



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant
DATE: December 12, 2007
RE: East Chicago Animal Control / 089-25473-00520
FROM: Matthew Stuckey, Deputy 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

We make Indiana a cleaner, healthier place to live.

Mitchell E. Daniels, Jr
Governor

Thomas W. Easterly
Commissioner

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Martell France
East Chicago Animal Control
2829 Gary Road
East Chicago, IN 46312

December 12, 2007

Re: Exempt Construction and Operation Status,
089-25473-00520

Dear Mr. France:

The application from East Chicago Animal Control, received on October 30, 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 small animals, located at 2829 Gary Road, East Chicago, Indiana 46312 is classified as exempt from air pollution permit requirements:

- (a) One (1) natural gas-fired small animal incinerator, identified as BL01, approved for construction in 2007, with a maximum capacity of seventy-five (75) pounds of remains per hour, consisting of a primary and secondary chamber that fire natural gas at a rate of 0.35 and 0.50 million British thermal units per hour (MMBtu/hr), respectively, exhausting through Stack BL-01.

The following conditions shall be applicable:

- (a) Pursuant to 326 IAC 4-2 (Incinerators), the crematory incinerator, identified as BL01, 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 and 326 IAC 2.
 - (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 emission limit in 40 CFR 52 Subpart P, State Implementation Plan for Indiana.

- (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:
 - (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (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 supercedes Exemption No.: 089-24037-00520 issued on January 19, 2007..

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 Sandra Carr, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251, at 317-234-5377 or at 1-800-451-6027 (ext 45377).

Original signed by,

Iryn Calilung, Section Chief
Permits Branch
Office of Air Quality

IC/sec

cc: File - Lake County
Lake County Health Department
Air Compliance Section
IDEM Northwest Regional Office
Permit Tracking
Compliance Data Section
Permits Administrative and Development
Billing, Licensing and Training Section

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

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name:	East Chicago Animal Control
Source Location:	2829 Gary Road, East Chicago, IN 46312
County:	Lake
SIC Code:	7261 (Funeral Service and Crematories)
Exemption No.:	089-25473-00520
Permit Reviewer:	Sandra Carr

On October 30, 2007, the Office of Air Quality (OAQ) received an application from East Chicago Animal Control relating to the construction and operation of a new crematory incinerator for small animal remains.

History

On January 19, 2007 this existing source was issued an Exemption. The incinerator described in that permit, which was previously in operation at this location, was dismantled and removed from service in November 2007.

New Emission Units and Pollution Control Equipment

This application includes information relating to the operation of the following facilities:

- (a) one (1) crematory incinerator for small animal remains, identified as BL01, constructed in 2007, with a maximum capacity of 75 pounds of remains per hour, consisting of a primary and secondary chamber that fire natural gas at a rate of 0.35 and 0.50 million British thermal units per hour (MMBtu/hr), respectively, exhausting through Stack BL-01.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted emission units operating at this source during this review process.

Existing Approvals

The source has been operating under previous approval including, but not limited to, the following:

- (a) Exemption No.: 089-24037-00520, issued on January 19, 2007. Exemption No.089-24037-00520 will be superceded by the issuance of this Exemption No. 089-25473-00520.

All conditions from previous approvals were incorporated into this permit.

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 October 30, 2007.

Stack Summary

Stack ID	Operation	Height (ft)	Diameter (ft)	Flow Rate (acfm)	Temperature (°F)
BL-01	Incinerator	20	1.0	2,000	900

Emission Calculations

See Appendix A of this document for detailed emission calculations in Appendix A, pages 1 through 5.

Potential to Emit of the Source Before Controls

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/yr)
PM	0.40
PM-10	0.44
SO ₂	0.61
VOC	0.03
CO	1.47
NO _x	1.91

HAPs	Potential to Emit (tons/yr)
Benzene	1.3E-05
Dichlorobenzene	7.2E-06
Formaldehyde	0.0005
Hexane	0.0108
Toluene	2.0E-05
Hydrochloric acid	0.0092
Hydrogen fluoride	0.0029
Phenanthrene	1.0E-05
PAH	1.6E-05
Anthracene	1.4E-06
Lead	0.0003
Cadmium	0.0001
Chromium	0.0001
Mercury	0.0144
Zinc	0.0016
Total HAPs	0.04

PAH = Polycyclic aromatic hydrocarbons

- (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
PM2.5	Nonattainment
SO ₂	Attainment
NO ₂	Attainment
8-hour Ozone	Nonattainment
CO	Attainment
Lead	Attainment

- (a) U.S.EPA in Federal Register Notice 70 FR 943 dated January 5, 2005 has designated Lake as nonattainment for PM2.5. 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 PM2.5 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 (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.

- (1) 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 nonattainment 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 26, 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 standards. Therefore, VOC emissions were reviewed pursuant to the requirements for nonattainment new source review. See the State Rule Applicability for the source section.

- (2) 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. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standard. Lake County has been designated as 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 – Entire Source section.
- (c) Lake County has been classified as attainment or unclassifiable in Indiana for CO, Pb, NO_x, SO₂ and PM₁₀. 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) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 or 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

Existing Source PSD, Part 70, or FESOP 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	0.40
PM-10	0.44
SO ₂	0.61
NO _x	1.91
VOC	0.03
CO	1.47
Single HAPs	0.01
Combination HAPs	0.04

- (a) This new source is not a major PSD stationary source 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, pursuant to 326 IAC 2-2, the PSD requirements do not apply.
- (b) This existing source is not a major source under Emission Offset because no nonattainment pollutant is emitted at a rate of 100 tons per year or greater.
- (c) These emissions were based on the application submitted by the company.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons per year.

This status is based on the calculations provided in Appendix A.

Federal Rule Applicability

- (a) This source is not subject to the requirements of 40 CFR 63, Subpart DDDDD (63.7480 through 63.7575), NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters, because the source is not a major source of HAPs.
- (b) This source is not subject to the requirements of 40 CFR 63, Subpart EEE (63.1200 through 63.1214), NESHAP for Hazardous Waste Combustors (326 IAC 20-28-1), because the crematory incinerator is not considered a hazardous waste incinerator and the source is not a major source of HAPs.
- (c) 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.
- (d) This source is not subject to the requirements of 40 CFR 60, Subpart E (60.50 through 60.54), Standards of Performance for Incinerators (326 IAC 12), because the 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).

- (e) This source is not subject to the requirements of the following New Source Performance Standards (NSPS), because the 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)
- (f) The crematory incinerator, identified as BL01, is not subject to the requirements of 40 CFR 60, Subpart CCCC (60.2000 through 60.2265), Standards of Performance for Commercial and Industrial Solid Waste Incineration 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), because this unit is considered pathological waste incineration unit (40 CFR 60.2020(a)).
- (g) 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), 326 IAC 2-3 (Emission Offset), and 326 IAC 2-1.1-5 (Nonattainment Area New Source Review)

This source was constructed in 2007 and is not one of the 28 listed source categories. This source is located in Lake County, which is currently in attainment for PM₁₀, SO₂, NO₂, CO, and Pb, and nonattainment for PM_{2.5} and the 8-hour ozone standard. This source is not subject to 326 IAC 2-2, 326 IAC 2-3 or 326 IAC 2-1.1-5 and is a minor source because:

- (a) The potential to emit CO, NO₂, and SO₂, are each less than 250 tons per year; and
- (b) The potential to emit VOC, NOX and PM₁₀ (used as a surrogate for PM_{2.5}) are each less than 100 tons per year.

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)

This source is located in Lake County, is not required to operate under a Part 70 permit, has a potential to emit VOC and NO_x that is less than ten (10) tons per year, and has a potential to emit lead (Pb) that is less than five (5) tons per year. Therefore, this source is subject only to the provisions of 326 IAC 2-6-5 (Additional Information Requests).

326 IAC 5-1 (Opacity Limitations)

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

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

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)

Pursuant to 326 IAC 6-5-1(a) and (b), this source is not subject to the requirements of 326 IAC 6-5 because it is located in Lake County and is not required to have a permit under 326 IAC 2.

326 IAC 6.8 (Particulate Matter Limitations For Lake County)

This source is not subject to the limitations in this article because this source is not specifically listed in 326 IAC 6.8-2 through 326 IAC 6.8-11, and does not have

- (a) the potential to emit greater than one hundred (100) tons or more; or
 - (b) actual emissions of ten (10) tons or more;
- of particulate matter (PM) per year.

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 equal to or greater than five (5) tons of fugitive particulate matter per year.

326 IAC 8-6 (Organic Solvent Emission Limitations)

This source has potential VOC emissions that are less than 100 tons per year. Therefore, 326 IAC 8-6 does not apply.

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

Pursuant to 326 IAC 8-7-2(a), this source is not subject to the requirements of 326 IAC 8-7 because the potential to emit VOC is less than 25 tons per year.

State Rule Applicability – Small Animal Incinerator

326 IAC 4-2 (Incinerators)

Pursuant to 326 IAC 4-2, the incinerator, identified as BL01, 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 emission limit in 40 CFR 52 Subpart P, State Implementation Plan for Indiana.

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

Pursuant to 326 IAC 6-3-1(b)(2), incinerators, are exempt from the provisions of this rule.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

Pursuant to 326 IAC 7-1.1-1, the incinerator BL01 is not subject to this rule because the potential to emit sulfur dioxide is less than 25 tons per year and 10 pounds per hour.

326 IAC 7-4.1-1 (Lake County Sulfur Dioxide Emission Limitations)

The incinerator, BL01, located at this source is not subject to this rule because the potential to emit sulfur dioxide is less than 25 tons per year and 10 pounds per hour. Therefore, 326 IAC 7-4.1-1 does not apply.

326 IAC 8-1-6 (Volatile Organic Compounds)

The crematory incinerator, identified as BL01, located at this source is not subject to the requirements of 326 IAC 8-1-6, because it does not have the potential to emit equal to or greater than twenty-five (25) tons of VOC per year. Therefore, the requirements of 326 IAC 8-1-6 do not apply.

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, BL01, burns only 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 11-6 (Hospital/Medical/Infectious Waste Incinerators)

This source is not subject to the provisions of 326 IAC 11-6 because the incinerator, BL01, is a pathological waste incinerator, and does not meet the definition of a Hospital/Medical/Infectious Waste Incinerator as defined in 40 CFR 60.50c, subpart Ec.

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

The crematory incinerator, BL01, is not subject to the requirements of 326 IAC 11-7, since it is considered a pathological waste combustor and not considered municipal waste combustor and the combustion capacity of the incinerator is less than the 250 tons per day applicability threshold.

326 IAC 11-8 (Emission Limitations for Commercial and Industrial Solid Waste Incineration Units)

Pursuant to 326 IAC 11-8-1(a), the crematory incinerator, BL01, is not subject to the requirements of 326 IAC 11-8, since it will be constructed after November 30, 1999 and it does not meet the definition of a Commercial and Industrial Solid Waste Incinerator as defined in 40 CFR 60.2875.

Conclusion

The operation of this source shall be subject to the conditions of the attached exemption, No.089-25473-00520.

**Appendix A: Emission Calculations
Summary**

Company Name: East Chicago Animal Control
Address: 2829 Gary Road, East Chicago, IN 46312
Registration: 089-25473-00520
Reviewer: Sandra Carr
Date: December 3, 2007

Criteria Pollutants	Natural Gas Combustion	Incinerator	Totals (tons/yr)
PM	0.011	0.39	0.40
PM10	0.050	0.39	0.44
SOx	0.004	0.61	0.61
NOx	0.600	1.31	1.91
VOC	0.033	0.00	0.03
CO	0.500	0.97	1.47

HAPs

Benzene	1.3E-05		1.3E-05
Dichlorobenzene	7.2E-06		7.2E-06
Formaldehyde	4.5E-04		4.5E-04
Hexane	1.1E-02		1.1E-02
Toluene	2.0E-05		2.0E-05
Hydrochloric acid		9.2E-03	9.2E-03
Hydrogen fluoride		2.9E-03	2.9E-03
Phenanthrene		1.0E-05	1.0E-05
PAH		1.6E-05	1.6E-05
Anthracene		1.4E-06	1.4E-06
Lead	3.0E-06	2.9E-04	2.9E-04
Cadmium	6.6E-06	4.9E-05	5.5E-05
Chromium	8.4E-06	1.3E-04	1.4E-04
Mercury	2.3E-06	1.4E-02	1.4E-02
Zinc	1.3E-05	1.5E-03	1.6E-03

Combined HAPs	0.04	tons/yr
Highest single HAP (Mercury)	0.01	tons/yr

PAH = Polycyclic aromatic hydrocarbons

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

Company Name: East Chicago Animal Control
Address: 2829 Gary Road, East Chicago, IN 46312
Registration: 089-25473-00520
Reviewer: Sandra Carr
Date: December 3, 2007

Combined Heat Input Capacity
MMBtu/hr
1.40

Potential Throughput
MMBtu/yr
12,264.00

Pollutant

	PM*	PM10*	SO ₂	NOx**	VOC	CO
Emission Factor (lb/MMBtu)	0.0019	0.0075	0.0006	0.0980	0.0054	0.0824
Potential to Emit (tons/yr)	1.14E-02	0.05	3.61E-03	0.60	3.31E-02	0.50

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

**Emission factor for NOx (Uncontrolled) = 100 lb/MMSCF = 100/1020 = 0.0980 lb/MMBtu

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 (July 1998).

All emission factors are based on normal firing.

Methodology

Emission factor conversion from lb/MMSCF to lb/MMBtu = EF lb/MMSCF / 1020 lb/MMBtu

Potential Throughput (MMBtu/yr) = Combined Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr

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

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

Company Name: East Chicago Animal Control
Address: 2829 Gary Road, East Chicago, IN 46312
Registration: 089-25473-00520
Reviewer: Sandra Carr
Date: December 3, 2007

HAPs - Organics

Emission Factor (lb/MMBtu)	Benzene 2.06E-06	Dichlorobenzene 1.18E-06	Formaldehyde 7.35E-05	Hexane 1.76E-03	Toluene 3.33E-06
Potential to Emit (tons/yr)	1.26E-05	7.21E-06	4.51E-04	1.08E-02	2.04E-05

HAPs - Metals

Emission Factor (lb/MMBtu)	Lead 4.90E-07	Cadmium 1.08E-06	Chromium 1.37E-06	Manganese 3.73E-07	Nickel 2.06E-06
Potential to Emit (tons/yr)	3.01E-06	6.61E-06	8.42E-06	2.28E-06	1.26E-05

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors provided above are from AP-42, Chapter 1.4, Table 1.4-2, 1.4-3, and 1.4-4 (July, 1998). Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emission Calculations
Small Animal Incinerator**

Company Name: East Chicago Animal Control
Address: 2829 Gary Road, East Chicago, IN 46312
Registration: 089-25473-00520
Reviewer: Sandra Carr
Date: December 3, 2007

Incinerator Characteristics:

	Primary Chamber	Secondary Chamber
Residence Time (sec)		60
Temperature (°F)	1,400	1,600

Maximum Process Weight Rate (lb/hr) = 75
 Potential Throughput (tons/yr) = 328.5

Stack Characteristics:

Temperature (Kelvin)	755
Flowrate (actual ft3/min)	2,688
Oxygen *	11.0
Stack Gas Flow Rate (DSCFM)	632

Pollutant

	PM****	PM10	SO2	NOx	Dioxin/Furan**	CO***
Emission Factor (lb/hr)	0.09	0.09	0.14	0.30	192	32.3
Potential to Emit (tons/yr)	0.39	0.39	0.61	1.31	1.11E-07	0.64

* Corrected to seven (7) percent oxygen.

** Dioxin/Furan emission factor was provided in nanograms per minute.

*** Carbon monoxide emissions, provided by manufacturer, are in parts per million at 7% oxygen.

****Particulate emission rate, provided by manufacturer: EF=0.09 lb/hr.

Dioxin/Furan, NOx, and SOx emission factors are the result of emissions study conducted by U.S. EPA and Cremation Association of North America (CANA) June 11 through June 17, 1
www.cremationassociation.org/html/environment.html

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

Methodology

Potential to Emit Dioxin/Furan (tons/yr) = Emission Factor (ng/min) x 1E-9 g/1 ng x 1 lb/453.593 g x 60 min/1 hour x 8,760 hours/year x 1 ton/2,000 lbs

Potential to Emit CO (mg/m3) = Emission Factor (ppm) x CO Molecular Weight (g/mol) / Ideal Gas (22.4 liter/mol) x Temperature (273 K/700 K)

Potential to Emit CO (ton/yr) = Potential to Emit CO (mg/m3) x 1g/1000mg x 1m3/35.3ft3 x Stack Flowrate (actual ft3/min) x

Oxygen Correction (20.9) / (20.9 - 7% Oxygen) x 60 min/1 hour x 8,760 hours/year x 1 lb/453.593 g x 1 ton/2,000 lbs

Potential to Emit (tons/yr) = Emission Factor (lb/hr) x 8,760 hours/year x 1 ton/2,000 lbs

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

Appendix A: Emissions Calculations

Small Animal Incinerator

HAPs Emissions

Company Name: East Chicago Animal Control
Address City IN Zip: 2829 Gary Road, East Chicago, IN 46312
Permit Number: 089-25473-00520
Reviewer: Sandra Carr
Date: December 3, 2007

HAPs - Organics					
Emission Factor in lb/hr	Hydrochloric acid 2.1E-03	Hydrogen fluoride 6.55E-04	Phenanthrene 2.29E-06	PAH 3.76E-06	Anthracene 3.24E-07
Potential Emission in tons/yr	9.198E-03	2.869E-03	1.003E-05	1.647E-05	1.419E-06

HAPs - Metals					
Emission Factor in lb/hr	Lead 6.62E-05	Cadmium 1.11E-05	Chromium 2.99E-05	Mercury 3.29E-03	Zinc 3.53E-04
Potential Emission in tons/yr	2.900E-04	4.862E-05	1.310E-04	1.441E-02	1.546E-03

Methodology is the same as page 1.

HAP Emission factors are from the EPA's Factor Information Retrieval (FIRE) Data System, version <http://cfpub.epa.gov/oarweb/index.cfm?action=fire.main>

Emission factor data is from a propane-fired small animal incinerator, SCC 3-15-021-01.

Data is converted from propane to natural gas by multiplying by a ratio of heating values of propane/natural gas (2516/1020) per EPA Table 1.4-2.

The five highest organic and metal HAPs emission factors are provided above.

PAH = Polycyclic aromatic hydrocarbons