



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
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TO: Interested Parties / Applicant
DATE: September 24, 2007
RE: Hobart Animal Clinic / 089-25169-00528
FROM: Nisha Sizemore
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, Room 1049, 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.dot 03/23/06



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
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September 24, 2007

Dr. Ed Javorka
Hobart Animal Clinic
1700 East SR 130
Hobart, Indiana 46342

Re: Exempt Construction and Operation Status,
089-25169-00528

Dear Dr. Javorka:

The application from Hobart Animal Clinic, received on August 21, 2007, 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 incinerator for animal cremation, located at 2650 East SR 130, Hobart, IN 46342, is classified as exempt from air pollution permit requirements:

- (a) one (1) crematory incinerator for animal remains, identified as EU 001, constructed in 2007, with a maximum capacity of 130 pounds of remains per hour, consisting of a primary and secondary chamber that fire natural gas or liquid petroleum gas at a rate of 2.0 million British thermal units per hour (MMBtu/hr), respectively, exhausting through Stack 001.

The following conditions shall be applicable:

- (a) Pursuant to 326 IAC 4-2-2 (Incinerators), the crematory incinerator EU 001 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.
- (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 twenty percent (20%) 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.
- (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.

This exemption is the first air approval issued to this source.

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 317-234-5373 or at 1-800-451-6027 (ext 4-5373).

Original signed by,

Nisha Sizemore, Chief
Permits Branch
Office of Air Quality

pkw

cc: File - Lake County
Lake County Health Department
Air Compliance – Richard Massoels
IDEM Northwest Regional Office
Compliance Data Section
Permit Administration and Development Section
Permit Review Section 5 – Pam Way

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name: Hobart Animal Clinic
Source Location: 2650 East SR 130, Hobart, Indiana 46342
County: Lake County
SIC Code: 7261 (Funeral Service and Crematories)
Exemption No.: 089-25169-00528
Permit Reviewer: Pam K. Way

On August 21, 2007, the Office of Air Quality (OAQ) received an application from Hobart Animal Clinic, relating to the construction and operation of a new crematory incinerator for animal remains.

New Emission Units and Pollution Control Equipment

The application includes information relating to the operation of the following new emission unit:

- (a) one (1) crematory incinerator for animal remains, identified as EU 001, constructed in 2007, with a maximum capacity of 130 pounds of remains per hour, consisting of a primary and secondary chamber that fire natural gas or liquid petroleum gas at a rate of 2.0 million British thermal units per hour (MMBtu/hr), respectively, exhausting through Stack 001.

Existing Approvals

No previous air approvals have been issued to this source.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the application be approved as an exemption. This recommendation is based on the following facts and conditions:

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 August 21, 2007.

Emission Calculations

See Appendix A of this TSD for detailed emissions calculations.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit (PTE) is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	2.03
PM10	2.06
SO ₂	0.72
NO _x	2.19
VOC	0.90
CO	3.58

HAPs	Potential To Emit (tons/year)
Benzene	negligible
Dichlorobenzene	negligible
Formaldehyde	negligible
Hexane	0.02
Toluene	negligible
Lead	negligible
Cadmium	negligible
Chromium	negligible
Manganese	negligible
Nickel	negligible
TOTAL HAPs	0.02

- (a) The 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.
- (b) The 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, the source is subject to the provisions of 326 IAC 2-1.1-3.

County Attainment Status

The source is located in Lake County.

Pollutant	Status
PM10	Attainment or Unclassifiable
PM2.5	Basic Nonattainment
SO ₂	Attainment
NO ₂	Attainment or Unclassifiable
8-Hour Ozone	Moderate Nonattainment
CO	Attainment or Unclassifiable
Lead	Attainment or Unclassifiable

(a) U.S. EPA in Federal Register Notice 70 FR 943 dated January 5, 2005 has designated Lake County, as nonattainment for PM_{2.5}. On March 7, 2005 the Indiana Attorney General's Office on behalf of IDEM filed a law suit with the Court of Appeals for the District of Columbia Circuit challenging U.S. EPA's designation of nonattainment areas without sufficient data. However, in order to ensure that sources are not potentially liable for violation of the Clean Air Act, the OAQ is following the U.S. EPA's guidance to regulate PM₁₀ emissions as surrogate for PM_{2.5} emissions pursuant to the Nonattainment New Source Review requirements. See the State Rule Applicability - Entire Source section.

(b) Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone.

(1) 1-Hour Ozone Standard

On December 22, 2006 the United States Court of Appeals, District of Columbia issued a decision which served to partially vacate and remand the U.S. EPA's final rule for implementation of the eight-hour National Ambient Air quality Standard for ozone. *South Coast Air Quality Mgmt. Dist. v. EPA*, 472 F.3d 882 (D.C. Cir., December 22, 2006), *rehearing denied* 2007 U.S. App. LEXIS 13748 (D.C. Cir., June 8, 2007). The U.S. EPA has instructed IDEM to issue permits in accordance with its interpretation of the *South Coast* decision as follows: Gary-Lake-Porter County was previously designated as a severe non-attainment area prior to revocation of the one-hour ozone standard, therefore, pursuant to the anti-backsliding provisions of the Clean Air Act, any new or existing source must be subject to the major source applicability cut-offs and offset ratios under the area's previous one-hour standard designation. This means that a source must achieve the Lowest Achievable Emission Rate (LAER) if it exceeds 25 tons per year of VOC emissions and must offset any increase in VOC emissions by a decrease of 1.3 times that amount.

On January 28, 1996 in 40 CFR 52.777(i), the U.S. EPA granted a waiver of the requirements of Section 182(f) of the CAA for Lake and Porter Counties, including the lower NO_x threshold for nonattainment new source review. Therefore, VOC emissions alone are considered when evaluating the rule applicability relating to the 1-hour ozone standard. Lake County was previously designated as severe nonattainment in Indiana for the 1-hour ozone standard. Therefore, VOC emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3. See the State Rule Applicability for the source section.

(2) 8-Hour Ozone Standard

VOC and NO_x emissions are considered when evaluating the rule applicability relating to the 8-hour ozone standard. Lake County has been designated as moderate nonattainment for the 8-hour ozone standard. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3. See the State Rule Applicability for the source section.

(c) Lake County has been classified as attainment in Indiana for PM₁₀, SO₂, NO₂, CO, and Lead. Therefore, these 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.

(d) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 redesignating Lake County to attainment for the sulfur dioxide standard.

- (e) **Fugitive Emissions**
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3 and there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive emissions are not counted toward determination of PSD or Emission Offset applicability.

Source Status

New Source PSD and Emission Offset Definition (emissions after controls, based on 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/yr)
PM	2.03
PM10	2.06
SO ₂	0.72
NO _x	2.19
VOC	0.90
CO	3.58
Single HAP	0.02
Combination HAPs	0.02

- (a) This new source is not a major stationary source under 326 IAC 2-2 (PSD), because no attainment regulated pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, the requirements of 326 IAC 2-2 (PSD) do not apply.
- (b) This new source is not a major stationary source under 326 IAC 2-3 (Emission Offset), because VOCs are not emitted at a rate of 25 tons per year or greater, and NO_x is not emitted at a rate of 100 tons per year or greater. Therefore, the requirements of 326 IAC 2-3 (Emission Offset) do not apply.
- (c) This new source is not a major stationary source under 326 IAC 2-1.1-5 (Nonattainment New Source Review), because PM10 (surrogate for PM2.5) is not emitted at a rate of 100 tons per year or greater. Therefore, the requirements of 326 IAC 2-1.1-5 (Nonattainment New Source Review) do not apply.
- (d) This new source is not a major source of HAPs, as defined by 40 CFR 63.41, because HAPs emissions are less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year for a combination of HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This new source is not subject to the Part 70 Permit requirements because the PTE of:

- (a) PM10, SO₂, and CO are each less than 100 tons per year,
(b) VOC and NO_x are each less than 25 tons per year,
(c) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
(d) any combination of HAPs is less than 25 tons/year.

This status is based on the potential to emit calculations of the source (see Appendix A).

Federal Rule Applicability

- (a) 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.
- (b) 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.
- (c) The requirements of 40 CFR 60, Subpart E (60.50 through 60.54), Standards of Performance for Incinerators (326 IAC 12), are not included in this exemption because crematory incinerator has a charging rate less than fifty (50) tons per day and does not burn refuse consisting of more than 50 percent municipal type waste (household, commercial/retail, and/or institutional waste).
- (d) 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)
- (e) 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)).
- (f) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the exemption for this source.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

This new source is not a major stationary source under 326 IAC 2-2 (PSD), because no attainment regulated pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, the requirements of 326 IAC 2-2 (PSD) do not apply.

326 IAC 2-3 (Emission Offset) and 326 IAC 2-1.1-5 (Nonattainment Area New Source Review)

- (a) This new source is not a major stationary source under 326 IAC 2-3 (Emission Offset), because VOCs are not emitted at a rate of 25 tons per year or greater, and NO_x is not emitted at a rate of 100 tons per year or greater. Therefore, the requirements of 326 IAC 2-3 (Emission Offset) do not apply.
- (b) This new source is not a major stationary source under 326 IAC 2-1.1-5 (Nonattainment New Source Review), because PM₁₀ (surrogate for PM_{2.5}) is not emitted at a rate of 100 tons per year or greater. Therefore, the requirements of 326 IAC 2-1.1-5 (Nonattainment New Source Review) do not apply.

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

The requirements of 326 IAC 2-4.1 are not applicable to this source, since 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.

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 located in Lake County and has the potential to emit of VOC and NO_x of less than 25 tons per year each; and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity Limitations)

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

- (a) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

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.

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

The source is located in Lake County and was constructed after December 13, 1985. However, the fugitive particulate emissions from this source are negligible. Pursuant to 326 IAC 6-5-1(b), this source is exempt from the requirements of 326 IAC 6-5.

326 IAC 6.8 (Particulate Emission Limitations for Lake County)

This source is not subject to the requirements of 326 IAC 6.8, because the source is not specifically listed in 326 IAC 6.8-2 through 326 IAC 6.8-11, the source does not have the potential to emit one hundred (100) tons or more per year of particulate matter, and does not have actual emissions of ten (10) tons or more per year of particulate matter.

326 IAC 6.8-10 (Fugitive Particulate Matter Emission Limitations for Lake County)

This source is not subject to the requirements of 326 IAC 6.8-10, because it does not have the potential to emit five (5) tons per year fugitive PM or PM10 into the atmosphere in Lake County, and it is not one of the sources listed in 326 IAC 6.8-10(a)(2).

State Rule Applicability - Individual Facilities

326 IAC 4-2-2 (Incinerators)

Pursuant to 326 IAC 4-2-2 (Incinerators), the crematory incinerator (EU 001) 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.

326 IAC 6-2 (Particulate Emissions from Indirect Heating Units)

The crematory incinerator (EU 001) is not subject to the requirements of 326 IAC 6-2, since it is not a source of indirect heating.

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

Pursuant to 326 IAC 6-3-1(b)(2), the crematory incinerator (EU 001) is exempt from the requirements of 326 IAC 6-3.26 IAC 7-1 (Sulfur dioxide emission limitations: Applicability)

The crematory incinerator (EU 001) is not subject to the requirements of 326 IAC 7-1, since 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.

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

The crematory incinerator (EU 001) is not subject to the requirements of 326 IAC 8-1-6, since the potential to emit VOC is less than twenty-five (25) tons per year.

326 IAC 8-7 (Specific VOC Reduction Requirements for Lake, Porter, Clark, and Floyd Counties)

This source is not subject to 326 IAC 8-7 (Specific VOC Reduction Requirements for Lake, Porter, Clark, and Floyd Counties), because the crematory incinerator (EU 001) has the potential to emit VOC of less than twenty-five (25) tons per year.

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 (EU 001) burns pathological waste and does not burn refuse consisting of more than 50 percent municipal type waste (household, commercial/retail, and/or institutional waste).

326 IAC 11-7 (Emission Limitations for Municipal Waste Combustors)

The crematory incinerator (EU 001) is not subject to the requirements of 326 IAC 11-7, since it is considered a pathological waste combustor and not considered a municipal waste combustor.

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 (EU 001) is not subject to the requirements of 326 IAC 11-8, since it will be constructed after November 30, 1999 and burns 90% or more by weight of pathological waste.

Conclusion

The operation of this facility shall be subject to the conditions of the attached Exemption No. 089-25169-00528.

**Appendix A: Emissions Calculations
Emission Summary**

Company Name: Hobart Animal Clinic
Address City IN Zip: 1700 East SR 130, Hobart, Indiana 46342
Exemption Number: 089-25169-00528
Reviewer: Pam K. Way

Category	Uncontrolled Potential Emissions (tons/year)			
	Emissions Generating Activity			
	Pollutant	Incineration	Worst Case Combustion (natural gas or LPG)	TOTAL
Criteria Pollutants	PM	1.99	0.04	2.03
	PM10	1.99	0.07	2.06
	SO2	0.71	0.01	0.72
	NOx	0.85	1.34	2.19
	VOC	0.85	0.05	0.90
	CO	2.85	0.74	3.58
Hazardous Air Pollutants	Chromium		1.2E-05	1.2E-05
	Manganese		3.3E-06	3.3E-06
	Nickel		1.8E-05	1.8E-05
	n-Hexane		0.02	0.02
	Toluene		3.0E-05	3.0E-05
	Benzene		1.8E-05	1.8E-05
	Dichlorobenzene		1.1E-05	1.1E-05
	Formaldehyde		6.6E-04	6.6E-04
	Lead		4.4E-06	4.4E-06
	Cadmium		9.6E-06	9.6E-06
	Totals	0	0.02	0.02
			Worse Case HAP	0.02

Total emissions based on rated capacity at 8,760 hours/year.

**Appendix A: Emissions Calculations
Incinerator**

**Company Name: Hobart Animal Clinic
Address City IN Zip: 1700 East SR 130, Hobart, Indiana 46342
Exemption Number: 089-25169-00528
Reviewer: Pam K. Way**

Pollutant			PM*	PM10*	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)	Potential to Emit (tons/yr)					
			PM*	PM10*	SO2	NOx**	VOC	CO
Crematory EU 001 (Primary and Secondary Chamber)	130	569.4	1.99	1.99	0.71	0.85	0.85	2.85
Totals			1.99	1.99	0.71	0.85	0.85	2.85

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

*No emission factor for PM10 available (assume PM = PM10)

Abbreviations

PM = Particulate Matter

NOx = Nitrous Oxides

PM10 = Particulate Matter (<10 um)

VOC - Volatile Organic Compounds

SO2 = Sulfur Dioxide

CO = Carbon Monoxide

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

Company Name: Hobart Animal Clinic
Address City IN Zip: 1700 East SR 130, Hobart, Indiana 46342
Exemption Number: 089-25169-00528
Reviewer: Pam K. Way

Emission Unit	Number of Units	Unit Heat Input Capacity (MMBtu/hr)	Combined Total Heat Input Capacity (MMBtu/hr)	Potential Throughput (MMCF/yr)	Pollutant					
					PM*	PM10*	SO2	NOx**	VOC	CO
Emission Factor (lb/MMCF)					1.9	7.6	0.6	100	5.5	84.0
Crematory Burner (Primary and Secondary Chamber)	1	2.0	2.0	17.52	0.017	0.067	0.005	0.876	0.048	0.736
Totals		1	2.0		0.017	0.067	0.005	0.876	0.048	0.736

Emission Unit	Pollutant										
	Benzene	DCB	Formaldehyde	Hexane	Toluene	Pb	Cd	Cr	Mn	Ni	
Emission Factor (lb/MMCF)											
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential to Emit (tons/yr)											
Crematory Burner (Primary and Secondary Chamber)	1.8E-05	1.1E-05	6.6E-04	0.016	3.0E-05	4.4E-06	9.6E-06	1.2E-05	3.3E-06	1.8E-05	
Totals		1.8E-05	1.1E-05	6.6E-04	0.016	3.0E-05	4.4E-06	9.6E-06	1.2E-05	3.3E-06	1.8E-05

Total HAPs (tons/yr) 0.017

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

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

The five highest organic and metal HAPs emission factors are provided above. Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Methodology

Potential Throughput (MMCF/yr) = [Combined Total Heat Input Capacity (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]

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

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 (SUPPLEMENT D 3/98)

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu, MMCF = 1,000,000 Cubic Feet of Gas

Abbreviations

PM = Particulate Matter	NOx = Nitrous Oxides	DCB = Dichlorobenzene	Cr = Chromium
PM10 = Particulate Matter (<10 um)	VOC - Volatile Organic Compounds	Pb = Lead	Mn = Manganese
SO2 = Sulfur Dioxide	CO = Carbon Monoxide	Cd = Cadmium	Ni = Nickel

Appendix A: Emission Calculations

LPG-Propane - Commercial Boilers

(Heat input capacity: > 0.3 MMBtu/hr and < 10 MMBtu/hr)

Company Name: Hobart Animal Clinic
Address City IN Zip: 1700 East SR 130, Hobart, Indiana 46342
Exemption Number: 089-25169-00528
Reviewer: Pam K. Way

Crematory Burner Unit Heat Input Capacity = 2.0 MMBtu/hr
 Potential Throughput = 191 kgals/year
 S = Sulfur Content = 0.16 grains/100ft³

	Pollutant					
	PM*	PM10*	SO2 (0.10S)	NOx	VOC **TOC value	CO
Emission Factor in lb/kgal	0.40	0.40	0.016	14.0	0.50	1.90
Potential Emission in lbs/hr	0.01	0.01	3.5E-04	0.31	0.01	0.04
Potential Emission in tons/yr	0.04	0.04	1.5E-03	1.34	0.05	0.18

Methodology

*PM emission factor is filterable PM only. PM10 emission factor is assumed to be the same as PM based on a footnote in Table 1.5-1, therefore PM10 is filterable only as well.

**The VOC value given is TOC. The methane emission factor is 0.2 lb/kgal.

1 gallon of LPG has a heating value of 94,000 Btu

1 gallon of propane has a heating value of 91,500 Btu (use this to convert emission factors to an energy basis for propane)

(Source - AP-42 (Supplement B 10/96) page 1.5-1)

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.0915 MMBtu

Emission Factors are from AP42 (Supplement B 10/96), Table 1.5-1 (SCC #1-02-010-02)

Emission (lbs/hr) = Throughput (kgals/yr) x Emission Factor (lb/kgal) / 8,760 hrs/yr

Emission (tons/yr) = Throughput (kgals/yr) x Emission Factor (lb/kgal) / 2,000 lb/ton

Emission (after controls) = (PTE (before control))*(1 - 0.99) (Assuming destruction/removal efficiency of 99%)