



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: October 9, 2008

RE: Freeman Family Funeral Home / 145-27061-00074

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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October 9, 2006

Michael Freeman
Freeman Family Funeral Home
819 South Harrison Street
Shelbyville, Indiana 46176

Re: Exempt Construction and Operation Status,
145-27061-00074

Dear Michael Freeman:

The application from Freeman Family Funeral Home, received on October 1, 2008, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following stationary human and pet crematory located at 819 South Harrison Street, Shelbyville, Indiana 46176, is classified as exempt from air pollution permit requirements:

- (a) One (1) human crematory, identified as BL-01, approved for construction in 2008, with a maximum capacity of 150 pounds per hour, using an afterburner as control, exhausting to stack ST-01, and using propane as fuel at a maximum heat input capacity of 1.30 million Btu (MMBtu) per hour.
- (b) One (1) pet crematory, identified as BL-02, approved for construction in 2008, with a maximum capacity of 150 pounds per hour, using an afterburner as control, exhausting to stack ST-02, and using propane as fuel at a maximum heat input capacity of 1.30 million Btu (MMBtu) per hour.

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:
 - (1) 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.
 - (2) 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.
2. 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
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.
3. 326 IAC 4-2 (Incinerators)
Pursuant to 326 IAC 4-2-2, the human and pet crematories shall comply with the following:
 - (1) Consist of primary and secondary chambers, or the equivalent;
 - (2) Be equipped with a primary burner unless burning only wood products;

- (3) Comply with 326 IAC 5-1 (Opacity Limitations) and 326 IAC 2 (Permit Review Rules);
- (4) Be maintained, operated, and burn waste in accordance with the manufacturer's specifications;
- (5) Not emit particulate matter in excess of 0.5 pound of particulate matter per one thousand (1,000) pounds of dry exhaust gas under standard conditions corrected to 50% excess air for incinerators with solid waste capacity less than 200 pounds per hour;
- (6) If any of the requirements of (1) through (5) are not met, then the owner or operator shall stop charging the incinerator until adjustments are made that address the underlying cause of the deviation.

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 Anne-Marie C. Hart, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251, at 317-234-5401 or at 1-800-451-6027 (ext 4-5401).

Sincerely,

Original Signed By:

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

ACD/ACH

cc: File - Shelby County
Shelby County Health Department
Air Compliance Section
Compliance Data Section
Permits Administrative and Development
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
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Source Name:	Freeman Family Funeral Home
Source Location:	819 South Harrison Street, Shelbyville, Indiana 46176
County:	Shelby
SIC Code:	7261
Registration (or Exemption) No.:	145-27061-00074
Permit Reviewer:	Anne-Marie C. Hart

On October 1, 2008, the Office of Air Quality (OAQ) received an application from Freeman Family Funeral Home related to the construction and operation of a new human and pet crematory.

Existing Approvals

There have been no previous approvals issued to this source.

County Attainment Status

The source is located in Shelby County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Attainment effective October 19, 2007, 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 PM2.5.	

- (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. Shelby 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) **PM2.5**
 Shelby County has been classified as attainment for PM2.5. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM2.5 emissions, and the effective date of these rules was July 15th, 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 PM2.5 emissions until 326 IAC 2-2 is revised.

- (c) **Other Criteria Pollutants**
Shelby County has been classified as attainment or unclassifiable in Indiana for all regulated 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 Freeman Family Funeral Home on October 1, 2008, relating to the construction and operation of a new human and pet crematory.

The following is a list of the new emission units and pollution control devices:

- (a) One (1) human crematory, identified as BL-01, approved for construction in 2008, with a maximum capacity of 150 pounds per hour, using an afterburner as control, exhausting to stack ST-01, and using propane as fuel at a maximum heat input capacity of 1.30 million Btu (MMBtu) per hour.
- (b) One (1) pet crematory, identified as BL-02, approved for construction in 2008, with a maximum capacity of 150 pounds per hour, using an afterburner as control, exhausting to stack ST-02, and using propane as fuel at a maximum heat input capacity of 1.30 million Btu (MMBtu) per hour.

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	PM10 *	PM2.5	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Incineration	4.60	4.60	4.60	1.64	1.97	1.97	6.57	0.00	0.00
Propane Combustion	0.02	0.09	0.09	negl.	1.62	0.12	0.93	0.00	0.00
Total PTE of Entire Source	4.62	4.69	4.69	1.64	3.59	2.10	7.50	0.00	0.00
Exemptions 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 (PM10), 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 Standard for Incinerators, 40 CFR 60, Subpart E (326 IAC 12), are not included in the permit, since the crematory has a charge rate less than 50 tons per day.
- (b) The requirements of the New Source Performance Standard for Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996, 40 CFR 60, Subpart Ec (326 IAC 12), are not included in the permit, since the crematory is not a hospital/medical/infectious waste incinerator as defined by the rule.
- (c) There are no New Source Performance Standards (NSPS)(40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (d) 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)

- (e) 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:

- (a) 326 IAC 2-1.1-3 (Exemptions)
Exemption applicability is discussed under the Permit Level Determination – Exemption section above.
- (b) 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.
- (c) 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.
- (d) 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:
- (1) 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.
 - (2) 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.
- (e) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
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.
- (f) 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.
- (g) 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 VOC potential emissions from each emission unit is less than twenty-five (25) tons per year.

Crematories

- (h) 326 IAC 4-2 (Incinerators)
Pursuant to 326 IAC 4-2-2, the human and pet crematories shall comply with the following:
- (1) Consist of primary and secondary chambers, or the equivalent;
 - (2) Be equipped with a primary burner unless burning only wood products;
 - (3) Comply with 326 IAC 5-1 (Opacity Limitations) and 326 IAC 2 (Permit Review Rules);
 - (4) Be maintained, operated, and burn waste in accordance with the manufacturer's specifications;
 - (5) Not emit particulate matter in excess of 0.5 pound of particulate matter per one thousand (1,000) pounds of dry exhaust gas under standard conditions corrected to 50% excess air for incinerators with solid waste capacity less than 200 pounds per hour;
 - (6) If any of the requirements of (1) through (5) are not met, then the owner or operator shall stop charging the incinerator until adjustments are made that address the underlying cause of the deviation.
- (i) 326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)
The crematories are not considered a source of indirect heating. Therefore, the crematories are not subject to the provisions of 326 IAC 6-2.
- (j) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
The crematories are incinerators. Pursuant to 326 IAC 6-3-1(b)(2), incinerators are exempt from the provisions of 326 IAC 6-3. Therefore, the crematories are not subject to the provisions of 326 IAC 6-3.
- (k) 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
The potential to emit sulfur dioxide from the crematories is less than 25 tons per year. Therefore, the crematories are not subject to the provisions of 326 IAC 7-1.1.

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 October 1, 2008.

The construction and operation of this source shall be subject to the conditions of the attached proposed Exemption No. 145-27061-00074. The staff recommends to the Commissioner that this Exemption be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Anne-Marie C. Hart 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) 234-5401 or toll free at 1-800-451-6027 extension 4-5401.
- (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

**Appendix A: Emissions Calculations
Uncontrolled Potential to Emit Summary**

Company Name: Freeman Family Funeral Home
Address City IN Zip: 819 South Harrison Street, Shelbyville, IN 46176
Permit Number: 145-27061-00074
Plt ID: 145-00074
Reviewer: Anne-Marie C. Hart

Category	Uncontrolled Potential to Emit (tons/year)			
	Emissions Generating Activity			
	Pollutant	Incineration	Propane Gas Combustion	TOTAL
Criteria Pollutants	PM	4.60	0.02	4.62
	PM10/PM2.5	4.60	0.09	4.69
	SO2	1.64	2.49E-03	1.64
	NOx	1.97	1.62	3.59
	VOC	1.97	0.12	2.10
	CO	6.57	0.93	7.50

Uncontrolled total potential to emit are based on rated capacity at 8,760 hours/year.

Appendix A: Emissions Calculations
Multiple Chamber Industrial Incinerators (Process Emissions)

Company Name: Freeman Family Funeral Home
Address City IN Zip: 819 South Harrison Street, Shelbyville, IN 46176
Permit Number: 145-27061-00074
Plt ID: 145-00074
Reviewer: Anne-Marie C. Hart

Pollutant			PM*	PM10/PM2.5*	SO2	NOx**	VOC	CO
Emission Factor (lb/ton)			7.0	7.0	2.5	3.0	3.0	10.0
Emission Unit	Potential Throughput (lbs/hr)	Potential Throughput (tons/yr)	Uncontrolled Potential to Emit (tons/yr)					
			PM*	PM10*	SO2	NOx**	VOC	CO
Crematory Incinerator 1 (Primary and Secondary Chamber)	150	657.0	2.30	2.30	0.82	0.99	0.99	3.29
Crematory Incinerator 2 (Primary and Secondary Chamber)	150	657.0	2.30	2.30	0.82	0.99	0.99	3.29
Totals			4.60	4.60	1.64	1.97	1.97	6.57

Methodology

Potential Throughput (tons/yr) = [Potential Throughput (lbs/hr)] x [8,760 hrs/yr] x [1ton/2000 lbs]

Uncontrolled Potential to Emit (tons/yr) = [Potential Throughput (tons/yr)] x [Emission Factor (lb/ton)] x [1 ton/2,000 lbs]

where:

Emission factors are from AP-42 (5th Edition 1/95) Table 2.1-12, Uncontrolled emission factors for industrial/commercial refuse combustors, multiple chambers

*No emission factor for PM10 and PM2.5 available (assume PM = PM10 = PM2.5)

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Abbreviations

PM = Particulate Matter

NOx = Nitrous Oxides

PM10 = Particulate Matter (<10 um)

VOC - Volatile Organic Compounds

SO2 = Sulfur Dioxide

CO = Carbon Monoxide

**Appendix A: Emissions Calculations
Propane Combustion Emissions Only
Incinerator rated at MM BTU/HR <100**

Company Name: Freeman Family Funeral Home
Address City IN Zip: 819 South Harrison Street, Shelbyville, IN 46176
Permit Number: 145-27061-00074
Plt ID: 145-00074
Reviewer: Anne-Marie C. Hart

					Pollutant	PM*	PM10/PM2.5	SO2	NOx	VOC	CO
					Emission Factor (lb/kgal)	0.2	0.7	2.00E-02	13	1.0	7.5
					S = Sulfur Content = 0.2 grains/100ft ³	(SO2 Ef = 0.10 x s)					
Emission Unit	Number of Units	Unit Heat Input Capacity (MMBtu/hr)	Combined Total Heat Input Capacity (MMBtu/hr)	Potential Throughput (kgal/yr)	Uncontrolled Potential to Emit (tons/yr)						
					PM*	PM10*	SO2	NOx**	VOC	CO	
Crematory Incinerator 1 (Primary and Secondary)	1	1.3	1.3	124.46	0.012	0.044	0.001	0.809	0.062	0.467	
Crematory Incinerator 2 (Primary and Secondary)	1	1.3	1.30	124.46	1.2E-02	0.044	0.001	0.809	0.062	0.467	
Totals	2		2.6		0.025	0.087	0.002	1.618	0.124	0.933	

Methodology

Potential Throughput (kgal/yr) = [Combined Total Heat Input Capacity (MMBtu/hr)] x [8,760 hrs/yr] x [1 kgal/1,000 gal] x [1 gal/0.0915 MMBtu]

Uncontrolled Potential to Emit (tons/yr) = [Potential Throughput (kgal/yr)] x [Emission Factor (lb/kgal)] x [1 ton/2,000 lbs]

Emission Factors are from AP 42, Chapter 1.5, Tables 1.5-1, SCC #1-03-010-02 (Update 7/08)

*PM emission factor is filterable PM only. PM10/PM2.5 emission factor is filterable and condensable PM10/PM10 combined.

Abbreviations

PM = Particulate Matter NOx = Nitrous Oxides
 PM10 = Particulate Matter (<10 um) VOC - Volatile Organic Compounds
 PM2.5 = Particulate Matter (<2.5 um) CO = Carbon Monoxide
 SO2 = Sulfur Dioxide