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: September 8, 2011

RE: Superior Crematory, Inc. / 019-30706-00053

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. Paul Grayson
Superior Crematory, Inc.
500 Pike St.
Charlestown, IN 47111

September 8, 2011

Re: Exempt Operation Status,
019-30706-00053

Dear Grayson:

The application from Superior Crematory, Inc., received on July 13, 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 human crematory located at 500 Pike St., Charlestown, Indiana 47111 is classified as exempt from air pollution permit requirements:

(a) One (1) natural gas human pathological incinerator, identified as BL-1, 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 1.5 million British thermal units per hour (MMBTU/hr) and exhausting through one (1) stack identified as ST-1; and

(b) One (1) natural gas pet pathological incinerator, identified as BL-2., 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 1.5 million British thermal units per hour (MMBTU/hr) and exhausting through one (1) stack identified as ST-2.

The following conditions shall be applicable:

(a) Pursuant to 326 IAC 4-2-2 (Incinerators), the crematory incinerators BL-1 and BL-2 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 in326 IAC 4-2-2(c); and

(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) An owner or operator developing an operation and maintenance plan pursuant to subsection (a)(4) must comply with the following:

(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 thirty percent (30%) 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 incinerators, BL-1 and BL-2., are 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 Permitee shall notify the department and U.S. EPA that the unit meets the criteria in this subdivision.

(2) The Permitee 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.

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 Charles Sullivan, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251, at 317-232-8422 or at 1-800-451-6027 (ext 28422).

Sincerely,

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

ACD/cs

cc: File - Clark County
Clark County Health Department
U.S. EPA, Region V
IDEM Southeast Regional Office
IDEM Southwest Regional Office
Compliance and Enforcement Branch
Billing, Licensing, and Training

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for an Exemption

Source Description and Location

Source Name:	**Superior Crematory Inc.**
Source Location:	**500 Pine St., Charlestown, IN 47111**
County:	**Clark**
SIC Code:	**7261**
Exemption No.:	**E019-30706-00053**
Permit Reviewer:	**Charles Sullivan**

On July 13, 2011, the Office of Air Quality (OAQ) received an application from Superior Cremation, Inc., related to the operation of new crematory incinerators for human remains.

Existing Approvals

There have been no previous approvals issued to this source.

County Attainment Status

The source is located in Clark County.

Pollutant	Designation
SO_2	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O_3	Attainment effective July 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]Attainment effective October 23, 2001, for the 1-hour ozone standard for the Louisville area, including Clark County, and is a maintenance area for the 1-hour ozone National Ambient Air Quality Standard (NAAQS) for purposes of 40 CFR Part 51, Subpart X*. The 1-hour standard was revoked effective June 15, 2005. Basic nonattainment designation effective federally 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. Clark 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) $PM_{2.5}$

Clark County has been classified as nonattainment for $PM_{2.5}$ in 70 FR 943 dated January 5, 2005. On May 8, 2008, U.S. EPA promulgated specific New Source Review rules for $PM_{2.5}$ emissions. These rules became effective on July 15, 2008. Therefore, direct $PM_{2.5}$ and SO_2 emissions were reviewed pursuant to the requirements of Nonattainment New Source Review, 326 IAC 2-1.1-5. See the State Rule Applicability – Entire Source section.

(c) Other Criteria Pollutants
Clark 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 Superior Crematory, Inc. on July 13, 2011, relating to the construction and operation of new human cremation facility.

The following is a list of the new emission unit(s):

(a) One (1) natural gas human pathological incinerator, identified as BL-1, 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 1.5 million British thermal units per hour (MMBTU/hr) and exhausting through one (1) stack identified as ST-1; and

(b) One (1) natural gas pet pathological incinerator, identified as BL-2., 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 1.5 million British thermal units per hour (MMBTU/hr) and exhausting through one (1) stack identified as ST-2.

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	NOx	VOC	CO	GHGs as CO_2e**	Total HAPs	Worst Single HAP
BL-1 Human Cremation Unit	2.30	2.30	2.30	0.82	0.99	0.99	3.29	668	- -	- -
BL-2 Human Cremation Unit	2.30	2.30	2.30	0.82	0.99	0.99	3.29	668	- -	- -
Natural Gas Combustion	0.02	0.10	0.10	0.01	1.31	0.07	1.10	1,586	0.02	0.02 (Hexane)
Fugitive Emissions *(Paved Road)*	0.03	0.01	- -	- -	- -	- -	- -	- -	- -	- -
Total PTE of Entire Source	**4.65**	**4.71**	**4.70**	**1.65**	**3.29**	**2.04**	**7.67**	**2,922**	**0.02**	**0.02 (Hexane)**
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

- - = 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_2e 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.

(c) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) greenhouse gases (GHGs) is less than the Title V subject to regulation threshold of one hundred thousand (100,000) tons of CO_2 equivalent emissions (CO_2e) per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

Federal Rule Applicability Determination

<u>New Source Performance Standards (NSPS)</u>

(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 CFR60.2020(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.

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 2-2 (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 thirty percent (30%) 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.

Crematory

(f) 326 IAC 4-2 (Incinerators)
Pursuant to 326 IAC 4-2-2 (Incinerators), the crematory incinerators BL-1 and BL-2 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); and

(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) An owner or operator developing an operation and maintenance plan pursuant to subsection (a)(4) must comply with the following:

(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.

(g) 326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)
The crematory is not considered a source of indirect heating. Therefore, the crematories are not subject to the provisions of 326 IAC 6-2.

(h) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
The crematories, BL-1 and BL-2, 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.

(i) 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.

(j) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
The crematory incinerators, BL-1 and BL-2, are 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.

(k) 326 IAC 7-1 (Sulfur dioxide emission limitations: Applicability)
The crematory incinerators, BL-1 and BL-2, are 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 incinerators, BL-1 and BL-2, burn pathological waste and do not burn refuse consisting of more than 50 percent municipal type waste (household, commercial/retail, and/or institutional waste).

(n) 326 IAC 11-7 (Emission Limitations for Municipal Waste Combustors)
The crematory incinerators, BL-1 and BL-2, are not subject to the requirements of 326 IAC 11-7, since the crematory incinerators are considered pathological waste combustors and not considered municipal waste combustors.

(o) 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 incinerators, BL-1 and BL-2, are not subject to the requirements of 326 IAC 11-8, because the crematory incinerators burn 90 % or more by weight of pathological waste and provided that the following are met:

(a) The Permitee shall notify the department and U.S. EPA that the unit meets the criteria in this subdivision.

(b) The Permitee 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.

(p) 326 IAC 12 (New Source Performance Standards)
See Federal Rule Applicability Section of this TSD.

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

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 July 13, 2011.

The operation of this source shall be subject to the conditions of the attached proposed Exemption No. 019-30706-00053. The staff recommends to the Commissioner that this Exemption be approved.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Charles Sullivan 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) 232-8422 or toll free at 1-800-451-6027 extension 28422.

(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

Appendix A: Emissions Calculations
Uncontrolled Potential to Emit Summary

Company Name: Superior Crematory, Inc.
Address City IN Zip: 500 Pike St., Charlestown, IN 47111
Permit Number: 019-30706-00053
Plt ID: 019-00053
Reviewer: Charles Sullivan
Date: 8/15/2011

	Uncontrolled Potential to Emit (tons/year)				
	Emissions Generating Activity				
Category	Pollutant	Incineration BL-1 & BL-2	Natural Gas Combustion	Paved Road	**TOTAL**
Criteria Pollutants	PM	4.60	0.02	0.03	4.65
	PM10/PM2.5	4.60	0.10	0.01	4.70
	SO2	1.64	0.01	negl.	1.65
	NOx	1.97	1.31	negl.	3.29
	VOC	1.97	0.07	negl.	2.04
	CO	6.57	1.10	negl.	7.67
GHGs	CO2e	1335.60	1,586.40	negl.	2,922.00
Hazardous Air Pollutants	Chromium	negl.	1.8E-05	negl.	1.8E-05
	Manganese	negl.	5.0E-06	negl.	5.0E-06
	Nickel	negl.	2.8E-05	negl.	2.8E-05
	n-Hexane	negl.	0.024	negl.	0.024
	Toluene	negl.	4.5E-05	negl.	4.5E-05
	Benzene	negl.	2.8E-05	negl.	2.8E-05
	Dichlorobenzene	negl.	1.6E-05	negl.	1.6E-05
	Formaldehyde	negl.	9.9E-04	negl.	9.9E-04
	Lead	negl.	6.6E-06	negl.	6.6E-06
	Cadmium	negl.	1.4E-05	negl.	1.4E-05
	HAP Totals	**0**	**0.02**	**0.0**	**0.025**
			Worse Case HAP		**0.024**

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: **Superior Crematory, Inc.**
Address City IN Zip: **500 Pike St., Charlestown, IN 47111**
Permit Number: **019-30706-00053**
Plt ID: **019-00053**
Reviewer: **Charles Sullivan**
Date: **8/15/2011**

		Pollutant	PM*	PM10*/2.5	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*/2.5	SO2	NOx**	VOC	CO
crematory incinerator for human remains, identified as BL-1	150	657.0	2.30	2.30	0.82	0.99	0.99	3.29
crematory incinerator for human remains, identified as BL-2	150	657.0	2.30	2.30	0.82	0.99	0.99	3.29
Totals		**1314.0**	**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 available (assume PM = PM10)

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

Abbreviations

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

Greenhouse Gases

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor (kg/MMBtu)*	90.7	3.20E-02	4.20E-03
High Heat Value (MMBtu/ton)**	9.95	9.95	9.95
Emission Factor (lb/ton)	1989.6	0.70	0.09
Potential to Emit (tons/yr)	1307.15	0.46	0.06
Summed Potential Emissions in tons/yr	1307.67		
CO2e Total in tons/yr	1335.60		

Methodology

*The CO2, CH4, and N2O emission factors are from Table C-1 and Table C-2, 40 CFR Part 98, Subpart C, for Municipal Solid W
**The High Heat Value (HHV) correspondes to municipal solid waste.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission Factor (lb/ton) = [Emission Factor (kg/MMBtu)] * [2.2046 lb/kg] * [High Heat Value (MMBtu/ton)]
Potential to Emit (tons/yr) = [Potential Throughput (tons/yr)] * [Emission Factor (lb/ton)] * [ton/2,000 lbs
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) +
N2O Potential Emission ton/yr x N20 GWP (310).

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

Company Name: **Superior Crematory, Inc.**
Address City IN Zip: **500 Pike St., Charlestown, IN 47111**
Permit Number: **019-30706-00053**
Plt ID: **019-00053**
Reviewer: **Charles Sullivan**
Date: **8/15/2011**

Heat Input Capacity (MMBtu/hr)	
BL-1	1.5
BL-2	1.5
Total	3.0

Heat Input Capacity MMBtu/hr	HHV mmBtu/mmscf	Potential Throughput MMCF/yr
3.0	1000	26.3

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.02	0.10	0.10	0.01	1.31	0.07	1.10

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
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 recirculation = 32

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, and 1-03-006-03
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See page 4 for HAPs emissions calculations.

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

Company Name: **Superior Crematory, Inc.**
Address City IN Zip: **500 Pike St., Charlestown, IN 47111**
Permit Number: **019-30706-00053**
Plt ID: **019-00053**
Reviewer: **Charles Sullivan**
Date: **8/15/2011**

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	2.759E-05	1.577E-05	9.855E-04	2.365E-02	4.468E-05

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	6.570E-06	1.445E-05	1.840E-05	4.993E-06	2.759E-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 1.4.
See Page 5 for Greenhouse Gas calculations.

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

Company Name: Superior Crematory, Inc.
Address City IN Zip: 500 Pike St., Charlestown, IN 47111
Permit Number: 019-30706-00053
Plt ID: 019-00053
Reviewer: Charles Sullivan
Date: 8/15/2011

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	1,577	0.0	0.0
Summed Potential Emissions in tons/yr	1,577		
CO2e Total in tons/yr	1,586		

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) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emission Calculations
Fugitive Dust Emissions - Paved Roads

Company Name: **Superior Crematory, Inc.**
Address City IN Zip: **500 Pike St., Charlestown, IN 47111**
Permit Number: **019-30706-00053**
Plt ID: **019-00053**
Reviewer: **Charles Sullivan**
Date: **8/15/2011**

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	24.0	24.0	8.0	192.0	100	0.019	0.5	165.9
Vehicle (leaving plant) (one-way trip)	1.0	24.0	24.0	8.0	192.0	100	0.019	0.5	165.9
			0.0		0.0		0.000	0.0	0.0
			0.0		0.0		0.000	0.0	0.0
		Total	**48.0**		**384.0**			**0.9**	**331.8**

Average Vehicle Weight Per Trip = 8.0 tons/trip
Average Miles Per Trip = 0.02 miles/trip

Unmitigated Emission Factor, Ef = [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 =	8.0	8.0	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^2 = Ubitiguous 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, Eext = E * [1 - (p/4N)]
Mitigated Emission Factor, Eext = Ef * [1 - (p/4N)]
where p = 125 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, Ef =	0.16	0.03	lb/mile
Mitigated Emission Factor, Eext =	0.15	0.03	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	0.01	0.00	0.01	0.00	0.01	0.00
Vehicle (leaving plant) (one-way trip)	0.01	0.00	0.01	0.00	0.01	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
	0.03	**0.01**	**0.02**	**0.00**	**0.01**	**0.00**

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

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

TO: Paul Grayson
Superior Crematory, Inc.
500 Pike Street
Charlestown, IN 47111

DATE: September 8, 2011

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

SUBJECT: Final Decision
Exemption
019-30706-00053

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.

Mail Code 61-53

IDEM Staff	GHOTOPP 9/8/2011 Superior Crematory, Inc 30706 (draft/final)		
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**

AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING

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1		Paul Grayson Superior Crematory, Inc 500 Pike St Charlestown IN 47111 (Source CAATS) via confirmed delivery									
2		Ms. Rhonda England 17213 Persimmon Run Rd Borden IN 47106-8604 *(Affected Party)*									
3		Ms. Betty Hislip 602 Dartmouth Drive, Apt 8 Clarksville IN 47129 *(Affected Party)*									
4		Mrs. Sandy Banet 514 Haddox Rd Henryville IN 47126 *(Affected Party)*									
5		Charlestown City Council and Mayors Office 304 Main Cross Street Charlestown IN 47111-1230 *(Local Official)*									
6		Mr. Robert Bottom Paddlewheel Alliance P.O. Box 35531 Louisville KY 40232-5531 *(Affected Party)*									
7		Clark County Board of Commissioners 501 E. Court Avenue Jeffersonville IN 47130 *(Local Official)*									
8		Clark County Health Department 1320 Duncan Avenue Jeffersonville IN 47130-3723 *(Health Department)*									
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