Emissions from Landfill (tons/yr)	HAPs Emissions after Combustion (tons/yr)
71-55-6	1,1,1-Trichloroethane (methyl chloroform)	0.48	133.41	1.26E-01	1.90E-03
79-34-5	1,1,2,2-Tetrachloroethane	1.11	167.85	3.68E-01	5.51E-03
75-34-3	1,1-Dichloroethane (ethylidene dichloride)	2.35	98.97	4.59E-01	6.88E-03
75-35-4	1,1-Dichloroethene (vinylidene chloride)	0.20	96.94	3.82E-02	5.74E-04
107-06-2	1,2-Dichloroethane (ethylene dichloride)	0.41	98.96	8.00E-02	1.20E-03
78-87-5	1,2-Dichloropropane (propylene dichloride)	0.18	112.99	4.01E-02	6.02E-04
107-13-1	Acrylonitrile	6.33	53.06	6.63E-01	9.94E-03
75-15-0	Carbon disulfide	0.58	76.13	8.71E-02	1.31E-03
56-23-5	Carbon tetrachloride	0.00	153.84	1.21E-03	1.82E-05
463-58-1	Carbonyl sulfide	0.49	60.07	5.81E-02	8.71E-04
108-90-7	Chlorobenzene	0.25	112.56	5.55E-02	8.33E-04
75-00-3	Chloroethane (ethyl chloride)	1.25	64.52	1.59E-01	2.39E-03
67-66-3	Chloroform	0.03	119.39	7.07E-03	1.06E-04
75-09-2	Dichloromethane (methylene chloride)	14.30	84.94	2.40E+00	3.59E-02
100-41-4	Ethylbenzene	4.61	106.16	9.66E-01	1.45E-02
110-54-3	Hexane	6.57	86.18	1.12E+00	1.68E-02
108-10-1	Methyl isobutyl ketone	1.87	100.16	3.70E-01	5.54E-03
127-18-4	Perchloroethylene (tetrachloroethene)	3.73	165.83	1.22E+00	1.83E-02
79-01-6	Trichloroethylene (trichloroethene)	2.82	131.4	7.31E-01	1.10E-02
75-01-4	Vinyl chloride	7.34	62.5	9.05E-01	1.36E-02
71-43-2	Benzene	1.91	78.11	2.94E-01	4.41E-03
74-87-3	Methyl chloride (Chloromethane)	1.21	50.49	1.21E-01	1.81E-03
108-88-3	Toluene	39.30	92.13	7.14E+00	1.07E-01
1330-20-7	Xylene (isomers and mixture)	12.10	106.16	2.53E+00	3.80E-02
	Mercury Compounds	0.000292	200.61	1.16E-04	1.73E-06
7647-01-0	***Hydrochloric acid [Hydrogen Chloride (HCl)]	42.0	36	-	1.12E+00
Total Emissions				19.9	1.42

¹Methane production rate has been reduced to reflect that INIG, Inc. will not be receiving all of the landfill gas produced by Newton County Landfill.

*Per AP-42 Table 2.4-2, Footnote C, VOC is 39% of NMOC emissions for non-codisposal facilities (AP-42, 11/98).

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

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

Methodology

Uncontrolled Emissions of CO and VOC (tons/yr) = CO/VOC emissions at closure (Mg/yr) (from LandGEM 2.01) x (1.1 tons/Mg)

Uncontrolled HAPs Emissions from Landfill (tons/yr) = LFG Production Rate (m³/yr) x 35.31 ft³/m³ x (Concentration (ppmv) / 1,000,000) x 1 atm / Gas Constant (0.7302 atm-cf/lb mole-R) / Temp (60F+ 460) x Mole weight of HAPs (lbs/lbs mole) x (1 ton/2000 lbs)

HAPs Emissions after Combustion (tons/yr) = Uncontrolled HAPs Emissions from Landfill (tons/yr) x Collection Efficiency x (1 - Control Efficiency)

HCl Emissions (tons/yr) = LFG Production Rate (m³/yr) x 35.31 ft³/m³ x Chlorinated Compound Concentrations (ppmv) /1,000,000 x 1 atm / Gas Constant (0.7302 atm-cf/lb mole-R) / Temp (60F+ 460) x Mole weight of HCl (lbs/lbs mole) x (1 ton/2000 lbs) x Collection Efficiency

Company Name: INIG, Inc.
Address: 3126 East 500 South, Brook, IN 47922
Exemption No.: 111-28419-00022
Reviewer: Meredith W. Jones
Date: 9/29/09

****Vehicular Traffic: Paved Roads****

The following calculations determine the amount of emissions created by vehicle traffic on paved roads, based on 8760 hours of use and AP-42, Ch 13.2.1 (12/2003).

REFUSE VEHICLE MILEAGE CALCULATION			
Type of Vehicle	Maximum Number of Vehicles / Year	Length of Road (roundtrip) (miles)	Actual Vehicle Miles Traveled (VMT)
Tractor Trailers	5475	1.0	5,475
TOTAL			5,475

Total No. Tractor Trailers / Day = 15
 Number of Operating Weeks/Year = 52
 Number of Operating Days/Year = 365
 Total Annual Operating Hours = 8,760
 Length of Paved Road (Round-Trip) (ft) = 5,280

VEHICLE WEIGHT (W) CALCULATIONS			
Type of Vehicle	Mean Vehicle Weight (tons)	Maximum Number of Vehicles / Year	Total Vehicle Weight (tons)
Tractor Trailers	40.0	5,475	219,000.0

Assumptions:

A control efficiency of 50% is assumed for PM₁₀.

TOTAL REFUSE VEHICLE DUST EMISSIONS

Pollutant	lb/hr	tons/yr
PM ₁₀	0.43	1.90
PM _{2.5}	0.13	0.55
PM	1.26	5.50

EMISSIONS CALCULATIONS

$$PRF = (k*(sL/2)^{0.65}*(W/3)^{1.5}-C)*(1-P/4N)$$

where:

PRF = Paved Road Emission Factor of trucks in, lb PM_{10/2.5}/VMT
 k = particle size multiplier:

$$k_{PM10} \text{ (lb/VMT)} = 0.016$$

$$k_{PM2.5} \text{ (lb/VMT)} = 0.0024$$

$$k_{PM} \text{ (lb/VMT)} = 0.082$$

$$sL = \text{Road surface silt loading (g/m}^2\text{)} = 0.6$$

$$W = \text{Mean vehicle weight (tons)} = 40.0$$

C = Emission factor for 1980s vehicle fleet exhaust, brake wear, and tire wear:

$$C_{PM10/PM} = 0.00047$$

$$C_{PM2.5} = 0.00036$$

$$P = \text{number of days/yr with } \geq 0.01 \text{ inches of rain} = 120$$

$$N = \text{number of days in the averaging period (1 yr)} = 365$$

$$\text{Total Refuse Vehicle Dust Emissions (lbs/hr)} = \text{VMT} * \text{PRF} * (1 \text{ yr}/8760\text{hr}) * (1-\text{CF})$$

$$\text{Total Refuse Vehicle Dust Emissions (tons/yr)} = \text{VMT} * \text{PRF} * (1 \text{ ton}/2000 \text{ lbs}) * (1-\text{CF})$$

where:

$$\text{VMT} = \text{Vehicle Miles Traveled} = 5,475$$

$$\text{PRF} = \text{Paved Road Emission Factor for trucks (lb PM/VMT):}$$

$$PRF_{PM10} = 1.39$$

$$PRF_{PM2.5} = 0.40$$

$$PRF_{PM} = 4.02$$

$$\text{CF} = \text{Dust Control Efficiency} = 50\%$$



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Kevin Strangeland
INIG, Inc
3126 E 500
South Brook, IN 47922

DATE: November 5, 2009

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
Exemption
111-28419-00022

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
Jeune Franklin (Riley, Park, Hayden & Associates)
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 11/30/07

Mail Code 61-53

IDEM Staff	MIDENNEY 11/5/2009 INIG, Inc. 111-28419-00022 (final)		Type of Mail: CERTIFICATE OF MAILING ONLY	AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204		

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee	Remarks
1		Kevin Stangeland INIG, Inc. 3126 E 500 South Brook IN 47922 (Source CAATS) via confirmed delivery										
2		Mr. Charles L. Berger Attorney Berger & Berger, Attorneys at Law 313 Main Street Evansville IN 47700 (Affected Party)										
3		Newton County Commissioners 201 N. 3rd Street, Courthouse Square Kentland IN 47951 (Local Official)										
4		Newton County Health Department 4117 S. 240 W. Suite 500 Morocco IN 47963 (Health Department)										
5		Mr. Chris Hernandez Pipefitters Association, Local Union 597 8762 Louisiana St., Suite G Merrillville IN 46410 (Affected Party)										
6		Mr. Kenny Haun P.O. Box 280 Rensselaer IN 47978 (Affected Party)										
7		Brook Town Council P.O. Box 182 Brook IN 47922 (Local Official)										
8		Juene Franklin Riley, Park, Hayden & Associates, Inc. 2656 South Loop West Suite 590 Houston TX 77054 (Consultant)										
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