



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: January 19, 2007
RE: East Chicago Animal Control / 089-24037-00520
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
Indianapolis, Indiana 46204-2251
(317) 232-8603
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January 19, 2007

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

Dear Mr. France:

Re: Exempt Operation Status,
089-24037-00520

The application from East Chicago Animal Control, received on December 5, 2006, 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 small animal incinerator, located at 2829 Gary Road, East Chicago, Indiana, is classified as exempt from air pollution permit requirements:

One (1) small animal incinerator, constructed in 1975, with a maximum capacity of 200 lbs/hr of waste, using 1,600,000 Btu/hr of natural gas as supplemental fuel, and exhausting to stack 1.

The following conditions shall be applicable:

- (1) Pursuant to 326 IAC 4-2 (Incinerators), this rule establishes standards for the use of incinerators which emit regulated pollutants. All incinerators shall:
 - (a) Consist of primary and secondary chambers or the equivalent.
 - (b) Be equipped with a primary burner unless burning only wood products.
 - (c) Comply with 326 IAC 5-1 and 326 IAC 2.
 - (d) Be maintained, operated, and burn waste in accordance with the manufacturer's specifications or an operation and maintenance plan.
 - (e) Not emit particulate matter in excess of three-tenths (0.3) pound of particulate matter per one thousand (1,000) pounds of dry exhaust gas under standard conditions corrected to fifty percent (50%) excess air for incinerators with a maximum solid waste capacity of greater than or equal to two hundred (200) pounds per hour.
 - (f) If any of the requirements of paragraphs (a) through (e) 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.

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

- (a) The operation and maintenance plan must be designed to meet the particulate matter emission limitation shall include the following: procedures for receiving, handling, and charging waste, procedures for incinerator startup and shutdown, procedures for responding to a malfunction, procedures for maintaining proper combustion air supply levels, procedures for operating the incinerator and associated air pollution control systems, procedures for handling ash, and a list of wastes that can be burned in the incinerator.
- (b) Each incinerator operator shall review the plan before initial implementation of the operation and maintenance plan and annually thereafter.
- (c) The operation and maintenance plan must be readily accessible to incinerator operators.
- (d) 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.

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.

- (2) 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 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.
- (3) Pursuant to 326 IAC 9-1-2(a)(3), the owner or operator shall not operate a refuse incinerator or refuse burning equipment unless the waste gas stream is burned in one (1) of the following:
 - (a) Direct-flame afterburner, or
 - (b) Secondary Chamber.
- (4) 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 second air approval issues 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.

Pursuant to Contract No. A305-5-65, IDEM, OAQ has assigned the processing of this application to Eastern Research Group, Inc., (ERG). Therefore, questions should be directed to Bryan Lange, ERG, 1600 Perimeter Park Drive, Morrisville, North Carolina 27560, or call (919) 468-7854 to speak directly to Mr. Lange. Questions may also be directed to Duane Van Laningham at IDEM, OAQ, 100 North Senate

Avenue, Indianapolis, Indiana, 46204-2251 or call (800) 451-6027, ask for Duane Van Laningham, or extension 3-6878, or dial (317) 233-6878.

Sincerely,

Original document signed by

Nisha Sizemore, Chief
Permits Branch
Office of Air Quality

ERG/BL

cc: File - Lake County
Lake County Health Department
Air Compliance - Ramesh Tejuja
Northwest Regional Office
Permit Tracking
Compliance Data Section
Program Planning and Policy – Scott Delaney

**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:	8699
Operation Permit Issuance Date:	December 28, 1988
Permit Exemption No.:	089-24037-00520
Permit Reviewer:	ERG/BL

The Office of Air Quality (OAQ) has reviewed an application from East Chicago Animal Control relating to the construction and operation of a small animal incinerator.

History

The incinerator was constructed in 1975, since that date there has been no change in operations or modifications to equipment. On December 28, 1988 this existing source was issued a Registration. On December 5, 2006 a renewal application was received. However, the potential to emit (as defined in 326 IAC 2-1.1-1(16)) for PM, PM-10, SO₂, VOC, and NO_x are less than five (5) tons per year and the potential to emit for CO is less than twenty-five (25) tons per year.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission unit:

One (1) small animal incinerator, constructed in 1975, with a maximum capacity of 200 lbs/hr of waste, using 1,600,000 Btu/hr of natural gas as supplemental fuel, and exhausting to stack 1.

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 approvals including, but not limited to, the following:

- (a) Registration issued on December 28, 1988.

All conditions from previous approvals were incorporated into this permit.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (ft)	Diameter (ft)	Flow Rate (acfm)	Temperature (°F)
1	Incinerator	25	1.25	5,000	800

Recommendation

The staff recommends to the Commissioner that the operation be approved. 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 December 5, 2006.

Emission Calculations

See Appendix A of this document for detailed emission calculations in Appendix A, pages 1 through 3.

Potential to Emit of the Source Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit 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	1.07
PM-10	1.08
SO ₂	0.61
VOC	3.78x10 ⁻³
CO	0.24
NO _x	1.38

HAPs	Potential to Emit (tons/yr)
Combined	1.30x10 ⁻³

- (a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of PM, PM-10, SO₂, VOC, and NO_x are less than five (5) tons per year and the potential to emit for CO is less than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3. An exemption will be issued.
- (b) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-1.1-1(16)) of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7 (Part 70 Permit Program).

County Attainment Status

The source is located in Lake County.

Pollutant	Status
PM-10	Attainment
PM 2.5	Nonattainment
SO ₂	Attainment
NO ₂	Attainment
8-hour Ozone	Nonattainment
CO	Attainment
Lead	Attainment

Note: 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, and revoking the one-hour ozone standard in Indiana.

- (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 non-attainment 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 Non-attainment 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. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to the ozone standards. Lake County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for nonattainment new source review.
- (c) Lake County has been classified as attainment or unclassifiable in Indiana for NO₂. 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	less than 250
PM-10	less than 100
SO ₂	less than 250
VOC	less than 100
CO	less than 250
NO _x	less than 100
Individual HAPs	less than 10
Combination HAPs	less than 25

- (a) This existing source is not a major stationary source under 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.
- (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) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in this exemption.
- (b) The requirements of 40 CFR 60, Subpart E - Standards of Performance for Incinerators (326 IAC 12), are not included in this exemption. The maximum charge rate for the incinerator is less than the 50 ton per day applicability threshold of Subpart E.
- (c) The requirements of 40 CFR 60, Subpart Eb - Standards of Performance for Municipal Waste Combustors for Which Construction is Commenced After June 19, 1996 (326 IAC 12) are not included in this exemption. The maximum combustion capacity for the incinerator is less than the 250 tons of solid waste per day applicability threshold.
- (d) The requirements of 40 CFR 60, Subpart Ec - Standards of Performance for Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996 (326 IAC 12) are not included in this exemption. The incinerator was constructed prior to June 20, 1996 and is a pyrolysis unit, which is specifically exempt from the provisions of this subpart.
- (e) The requirements of 40 CFR 60, Subpart AAAA - New Source Performance Standards 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) are not included in this exemption. The incinerator was constructed prior to August 30, 1999, has not been modified after June 6, 2001, and has a combustion capacity less than 35 tons per day of municipal solid waste or refuse derived fuel.

- (f) The requirements of 40 CFR 60, Subpart CCCC - New Source Performance Standards 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) are not included in this exemption. The incinerator at this source was constructed prior to November 30, 1999 and does not meet the definition of a commercial and industrial solid waste incinerator (CISWI) unit as defined in 40 CFR 60.2265.
- (g) The requirements of 40 CFR 60, Subpart EEEE - New Source Performance Standards for Other Solid Waste Incineration Units are not included in this exemption. This incinerator does not meet the definition of a small municipal waste combustion unit or institutional waste incineration unit provided in 40 CFR 60.2977.
- (h) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) included in this exemption.
- (i) The requirements of 40 CFR 63, Subpart EEE - National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors are not included in this exemption. Crematory incinerators do not meet the definition of a hazardous waste incinerator provided in 40 CFR 63.1201.

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 1975 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, NO_x and PM₁₀ (used as a surrogate for PM_{2.5}) are each less than 100 tons per year.

326 IAC 2-4.1 (New Source Toxics Control)

This source is not a major source of HAPs, was constructed prior to July 27, 1997, and has not been modified. Therefore 326 IAC 2-4.1 does not apply.

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 (Visible Emissions Limitations)

The source is located in the area bounded on the north by Lake Michigan, on the west by the Indiana-Illinois state line, on the south by U.S. 30 from the state line to the intersection of I-65 to the intersection of I-94 then following I-94 to the Lake-Porter county line, and on the east by the Lake-Porter county line. 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 6.8 (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 the potential to emit greater than ten (10) tons 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 equal to or greater than five (5) tons of fugitive particulate matter per year.

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, was constructed prior to December 13, 1985, and is not required to have a permit under 326 IAC 2.

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, this rule establishes standards for the use of incinerators which emit regulated air pollutants. All incinerators shall:

- (a) Consist of primary and secondary chambers or the equivalent.
- (b) Be equipped with a primary burner unless burning only wood products.
- (c) Comply with 326 IAC 5-1 and 326 IAC 2.
- (d) Be maintained, operated, and burn waste in accordance with the manufacturer's specifications or an operation and maintenance plan.
- (e) Not emit particulate matter in excess of three-tenths (0.3) pound of particulate matter per one thousand (1,000) pounds of dry exhaust gas under standard conditions corrected to fifty percent (50%) excess air for incinerators with a maximum solid waste capacity of greater than or equal to two hundred (200) pounds per hour.
- (f) If any of the requirements of paragraphs (a) through (f) 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.

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

- (a) The operation and maintenance plan must be designed to meet the particulate matter emission limitation shall include the following: procedures for receiving, handling, and charging waste, procedures for incinerator startup and shutdown, procedures for responding to a malfunction, procedures for maintaining proper combustion air supply levels, procedures for operating the incinerator and associated air pollution control systems, procedures for handling ash, and a list of wastes that can be burned in the incinerator.
- (b) Each incinerator operator shall review the plan before initial implementation of the operation and maintenance plan and annually thereafter.
- (c) The operation and maintenance plan must be readily accessible to incinerator operators.
- (d) 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.

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.

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 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 (Lake County Sulfur Dioxide Emission Limitations)

The incinerator located at a source is not one of the emission sources listed in 326 IAC 7-4.1. Therefore, 326 IAC 7-4.1 does not apply.

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

The incinerator was constructed prior to January 1, 1980. Therefore, the requirements of 326 IAC 8-1-6 do not apply.

326 IAC 9-1 (Carbon Monoxide Emissions Rules)

Pursuant to 326 IAC 9-1-2(a)(3), the source shall not operate a refuse incinerator or refuse burning equipment unless the waste gas stream is burned in one (1) of the following:

- (a) Direct-flame afterburner, or
- (b) Secondary Chamber.

The source will comply with the rule using a secondary chamber.

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 is a pyrolysis unit, which is specifically exempt under 326 IAC 11-6-1(b)(5).

326 IAC 11-7 (Municipal Waste Combustors)

This source is not subject to the provisions of 326 IAC 11-7 because the combustion capacity of the incinerator is less than the 250 tons per day applicability threshold.

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

The incinerator is not subject to 326 IAC 11-8 because 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 small animal incinerator shall be subject to the conditions of the Exemption 089-24037-00520.

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

Company Name: East Chicago Animal Control
Address: 2829 Gary Road, East Chicago, IN 46312
Registration: 089-24037-00520
Reviewer: ERG/BL
Date: December 22, 2006

Heat Input Capacity
MMBtu/hr
0.16

Potential Throughput
MMSCF/yr
1.37

Pollutant

	PM*	PM10*	SO ₂	NOx**	VOC	CO
Emission Factor (lb/MMSCF)	1.90	7.60	0.60	100	5.50	84.0
Potential to Emit (tons/yr)	1.31E-03	0.01	4.12E-04	0.07	3.78E-03	0.06

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

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

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

Potential Throughput (MMSCF/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMSCF/1,020 MMBtu

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

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

HAPs - Organics

Emission Factor (lb/MMSCF)	Benzene 2.10E-03	Dichlorobenzene 1.20E-03	Formaldehyde 7.50E-02	Hexane 1.80E+00	Toluene 3.40E-03
Potential to Emit (tons/yr)	1.44E-06	8.24E-07	5.15E-05	1.24E-03	2.34E-06

HAPs - Metals

Emission Factor (lb/MMSCF)	Lead 5.00E-04	Cadmium 1.10E-03	Chromium 1.40E-03	Manganese 3.80E-04	Nickel 2.10E-03
Potential to Emit (tons/yr)	3.44E-07	7.56E-07	9.62E-07	2.61E-07	1.44E-06

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: 089-24037-00520
Reviewer: ERG/BL
Date: December 22, 2006

Incinerator Characteristics:

	Primary Chamber	Secondary Chamber
Residence Time (sec)	3.2	1.5
Temperature (F)	1,400	1,800

Stack Characteristics:

Temperature (Kelvin)	700
Flowrate (actual ft ³ /min)	5,000
Oxygen *	3.0

Pollutant

	PM	PM10	SO ₂	NOx	Dioxin/Furan**	CO***
Emission Factor (lb/hr)	0.25	0.25	0.14	0.30	192	6.0
Potential to Emit (tons/yr)	1.07	1.07	0.61	1.31	1.11E-07	0.19

* Three percent oxygen assumed.

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

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

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, 1999. <www.cremationassociation.org/html/environment.html>

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 - 7) / (20.9 - measured) 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