



# 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](http://www.idem.IN.gov)

TO: Interested Parties / Applicant

DATE: September 2, 2011

RE: Barks Weaver & Glick Funeral Home, Inc. / 005-30722-00105

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



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Mr. Rory Glick  
Barkes, Weaver & Glick Funeral Home, Inc.  
4205 Jonathan Moore Pike  
Columbus, IN 47201

September 2, 2011

Re: Exempt Construction and Operation Status,  
E005-30722-00105

Dear Mr. Glick:

The application from Barkes, Weaver & Glick Funeral Home, Inc, received on July 18, 2011, 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 crematory for human remains located at 4205 Jonathan Moore Pike, Columbus, IN 47201 is classified as exempt from air pollution permit requirements:

- (a) One (1) natural gas human pathological incinerator, identified as BL-01, approved for construction in 2011, with a maximum capacity of 150 pounds of remains per hour, consisting of a cremation and afterburner chamber that fire natural gas at a rate of 2.25 million British thermal units per hour (MMBTU/hr).

The following conditions shall be applicable:

- (a) Pursuant to 326 IAC 4-2-2 (Incinerators), the crematory incinerator BL-01 shall:
  - (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 or an operation and maintenance plan as specified in 326 IAC 4-2-2(c);
  - (5) Not emit particulate matter in excess of five-tenths (0.5) pound of particulate matter per one thousand (1,000) pounds of dry exhaust gas under standard conditions corrected to fifty percent (50%) excess air.
  - (6) If any of the above requirements (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.
  - (7) The incinerator is exempt from requirement (5) if subject to a more stringent particulate matter emissions limit in 40 CFR 52 Subpart P, State Implementation Plan for Indiana.
  - (8) The owner or operator of the incinerator must make the manufacturer's specifications or the operation and maintenance plan available to the department upon request.
    - (1) The operation and maintenance plan must be designed to meet the particulate matter emission limitation specified in subsection (a)(5) and include the following:

- (A) Procedures for receiving, handling, and charging waste.
  - (B) Procedures for incinerator startup and shutdown.
  - (C) Procedures for responding to a malfunction.
  - (D) Procedures for maintaining proper combustion air supply levels.
  - (E) Procedures for operating the incinerator and associated air pollution control systems.
  - (F) Procedures for handling ash.
  - (G) A list of wastes that can be burned in the incinerator.
- (9) Each incinerator operator shall review the plan before initial implementation of the operation and maintenance plan and annually thereafter.
  - (10) The operation and maintenance plan must be readily accessible to incinerator operators.
  - (11) The owner or operator of the incinerator shall notify the department, in writing, thirty (30) days after the operation and maintenance plan is initially developed pursuant to this section.
  - (12) The owner or operator of the incinerator must make the manufacturer's specifications or the operation and maintenance plan available to the department upon request.
- (b) 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:
- (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 (sixth (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute non-overlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (c) 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.
- (d) Pursuant to 326 IAC 11-8-1(b)(1), the crematory incinerator, BL-01, is not subject to the requirements of 326 IAC 11-8, because it will burn 90% or more by weight of pathological waste and provided that the following are met:
- (1) The Permittee shall notify the department and U.S. EPA that the unit meets the criteria in this subdivision.
  - (2) The Permittee shall keep records on a calendar quarter basis of the weight of pathological waste, low-level radioactive waste, chemotherapeutic waste, or any combination of these wastes burned, and the weight of all other fuels and wastes burned in the unit.

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](http://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 Pam K. Way, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251, at 317-234-4794 or at 1-800-451-6027 (ext 44794).

Sincerely,

A handwritten signature in black ink, appearing to read 'Alfred C. Dumauual', written over a printed name.

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

ACD/pkw

cc: File - Bartholomew County  
Bartholomew County Health Department  
Compliance and Enforcement Branch  
Billing, Licensing, and Training Section  
IDEM Southeast and Southwest Regional Office

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

Technical Support Document (TSD) for an Exemption

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|--|
| <b>Source Description and Location</b> |
|--|

|                         |  |
|-------------------------|--|
| <b>Source Name:</b>     | <b>Barkes, Weaver &amp; Glick Funeral Home, Inc.</b> |
| <b>Source Location:</b> | <b>4205 Jonathan Moore Pike, Columbus, IN 47201</b>  |
| <b>County:</b>          | <b>Bartholomew</b>                                   |
| <b>SIC Code:</b>        | <b>7261</b>  |
| <b>Exemption No.:</b>   | <b>E005-30722-00105</b>                              |
| <b>Permit Reviewer:</b> | <b>Pam K. Way</b>                                    |

On July 18, 2011, the Office of Air Quality (OAQ) received an application from Barkes, Weaver & Glick Funeral Home related to the construction and operation of a new stationary crematory for human remains.

|                           |
|---------------------------|
| <b>Existing Approvals</b> |
|---------------------------|

There have been no previous approvals issued to this source.

|                                 |
|---------------------------------|
| <b>County Attainment Status</b> |
|---------------------------------|

The source is located in Bartholomew County.

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

- (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. Bartholomew 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<sub>2.5</sub>**  
 Bartholomew County has been classified as attainment for PM<sub>2.5</sub>. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM<sub>2.5</sub> emissions. These rules became effective on July 15, 2008. On May 4, 2011 the air pollution control board issued an emergency rule establishing the direct PM<sub>2.5</sub> significant level at ten (10) tons per year. This rule became effective, June 28, 2011. Therefore, direct PM<sub>2.5</sub> and SO<sub>2</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.

- (c) Other Criteria Pollutants  
 Bartholomew 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 Barkes, Weaver & Glick Funeral Home, Inc. on July 18, 2011, relating to the construction and operation of a new stationary crematory for human remains. The following is a list of the new emission unit(s):

- (a) One (1) natural gas human pathological incinerator, identified as BL-01, approved for construction in 2011, with a maximum capacity of 150 pounds of remains per hour, consisting of a cremation and afterburner chamber that fire natural gas at a rate of 2.25 million British thermal units per hour (MMBTU/hr).

**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/<br>Emission Unit         | Potential To Emit of the Entire Source (tons/year) |             |             |                 |                 |             |             |                             |             |                        |
|-----------------------------------|--|-------------|-------------|-----------------|-----------------|-------------|-------------|-----------------------------|-------------|------------------------|
|                                   | PM   | PM10*       | PM2.5       | SO <sub>2</sub> | NO <sub>x</sub> | VOC         | CO          | GHGs as CO <sub>2</sub> e** | Total HAPs  | Worst Single HAP       |
| BL-01 Human Cremation Unit        | 2.30   | 2.30        | 2.30        | 0.82            | 0.99            | 0.99        | 3.29        | 667.80                      | 0.00        | --                     |
| Natural Gas Combustion            | 0.02   | 0.07        | 0.07        | 0.006           | 0.99            | 0.05        | 0.83        | 1189.80                     | 0.02        | 0.02 (n-Hexane)        |
| Fugitive Emissions                | 0.01   | 0.00        | 0.00        | 0.00            | 0.00            | 0.00        | 0.00        | 0.00                        | 0.00        | --                     |
| <b>Total PTE of Entire Source</b> | <b>2.33</b>  | <b>2.38</b> | <b>2.38</b> | <b>0.83</b>     | <b>1.97</b>     | <b>1.04</b> | <b>4.11</b> | <b>1857.60</b>              | <b>0.02</b> | <b>0.02 (n-Hexane)</b> |
| Exemptions Levels**               | 5  | 5           | 5           | 10              | 10              | 5 or 10     | 25          | 100,000                     | 25          | 10                     |
| Registration Levels**             | 25   | 25          | 25          | 25              | 25              | 25          | 100         | 100,000                     | 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".  
 \*\*The 100,000 CO<sub>2</sub>e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

- (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.

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| <b>Federal Rule Applicability Determination</b> |
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New Source Performance Standards (NSPS)

- (a) The requirements of the following New Source Performance Standards (NSPS) are not included in this exemption because crematory incinerator is considered a pathological waste combustor and is not considered a municipal waste combustor or hospital/medical/infectious waste incinerator:
  - (1) 40 CFR 60, Subpart Ea (60.50a through 60.59a), Standards of Performance for Large Municipal Waste Combustors for Which Construction is Commenced after December 20, 1989 and on or before September 20, 1994 (326 IAC 12)
  - (2) 40 CFR 60, Subpart Eb (60.50b through 60.59b), Standards of Performance for Large Municipal Waste Combustors for Which Construction is Commenced after September 20, 1994, or for Which Modification or Reconstruction is commenced after June 19, 1996 (326 IAC 12)
  - (3) 40 CFR 60, Subpart Ec (60.50c through 60.58c), Standards of Performance for Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced after January 20, 1996 (326 IAC 12)
  - (4) 40 CFR 60, Subpart AAAA (60.1000 through 60.1465), Standards of Performance for Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001 (326 IAC 12)
- (b) The requirements of 40 CFR 60, Subpart CCCC (60.2000 through 60.2265), Standards of Performance for Commercial and Industrial Solid Waste Incinerations Units for Which Construction is Commenced After November 30, 1999 or for Which Modification or Reconstruction is Commenced on or After June 1, 2001 (326 IAC 12), are not included in this exemption because this unit is considered pathological waste incineration unit (40 CFR 60.2020(a)).
- (c) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the exemption for this source.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (d) The requirements of 40 CFR 63, Subpart EEE (63.1200 through 63.1214), NESHAP for Hazardous Waste Combustors (326 IAC 20-28-1), are not included in this exemption because the crematory incinerator is not considered a hazardous waste incinerator and the source is not a major source of HAPs.
- (e) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP) (326 IAC 14, 20 and 40 CFR Part 61, 63) included in the exemption for this source.

Compliance Assurance Monitoring (CAM)

- (f) 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.

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| <b>State Rule Applicability Determination</b> |
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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 2-2 (Prevention of Significant Deterioration (PSD))  
This source was constructed after the applicability date of August 7, 1977. However, it is not one of the 28 listed source categories defined in 326 IAC 2-2-1(gg)(1), and the potential to emit of all attainment regulated pollutants is less than 250 tons per year. Therefore, the requirements of 326 IAC 2-2 (PSD) is not applicable.
- (c) 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.
- (d) 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.
- (e) 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.
- (f) 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.

Crematory

- (g) 326 IAC 4-2 (Incinerators)  
Pursuant to 326 IAC 4-2-2 (Incinerators), the crematory incinerator BL-01 shall:
- (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 or an operation and maintenance plan as specified in 326 IAC 4-2-2(c);
  - (5) Not emit particulate matter in excess of five-tenths (0.5) pound of particulate matter per one thousand (1,000) pounds of dry exhaust gas under standard conditions corrected to fifty percent (50%) excess air.
  - (6) If any of the above requirements (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.
  - (7) The incinerator is exempt from requirement (5) if subject to a more stringent particulate matter emissions limit in 40 CFR 52 Subpart P, State Implementation Plan for Indiana.
  - (8) The owner or operator of the incinerator must make the manufacturer's specifications or the operation and maintenance plan available to the department upon request.
    - (1) The operation and maintenance plan must be designed to meet the particulate matter emission limitation specified in subsection (a)(5) and include the following:
      - (A) Procedures for receiving, handling, and charging waste.
      - (B) Procedures for incinerator startup and shutdown.
      - (C) Procedures for responding to a malfunction.
      - (D) Procedures for maintaining proper combustion air supply levels.
      - (E) Procedures for operating the incinerator and associated air pollution control systems.
      - (F) Procedures for handling ash.
      - (G) A list of wastes that can be burned in the incinerator.
  - (9) Each incinerator operator shall review the plan before initial implementation of the operation and maintenance plan and annually thereafter.
  - (10) The operation and maintenance plan must be readily accessible to incinerator operators.
  - (11) The owner or operator of the incinerator shall notify the department, in writing, thirty (30) days after the operation and maintenance plan is initially developed pursuant to this section.
  - (12) The owner or operator of the incinerator must make the manufacturer's specifications or the operation and maintenance plan available to the department upon request.

- (h) 326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)  
The crematory is not considered a source of indirect heating. Therefore, the crematory is not subject to the provisions of 326 IAC 6-2.
- (i) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)  
The crematory, BL-01, is an incinerator. Pursuant to 326 IAC 6-3-1(b)(2), incinerators are exempt from the provisions of 326 IAC 6-3. Therefore, the crematory is not subject to the provisions of 326 IAC 6-3.
- (j) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)  
This 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.
- (k) 326 IAC 7-1 (Sulfur dioxide emission limitations: Applicability)  
The crematory incinerator, BL-01, is not subject to the requirements of 326 IAC 7-1, because the potential and the actual emissions of sulfur dioxide are less than twenty-five (25) tons per year and ten (10) pounds per hour respectively.
- (l) 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.
- (m) 326 IAC 9-1 (Carbon Monoxide Emission Limits)  
This stationary source, constructed after the applicability date of March 21, 1972, is not subject to the requirements of 326 IAC 9-1-2(a)(3), since the crematory incinerator, BL-01, burns pathological waste and does not burn refuse consisting of more than 50 percent municipal type waste (household, commercial/retail, and/or institutional waste).
- (n) 326 IAC 11-6 (Hospital/Medical/Infectious Waste Incinerators)  
The crematory incinerator, BL-01, is not subject to the requirements of 326 IAC 11-6, since it is considered a pathological waste combustor and not a hospital/medical/infectious waste combustor.
- (o) 326 IAC 11-7 (Emission Limitations for Municipal Waste Combustors)  
The crematory incinerator, BL-01, is not subject to the requirements of 326 IAC 11-7, since the crematory incinerator is considered pathological waste combustors and not considered municipal waste combustor.
- (p) 326 IAC 11-8 (Emission Limitations for Commercial and Industrial Solid Waste Incineration Units)  
Pursuant to 326 IAC 11-8-1(b)(1), the crematory incinerator, BL-01, is not subject to the requirements of 326 IAC 11-8, because the crematory incinerator burns 90% or more by weight of pathological waste and provided that the following are met:
  - (1) The Permittee shall notify the department and U.S. EPA that the unit meets the criteria in this subdivision.
  - (2) The Permittee shall keep records on a calendar quarter basis of the weight of pathological waste, low-level radioactive waste, chemotherapeutic waste, or any combination of these wastes burned, and the weight of all other fuels and wastes burned in the unit.
- (q) 326 IAC 12 (New Source Performance Standards)  
See Federal Rule Applicability Section of this TSD.

- (r) 326 IAC 20 (Hazardous Air Pollutants)  
See Federal Rule Applicability Section of this TSD.

|                                      |
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| <b>Conclusion and Recommendation</b> |
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Unless otherwise stated, information used in this review was derived from the application submitted by the applicant. An application for the purposes of this review was received on July 18, 2011.

The operation of this source shall be subject to the conditions of the attached proposed Exemption No. E005-30722-00105. The staff recommends to the Commissioner that this Exemption be approved.

|                     |
|---------------------|
| <b>IDEM Contact</b> |
|---------------------|

- (a) Questions regarding this proposed permit can be directed to Pam K. Way 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) 234-4794 or toll free at 1-800-451-6027 extension 44794.
- (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.in.gov/idem](http://www.in.gov/idem)

**Appendix A: Emissions Calculations  
Emission Summary**

**Company Name:** Barkes, Weaver & Glick Funeral Home, Inc  
**Source Address:** 4205 Jonathan Moore Pike, Columbus, IN 47201  
**Permit Number:** E005-30722-00105  
**Reviewer:** Pam K. Way  
**Date:** 8/10/2011

| Category                 | Uncontrolled Potential Emissions (tons/year) |              |                        |                                  |             |
|--------------------------|--|--------------|------------------------|----------------------------------|-------------|
|                          | Emissions Generating Activity                |              |                        |                                  |             |
|                          | Pollutant                                    | Incineration | Natural Gas Combustion | Unpaved Roads (fugitive)         | TOTAL       |
| Criteria Pollutants      | PM   | 2.30         | 0.02                   | 0.01                             | 2.33        |
|                          | PM10   | 2.30         | 0.07                   | 0.00                             | 2.38        |
|                          | PM2.5  | 2.30         | 0.07                   | 0.00                             | 2.38        |
|                          | SO2  | 0.82         | 0.006                  | 0.0                              | 0.83        |
|                          | NOx  | 0.99         | 0.99                   | 0.0                              | 1.97        |
|                          | VOC  | 0.99         | 0.05                   | 0.0                              | 1.04        |
|                          | CO   | 3.29         | 0.83                   | 0.0                              | 4.11        |
|                          | CO2e   | 667.80       | 1189.80                | 0.0                              | 1857.60     |
| Hazardous Air Pollutants | Chromium                                     | 0.0          | 1.38E-05               | 0.0                              | 1.38E-05    |
|                          | Manganese                                    | 0.0          | 3.74E-06               | 0.0                              | 3.74E-06    |
|                          | Nickel                                       | 0.0          | 2.07E-05               | 0.0                              | 2.07E-05    |
|                          | n-Hexane                                     | 0.0          | 0.02                   | 0.0                              | 0.02        |
|                          | Toluene                                      | 0.0          | 3.35E-05               | 0.0                              | 3.35E-05    |
|                          | Benzene                                      | 0.0          | 2.07E-05               | 0.0                              | 2.07E-05    |
|                          | Dichlorobenzene                              | 0.0          | 1.18E-05               | 0.0                              | 1.18E-05    |
|                          | Formaldehyde                                 | 0.0          | 7.39E-04               | 0.0                              | 7.39E-04    |
|                          | Lead   | 0.0          | 4.93E-06               | 0.0                              | 4.93E-06    |
|                          | Cadmium                                      | 0.0          | 1.08E-05               | 0.0                              | 1.08E-05    |
|                          | <b>Totals</b>                                | <b>0.0</b>   | <b>0.02</b>            | <b>0.0</b>                       | <b>0.02</b> |
| <b>Worse Case HAP</b>    |  |              |                        | <b>0.02</b><br><b>(n-Hexane)</b> |             |

Total Emissions based on rated capacity at 8,760 hours per year.

**Appendix A: Emission Calculations  
Incinerator BL-01**

**Company Name:** Barkes, Weaver & Glick Funeral Home, Inc  
**Source Address:** 4205 Jonathan Moore Pike, Columbus, IN 47201  
**Permit Number:** E005-30722-00105  
**Reviewer:** Pam K. Way  
**Date:** 8/10/2011

THROUGHPUT  
lbs/hr  
150

THROUGHPUT  
ton/yr  
657

|                               | POLLUTANT |       |        |      |      |      |      |
|-------------------------------|-----------|-------|--------|------|------|------|------|
|                               | PM*       | PM10* | PM2.5* | SO2  | CO   | VOC  | NOX  |
| Emission Factor in lb/ton     | 7.0       | 7.0   | 7.0    | 2.5  | 10.0 | 3.0  | 3.0  |
| Potential Emissions in ton/yr | 2.30      | 2.30  | 2.30   | 0.82 | 3.29 | 0.99 | 0.99 |

**Methodology**

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

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

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

Throughput (lb/hr) \* 8760 hr/yr \* ton/2000 lb = throughput (ton/yr)

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

**Appendix A: Emissions Calculations  
Natural Gas Combustion Only  
MM BTU/HR <100**

**Company Name:** Barkes, Weaver & Glick Funeral Home, Inc.  
**Address City IN Zip:** 4205 Jonathan Moore Pike, Columbus, IN 47201  
**Permit Number:** E005-30722-00105  
**Reviewer:** Pam K. Way  
**Date:** 8/10/2011

|                                 |                       |                                 |
|---------------------------------|-----------------------|---------------------------------|
| Heat Input Capacity<br>MMBtu/hr | HHV<br>mmBtu<br>mmscf | Potential Throughput<br>MMCF/yr |
| 2.25                            | 1000                  | 19.7                            |

| Emission Factor in lb/MMCF  | Pollutant |       |               |      |                    |      |      |
|-----------------------------|-----------|-------|---------------|------|--------------------|------|------|
|                             | PM*       | PM10* | direct PM2.5* | SO2  | NOx                | VOC  | CO   |
|                             | 1.9       | 7.6   | 7.6           | 0.6  | 100<br>**see below | 5.5  | 84   |
| Potential Emission in tons/ | 0.02      | 0.07  | 0.07          | 0.01 | 0.99               | 0.05 | 0.83 |

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combin  
 PM2.5 emission factor is filterable and condensable PM2.5 combined.  
 \*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recircul

**Methodology**

All emission factors are based on normal firing.  
 MMBtu = 1,000,000 Btu  
 MMCF = 1,000,000 Cubic Feet of Gas  
 Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02,  
 Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000,000  
 Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000

**Appendix A: Emissions Calculations  
 Natural Gas Combustion Only  
 MM BTU/HR <100  
 HAPs Emissions**

**Company Name: Barkes, Weaver & Glick Funeral Home, Inc.  
 Address City IN Zip: 4205 Jonathan Moore Pike, Columbus, IN 47201  
 Permit Number: E005-30722-00105  
 Reviewer: Pam K. Way  
 Date: 8/10/2011**

| HAPs - Organics            |                    |                        |                       |                   |                    |
|----------------------------|--------------------|------------------------|-----------------------|-------------------|--------------------|
| Emission Factor in lb/MMc  | Benzene<br>2.1E-03 | Dichloroben<br>1.2E-03 | Formaldehy<br>7.5E-02 | Hexane<br>1.8E+00 | Toluene<br>3.4E-03 |
| Potential Emission in tons | 2.1E-05            | 1.183E-05              | 7.391E-04             | 1.774E-02         | 3.351E-05          |

| HAPs - Metals              |                 |                    |                     |                      |                   |
|----------------------------|-----------------|--------------------|---------------------|----------------------|-------------------|
| Emission Factor in lb/MMc  | Lead<br>5.0E-04 | Cadmium<br>1.1E-03 | Chromium<br>1.4E-03 | Manganese<br>3.8E-04 | Nickel<br>2.1E-03 |
| Potential Emission in tons | 4.928E-06       | 1.084E-05          | 1.380E-05           | 3.745E-06            | 2.070E-05         |

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.  
 Additional HAPs emission factors are available in AP-42, Chapter  
 See Page 5 for Greenhouse Gas calculations.

**Appendix A: Emissions Calculations  
 Natural Gas Combustion Only  
 MM BTU/HR <100  
 Greenhouse Gas Emissions**

**Company Name:** Barkes, Weaver & Glick Funeral Home, Inc.  
**Address City IN Zip:** 4205 Jonathan Moore Pike, Columbus, IN 47201  
**Permit Number:** E005-30722-00105  
**Reviewer:** Pam K. Way  
**Date:** 8/10/2011

| Emission Factor in lb/MMcf            | Greenhouse Gas |      |      |
|---------------------------------------|----------------|------|------|
|                                       | CO2            | CH4  | N2O  |
|                                       | 120,000        | 2.3  | 2.2  |
| Potential Emission in tons/yr         | 1,183          | 0.02 | 0.02 |
| Summed Potential Emissions in tons/yr | 1,183          |      |      |
| CO2e Total in tons/yr                 | 1,190          |      |      |

**Methodology**

The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.  
 Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.  
 Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.  
 $Emission (tons/yr) = Throughput (MMCF/yr) \times Emission Factor (lb/MMCF) / 2,000 lb/ton$   
 $CO2e (tons/yr) = CO2 Potential Emission ton/yr \times CO2 GWP (1) + CH4 Potential Emission ton/yr \times CH4 GWP (21) + N2O Potential Emission ton/yr \times N2O GWP (310).$

**Appendix A: Emission Calculations**  
**Fugitive Dust Emissions - Paved Roads**

**Company Name:** Barkes, Weaver & Glick Funeral Home, Inc  
**Source Address:** 4205 Jonathan Moore Pike, Columbus, IN 47201  
**Permit Number:** E005-30722-00105  
**Reviewer:** Pam K. Way  
**Date:** 8/10/2011

**Paved Roads at Industrial Site**

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (12/2003).

Vehicle Information (provided by source)

| Type                                    | Maximum number of vehicles | Number of one-way trips per day per vehicle | Maximum trips per day (trip/day) | Maximum Weight Loaded (tons/trip) | Total Weight driven per day (ton/day) | Maximum one-way distance (feet/trip) | Maximum one-way distance (mi/trip) | Maximum one-way miles (miles/day) | Maximum one-way miles (miles/yr) |
|---|----------------------------|---|----------------------------------|-----------------------------------|---------------------------------------|--------------------------------------|------------------------------------|-----------------------------------|----------------------------------|
| Vehicle (entering plant) (one-way trip) | 1.0                        | 1.0   | 48.0                             | 1.0                               | 48.0                                  | 400                                  | 0.076                              | 3.6                               | 1327.3                           |
| Vehicle (leaving plant) (one-way trip)  | 1.0                        | 1.0   | 48.0                             | 1.0                               | 48.0                                  | 400                                  | 0.076                              | 3.6                               | 1327.3                           |
|   |                            |   | 0.0                              |                                   | 0.0                                   |                                      | 0.000                              | 0.0                               | 0.0                              |
|   |                            |   | 0.0                              |                                   | 0.0                                   |                                      | 0.000                              | 0.0                               | 0.0                              |
| <b>Total</b>                            |                            |   | <b>96.0</b>                      |                                   | <b>96.0</b>                           |                                      |                                    | <b>7.3</b>                        | <b>2654.5</b>                    |

Average Vehicle Weight Per Trip =  $\frac{1.0}{1.0}$  tons/trip  
 Average Miles Per Trip =  $\frac{0.08}{1.0}$  miles/trip

Unmitigated Emission Factor,  $E_f = [k * (sL/2)^{0.65} * (W/3)^{1.5} - C]$  (Equation 1 from AP-42 13.2.1)

|           |         |         |  |
|-----------|---------|---------|--|
|           | PM      | PM10    |  |
| where k = | 0.082   | 0.016   | lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)  |
| W =       | 1.0     | 1.0     | tons = average vehicle weight (provided by source)   |
| C =       | 0.00047 | 0.00047 | lb/mi = emission factor for vehicle exhaust, brake wear, and tire wear (AP-42 Table 13.2.1-2)                |
| sL =      | 0.6     | 0.6     | g/m <sup>2</sup> = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months) |

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor,  $E_{ext} = E_f * [1 - (p/4N)]$

Mitigated Emission Factor,  $E_{ext} = E_f * [1 - (p/4N)]$   
 where p =  $\frac{125}{365}$  days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)  
 N = 365 days per year

|  |      |      |   |
|--|------|------|---|
|  | PM   | PM10 |   |
| Unmitigated Emission Factor, $E_f$ =   | 0.01 | 0.00 | lb/mile   |
| Mitigated Emission Factor, $E_{ext}$ = | 0.01 | 0.00 | lb/mile   |
| Dust Control Efficiency =              | 50%  | 50%  | (pursuant to control measures outlined in fugitive dust control plan) |

| Process                                 | Unmitigated PTE of PM (tons/yr) | Unmitigated PTE of PM10 (tons/yr) | Mitigated PTE of PM (tons/yr) | Mitigated PTE of PM10 (tons/yr) | Controlled PTE of PM (tons/yr) | Controlled PTE of PM10 (tons/yr) |
|---|---------------------------------|-----------------------------------|-------------------------------|---------------------------------|--------------------------------|----------------------------------|
| Vehicle (entering plant) (one-way trip) | 0.00                            | 0.00                              | 0.00                          | 0.00                            | 0.00                           | 0.00                             |
| Vehicle (leaving plant) (one-way trip)  | 0.00                            | 0.00                              | 0.00                          | 0.00                            | 0.00                           | 0.00                             |
|   | 0.00                            | 0.00                              | 0.00                          | 0.00                            | 0.00                           | 0.00                             |
|   | 0.00                            | 0.00                              | 0.00                          | 0.00                            | 0.00                           | 0.00                             |
|   | <b>0.01</b>                     | <b>0.001</b>                      | <b>0.01</b>                   | <b>0.00</b>                     | <b>0.00</b>                    | <b>0.00</b>                      |

**Methodology**

Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] \* [Maximum trips per day (trip/day)]  
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]  
 Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] \* [Maximum one-way distance (mi/trip)]  
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]  
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]  
 Unmitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] \* [Unmitigated Emission Factor (lb/mile)] \* (ton/2000 lbs)  
 Mitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] \* [Mitigated Emission Factor (lb/mile)] \* (ton/2000 lbs)  
 Controlled PTE (tons/yr) = [Mitigated PTE (tons/yr)] \* [1 - Dust Control Efficiency]

**Abbreviations**

PM = Particulate Matter  
 PM10 = Particulate Matter (<10 um)  
 PTE = Potential to Emit



# 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](http://www.idem.IN.gov)

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

**TO:** Rory Glick  
Barkes, Weaver & Glick Funeral Home, Inc.  
4205 Jonathan Moore Pike  
Columbus, IN 47201

**DATE:** September 2, 2011

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

**SUBJECT:** Final Decision  
Exemption  
005-30722-00105

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:  
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](mailto:jbrush@idem.IN.gov).

Final Applicant Cover letter.dot 11/30/07

# Mail Code 61-53

|                            |  |   |  |  |
|----------------------------|--|---|--|--|
| IDEM Staff                 | GHOTOPP 9/2/2011<br>Barkes, Weaver & Glick Funeral Home, Inc 005-30722-00105 Final |   | AFFIX STAMP<br>HERE IF<br>USED AS<br>CERTIFICATE<br>OF MAILING |  |
| Name and address of Sender |   | Indiana Department of Environmental Management<br>Office of Air Quality – Permits Branch<br>100 N. Senate<br>Indianapolis, IN 46204 | Type of Mail:<br><br><b>CERTIFICATE OF MAILING ONLY</b>        |  |

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|------|----------------|--|---------|-----------------|----------------------------|---------------|-----------------|----------|----------|----------|----------------|---------|
| 1    |                | Rory Glick Barkes, Weaver & Glick Funeral Home, Inc 4205 Jonathan Moore Pike Columbus IN 47201 (Source CAATS) via confirmed delivery |         |                 |                            |               |                 |          |          |          |                |         |
| 2    |                | Mr. Elbert Held 734 Hutchins Columbus IN 47201 (Affected Party)  |         |                 |                            |               |                 |          |          |          |                |         |
| 3    |                | Mr. Boris Ladwig 333 2nd St Columbus IN 47201 (Affected Party)   |         |                 |                            |               |                 |          |          |          |                |         |
| 4    |                | Eileen Booher 1316 Chestnut St. Columbus IN 47201 (Affected Party)   |         |                 |                            |               |                 |          |          |          |                |         |
| 5    |                | Mr. Lcnfc 1039 Sycamore St Columbus IN 47201 (Affected Party)  |         |                 |                            |               |                 |          |          |          |                |         |
| 6    |                | Bartholomew County Commissioners 440 Third Street Columbus IN 47202 (Local Official)   |         |                 |                            |               |                 |          |          |          |                |         |
| 7    |                | Mr. Jean Terpstra 3210 Grove Pkwy Columbus IN 47203 (Affected Party)   |         |                 |                            |               |                 |          |          |          |                |         |
| 8    |                | August Tindell 31 Reo Street Columbus IN 47201 (Affected Party)  |         |                 |                            |               |                 |          |          |          |                |         |
| 9    |                | Terry Lowe 1110 Central Ave. Columbus IN 47201 (Affected Party)  |         |                 |                            |               |                 |          |          |          |                |         |
| 10   |                | Mr. Charles Mitch 3210 Grove Parkway Columbus IN 47203 (Affected Party)  |         |                 |                            |               |                 |          |          |          |                |         |
| 11   |                | Bartholomew County Health Department 440 3rd Street, Suite 303 Columbus IN 47201 (Health Department)                                 |         |                 |                            |               |                 |          |          |          |                |         |
| 12   |                |  |         |                 |                            |               |                 |          |          |          |                |         |
| 13   |                |  |         |                 |                            |               |                 |          |          |          |                |         |
| 14   |                |  |         |                 |                            |               |                 |          |          |          |                |         |
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