



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: October 30, 2006

RE: Elkhart County Correctional Complex / 039-23667-00657

FROM: Nisha Sizemore
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval - Registration

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 IC 4-21.5-3-4(d) this order is effective when it is served. When served by U.S. mail, the order is effective three (3) calendar days from the mailing of this notice pursuant to IC 4-21.5-3-2(e).

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 of 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
FN-REGIS.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
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Elkhart County Correctional Complex
c/o Mr. Tom Byers, County Administrator
117 North Second Street
Goshen, Indiana 46526

October 30, 2006

Re: Registered Operation Status,
R039-23667-00657

Dear Mr. Byers:

The application from Elkhart County Correctional Complex, received on September 29, 2006, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the combustion units, located at 26821 County Road 26, Elkhart, Indiana 46157, are classified as registered:

- (a) One (1) natural gas-fired boiler with a Low NOx burner, identified as Boiler 1, with a maximum operating capacity rating of 33.475 MMBtu/hr, and exhausting to one (1) stack, identified as S1. Construction of Boiler 1 occurred between August 1, 2006 and October 1, 2006;
- (b) One (1) natural gas-fired boiler with a Low NOx burner, identified as Boiler 2, with a maximum operating capacity rating of 33.475 MMBtu/hr, and exhausting to one (1) stack, identified as S2. Construction of Boiler 2 occurred between August 1, 2006 and October 1, 2006.

Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Dc), Boilers 1 and 2 are considered new affected sources.

The following conditions shall be applicable:

- (1) Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), 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.
- (2) Pursuant to 326 IAC 6-2-4(a) (Particulate Emission Limitations for Sources of Indirect Heating), the particulate matter emissions from the two (2) natural gas-fired boilers with a maximum heat input capacity of 33.475 MMBtu per hour each, identified as Boilers 1 and 2, which began operation after September 21, 1983 shall be limited to 0.365 pounds per MMBtu heat input.

This limitation is based on the following equation:

$$Pt = 1.09/Q^{0.26}$$

where: Pt = maximum allowable particulate matter (PM) emitted per MMBtu heat input

Q = total source maximum indirect heater input (MMBtu/hr)

(3) New Source Performance Standard (NSPS) [326 IAC 12] [40 CFR 60, Subpart Dc]

General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR Part 60, Subpart A]

- (a) The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to Boilers 1 and 2, which are were constructed in 2006, except when otherwise specified in 40 CFR Part 60, Subpart Dc.
- (b) Pursuant to 40 CFR 60.7, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch – Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

New Source Performance Standard (NSPS) [326 IAC 12] [40 CFR 60, Subpart Dc]

Pursuant to 40 CFR Part 60, Subpart Dc, the Permittee shall comply with the provisions of the New Source Performance Standard (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units for Boilers 1 and 2, as specified as follows:

§ 60.40c Applicability and delegation of authority.

(a) Except as provided in paragraph (d) of this section, the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million Btu per hour (Btu/hr)) or less, but greater than or equal to 2.9 MW (10 million Btu/hr).

(b) In delegating implementation and enforcement authority to a State under section 111(c) of the Clean Air Act, §60.48c(a)(4) shall be retained by the Administrator and not transferred to a State.

(c) Steam generating units which meet the applicability requirements in paragraph (a) of this section are not subject to the sulfur dioxide (SO₂) or particulate matter (PM) emission limits, performance testing requirements, or monitoring requirements under this subpart (§§60.42c, 60.43c, 60.44c, 60.45c, 60.46c, or 60.47c) during periods of combustion research, as defined in §60.41c.

(d) Any temporary change to an existing steam generating unit for the purpose of conducting combustion research is not considered a modification under §60.14.

§ 60.41c Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act and in subpart A of this part.

Annual capacity factor means the ratio between the actual heat input to a steam generating unit from an individual fuel or combination of fuels during a period of 12 consecutive calendar months and the potential heat input to the steam generating unit from all fuels had the steam generating unit been operated for 8,760 hours during that 12-month period at the maximum design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility during a period of 12 consecutive calendar months.

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388–77, 90, 91, 95, or 98a, Standard Specification for Classification of Coals by Rank (IBR—see §60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels derived from coal for the purposes of creating useful heat, including but not limited to solvent refined coal, gasified coal, coal-oil mixtures, and coal-water mixtures, are also included in this definition for the purposes of this subpart.

Coal refuse means any by-product of coal mining or coal cleaning operations with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (kJ/kg) (6,000 Btu per pound (Btu/lb) on a dry basis.

Cogeneration steam generating unit means a steam generating unit that simultaneously produces both electrical (or mechanical) and thermal energy from the same primary energy source.

Combined cycle system means a system in which a separate source (such as a stationary gas turbine, internal combustion engine, or kiln) provides exhaust gas to a steam generating unit.

Combustion research means the experimental firing of any fuel or combination of fuels in a steam generating unit for the purpose of conducting research and development of more efficient combustion or more effective prevention or control of air pollutant emissions from combustion, provided that, during these periods of research and development, the heat generated is not used for any purpose other than preheating combustion air for use by that steam generating unit (i.e., the heat generated is released to the atmosphere without being used for space heating, process heating, driving pumps, preheating combustion air for other units, generating electricity, or any other purpose).

Conventional technology means wet flue gas desulfurization technology, dry flue gas desulfurization technology, atmospheric fluidized bed combustion technology, and oil hydrodesulfurization technology.

Distillate oil means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396–78, 89, 90, 92, 96, or 98, “Standard Specification for Fuel Oils” (incorporated by reference—see §60.17).

Dry flue gas desulfurization technology means a sulfur dioxide (SO₂) control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline reagents used in dry flue gas desulfurization systems include, but are not limited to, lime and sodium compounds.

Duct burner means a device that combusts fuel and that is placed in the exhaust duct from another source (such as a stationary gas turbine, internal combustion engine, kiln, etc.) to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a steam generating unit.

Emerging technology means any SO₂ control system that is not defined as a conventional technology under this section, and for which the owner or operator of the affected facility has received approval from the Administrator to operate as an emerging technology under §60.48c(a)(4).

Federally enforceable means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR Parts 60 and 61, requirements within any applicable State implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 40 CFR 51.24.

Fluidized bed combustion technology means a device wherein fuel is distributed onto a bed (or series of beds) of limestone aggregate (or other sorbent materials) for combustion; and these materials are forced upward in the device by the flow of combustion air and the gaseous products of combustion. Fluidized bed combustion technology includes, but is not limited to, bubbling bed units and circulating bed units.

Fuel pretreatment means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.

Heat input means heat derived from combustion of fuel in a steam generating unit and does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust gases from other sources (such as stationary gas turbines, internal combustion engines, and kilns).

Heat transfer medium means any material that is used to transfer heat from one point to another point.

Maximum design heat input capacity means the ability of a steam generating unit to combust a stated maximum amount of fuel (or combination of fuels) on a steady state basis as determined by the physical design and characteristics of the steam generating unit.

Natural gas means (1) a naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane, or (2) liquefied petroleum (LP) gas, as defined by the American Society for Testing and Materials in ASTM D1835–86, 87, 91, or 97, "Standard Specification for Liquefied Petroleum Gases" (incorporated by reference—see §60.17).

Noncontinental area means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

Oil means crude oil or petroleum, or a liquid fuel derived from crude oil or petroleum, including distillate oil and residual oil.

Potential sulfur dioxide emission rate means the theoretical SO₂ emissions (nanograms per joule [ng/J], or pounds per million Btu [lb/million Btu] heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.

Process heater means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.

Residual oil means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society for Testing and Materials in ASTM D396–78, 89, 90, 92, 96, or 98, "Standard Specification for Fuel Oils" (incorporated by reference—see §60.17).

Steam generating unit means a device that combusts any fuel and produces steam or heats water or any other heat transfer medium. This term includes any duct burner that combusts fuel

and is part of a combined cycle system. This term does not include process heaters as defined in this subpart.

Steam generating unit operating day means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

Wet flue gas desulfurization technology means an SO₂ control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a liquid material. This definition includes devices where the liquid material is subsequently converted to another form. Alkaline reagents used in wet flue gas desulfurization systems include, but are not limited to, lime, limestone, and sodium compounds.

Wet scrubber system means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of particulate matter (PM) or SO₂.

Wood means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including but not limited to sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

§ 60.43c Standard for particulate matter.

(d) The PM and opacity standards under this section apply at all times, except during periods of startup, shutdown, or malfunction.

(e)(1) On or after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, gas, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain particulate matter emissions in excess of 13 ng/J (0.030 lb/MMBtu) heat input, except as provided in paragraphs (e)(2) and (e)(3) of this section. Affected facilities subject to this paragraph, are also subject to the requirements of paragraphs (c) and (d) of this section.

§ 60.45c Compliance and performance test methods and procedures for particulate matter.

(c) Units that burn only oil containing no more than 0.5 weight percent sulfur or liquid or gaseous fuels with potential sulfur dioxide emission rates of 230 ng/J (0.54 lb/MMBtu) heat input or less are not required to conduct emissions monitoring if they maintain fuel supplier certifications of the sulfur content of the fuels burned.

§ 60.47c Emission monitoring for particulate matter.

(c) Units that burn only oil containing no more than 0.5 weight percent sulfur or liquid or gaseous fuels with potential sulfur dioxide emission rates of 230 ng/J (0.54 lb/MMBtu) heat input or less are not required to conduct emissions monitoring if they maintain fuel supplier certifications of the sulfur content of the fuels burned.

§ 60.48c Reporting and recordkeeping requirements.

(a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction, anticipated startup, and actual startup, as provided by §60.7 of this part. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

(2) If applicable, a copy of any Federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §60.42c, or §60.43c.

(3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

(g) The owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each day. The owner or operator of an affected facility that only burns very low sulfur fuel oil or other liquid or gaseous fuels with potential sulfur dioxide emissions rate of 140 ng/J (0.32 lb/MMBtu) heat input or less shall record and maintain records of the fuels combusted during each calendar month.

(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.

This registration is the first air approval issued to this source. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.5-4(a)(3). The annual notice shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section
Office of Air Quality
100 North Senate Avenue
Indianapolis, IN 46204-2251

no later than March 1 of each year, with the annual notice being submitted in the format attached.

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.

Sincerely,
Original signed by

Nisha Sizemore, Chief
Permits Branch
Office of Air Quality

TW/EVP

cc: File - Elkhart County
Elkhart County Health Department
Air Compliance – Paul Karkiewicz
Northern Regional Office
Permit Tracking
Compliance Data Section
Office of Enforcement

Registration Annual Notification

This form should be used to comply with the notification requirements under 326 IAC 2-5.5-4(a)(3)

Company Name:	Elkhart County Correctional Complex
Address:	26821 County Road 26, Elkhart, Indiana 46517
City:	Elkhart
Authorized individual:	Tom Byers (County Administrator)
Phone #:	(574) 535-6743
Registration #:	R039-23667-00657

I hereby certify that Elkhart County Correctional Complex is still in operation and is in compliance with the requirements of Registration R039-23667-00657.

Name (typed):
Title:
Signature:
Date:

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

Technical Support Document (TSD) for a Registration

Source Background and Description

Source Name: Elkhart County Correctional Complex
Source Location: 26821 County Road 26, Elkhart, Indiana 46517
County: Elkhart
SIC Code: 9223
Registration No.: R039-23667-00657
Permit Reviewer: Tanya White / EVP

The Office of Air Quality (OAQ) has reviewed an application from Elkhart County Correctional Complex relating to the construction and operation of natural gas-fired boilers at a correctional complex.

This review serves as the first-time registration for this source. The Permittee did not register its source prior to construction, as required pursuant to 326 IAC 2-5.1-2(b).

Unpermitted Emission Units and Pollution Control Equipment

The source consists of the following unpermitted emission units:

- (a) One (1) natural gas-fired boiler with a Low NOx burner, identified as Boiler 1, with a maximum operating capacity rating of 33.475 MMBtu/hr, and exhausting to one (1) stack, identified as S1. Construction of Boiler 1 occurred between August 1, 2006 and October 1, 2006;
- (b) One (1) natural gas-fired boiler with a Low NOx burner, identified as Boiler 2, with a maximum operating capacity rating of 33.475 MMBtu/hr, and exhausting to one (1) stack, identified as S2. Construction of Boiler 2 occurred between August 1, 2006 and October 1, 2006.

Under the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units NSPS (40 CFR 60, Subpart Dc), Boilers 1 and 2 are considered new affected sources.

Existing Approvals

There are no previous approvals for this source.

Enforcement Issue

IDEM is aware that the Permittee did not apply for a registration in a timely manner. IDEM is reviewing this matter and will take appropriate action.

Stack Summary

Stack ID	Operation	Height (ft)	Diameter (ft)	Flow Rate (acfm)	Temperature (°F)
B1	Natural Gas Boiler 1	28	2	11,100	390
B2	Natural Gas Boiler 2	28	2	11,100	390

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.

A complete application for the purposes of this review was received on September 20, 2006.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (pages 1 through 2).

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	0.55
PM-10	2.18
SO ₂	0.17
VOC	1.58
CO	24.15
NO _x	14.37

HAPs	Potential to Emit (tons/yr)
Toluene	9.77E-04
Benzene	6.04E-04
Dichlorobenzene	3.45E-04
Formaldehyde	2.16E-02
Lead	1.44E-04
Cadmium	3.16E-04
Chromium	4.02E-04
Nickel	6.04E-04
Manganese	1.09E-04
Hexane	5.17E-01
Total HAPs	5.43E-01

- (a) The potential to emit of all criteria pollutants are less than 25 tons per year and the potential to emit of CO and NO_x are greater than levels listed in 326 IAC 2-1.1-3(e), Exemptions. Therefore, the source is subject to the provisions of 326 IAC 2-5.5, Registrations. A registration will be issued.
- (b) The potential to emit of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

County Attainment Status

The source is located in Elkhart County.

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

- (a) 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. Elkhart County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.
- (b) Elkhart County has been classified as attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM 2.5 emissions. Therefore, until the U.S.EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions. See the State Rule Applicability for the source section.
- (c) On August 7, 2006, a temporary emergency rule took effect revoking the one-hour ozone standard in Indiana. The Indiana Air Pollution Control Board has approved a permanent rule revision to incorporate this change into 326 IAC 1-4-1. A permanent revision to 326 IAC 1-4-1 will take effect prior to the expiration of the emergency rule.
- (d) Elkhart County has been classified as attainment in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.
- (e) 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

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

Pollutant	Potential to Emit (tons/yr)
PM	0.55
PM-10	2.18
SO ₂	0.17
VOC	1.58
CO	24.15
NO _x	14.37

HAPs	Potential to Emit (tons/yr)
Toluene	9.77E-04
Benzene	6.04E-04
Dichlorobenzene	3.45E-04
Formaldehyde	2.16E-02
Lead	1.44E-04
Cadmium	3.16E-04
Chromium	4.02E-04
Nickel	6.04E-04
Manganese	1.09E-04
Hexane	5.17E-01
Total HAPs	5.43E-01

- (a) This new source is not a major stationary source because no nonattainment regulated pollutant is emitted at a rate of 100 tons per year or greater, no attainment regulated pollutants is emitted at a rate of 250 tons per year or greater, and it is not one of the 28 listed source categories.
- (b) These emissions were based on the information provided by the source (see Appendix A (pages 1 through 2) for emission calculations).

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

The total emissions indicated in this Registration R039-23667-00657, 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/year.

Federal Rule Applicability

- (a) Boilers 1 and 2, which have a maximum heat input capacity of less than 100 MMBtu/hr but greater than 10 MMBtu/hr each, are subject to the requirements of the New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60, Subpart Dc) (Standards of Performance for Small Industrial-Commercial- Institutional Steam Generating Units). The emission units subject to this rule include the following:
 - (1) One (1) natural gas-fired boiler with a Low NO_x burner, identified as Boiler 1, with a maximum operating capacity rating of 33.475 MMBtu/hr, and exhausting to one (1) stack, identified as S1. Construction of Boiler 1 occurred between August 1, 2006 and October 1, 2006;

- (2) One (1) natural gas-fired boiler with a Low NOx burner, identified as Boiler 2, with a maximum operating capacity rating of 33.475 MMBtu/hr, and exhausting to one (1) stack, identified as S2. Construction of Boiler 2 occurred between August 1, 2006 and October 1, 2006.

Nonapplicable portions of the NSPS will not be included in the permit. Boiler 1 and 2 are subject to the following portions of 40 CFR 60 Subpart Dc:

- (1) 40 CFR 60.40c(a).
- (2) 40 CFR 60.40c(b).
- (3) 40 CFR 60.40c(c).
- (4) 40 CFR 60.40c(d).
- (5) 40 CFR 60.41c.
- (6) 40 CFR 60.43c(d).
- (7) 40 CFR 60.43c(e)(1).
- (8) 40 CFR 60.45c(c).
- (9) 40 CFR 60.47c(c).
- (10) 40 CFR 60.48c(a)(1).
- (11) 40 CFR 60.48c(a)(2).
- (12) 40 CFR 60.48c(a)(3).
- (13) 40 CFR 60.48c(g).
- (14) 40 CFR 60.48c(i).

The provisions of 40 CFR 60 Subpart A – General Provisions, which are incorporated as 326 IAC 12-1-1, apply to the facilities described in this section except when otherwise specified in 40 CFR Part 60 Subpart Dc.

Boiler 1 and Boiler 2 NSPS PM Compliance Determination:

Limit is 0.030 lb PM/MMBtu

*1.9 lb/MMscf * 1/1,020 (scf/btu) = 0.001 lb PM/MMBtu*

The boilers are able to comply with the NSPS particulate matter (PM) limit of 0.030 pounds of PM per MMBtu.

- (b) Boilers 1 and 2 are not subject to the requirements of the New Source Performance Standard, 326 IAC 12 (40 CFR 60, Subpart D), because each boiler has a maximum heat input capacity of less than 250 MMBtu/hr. Therefore, the requirements of 40 CFR 60, Subpart D are not included in this permit.
- (c) Boilers 1 and 2 are not subject to the requirements of the New Source Performance Standard, 326 IAC 12 (40 CFR 60, Subpart Da), because each boiler has a maximum heat input capacity of less than 250 MMBtu/hr. Therefore, the requirements of 40 CFR 60, Subpart Da are not included in this permit.
- (d) Boilers 1 and 2 are not subject to the requirements of the New Source Performance Standard, 326 IAC 12 (40 CFR 60, Subpart Db), because each boiler has a maximum heat input capacity of less than 100 MMBtu/hr. Therefore, the requirements of 40 CFR 60, Subpart Db are not included in this permit.
- (e) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) included in this review.

- (f) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, (40 CFR 63, Subpart DDDDD) are not included for the two (2) natural gas boilers (Boiler 1 and Boiler 2), with a maximum heat input capacity of 33.457 MMBtu/hr each, because the requirements of 40 CFR 63 Subpart DDDDD are not applicable to sources that are minor sources of HAPs as defined in 40 CFR 63.2 or 40 CFR 63.761.

State Rule Applicability – Entire Source

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

This source is not subject to this rule because potential uncontrolled emissions of all attainment pollutants are less than 250 tons per year and this source is also not one of the 28 listed source categories. Therefore, this source is not subject to the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)).

326 IAC 2-3 (Emission Offset)

This source is not subject to the requirements of 326 IAC 2-3 because the source is located in Elkhart County, which is classified as a basic 8-hour ozone nonattainment area and the source has the potential to emit of less than 100 tons per year for each of VOC and NOx.

326 IAC 2-6 (Emission Reporting)

Pursuant to 326 IAC 2-6-1, this source is not subject to this rule because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake or Porter counties, 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 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 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of this source will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

State Rule Applicability – Individual Facilities

326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating)

Pursuant to 326 IAC 6-2-4(a) (Particulate Matter Emission Limitations for Sources of Indirect Heating), the particulate matter emissions from Boilers 1 and 2, which have a maximum heat input capacity of 33.475 MMBtu/hr each and which began operation after September 21, 1983, shall in no case exceed 0.365 lb/MMBtu heat input.

This limitation is based on the lesser of the following equation:

$$Pt = 1.09/Q^{0.26}$$

where: Pt = maximum allowable particulate matter (PM) emitted per MMBtu heat input
Q = total source maximum indirect heater input = 66.95 MMBtu/hr (Boiler 1: 33.475 MMBtu/hr and Boiler 2: 33.475 MMBtu/hr)

$$Pt = 1.09/66.95^{0.26} = 0.365 \text{ lbs PM/MMBtu}$$

Therefore, the PM emissions from the boilers, identified as Boiler 1 and 2, each with a rating capacity of 33.475 MMBtu per hour heat input and installed between August 1, 2006 and October 1, 2006, shall be limited to 0.365 pounds per MMBtu heat input.

Boiler 1 and Boiler 2 PM Compliance Determination:
 $1.9 \text{ lb/MMscf} * 1/1,020 \text{ (scf/btu)} = 0.001 \text{ lb PM/MMBtu}$

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

The requirements of 326 IAC 7-1.1 (SO₂ Emissions Limitations) are not applicable to Boilers 1 and 2 because potential SO₂ emissions are less than 25 tons per year or 10 pounds per hour. Therefore, pursuant to 326 IAC 7-1.1-1 this rule is not applicable.

326 IAC 8-1-6 (New Facilities, General Reduction Requirements)

This source is not subject to the requirements of 326 IAC 8-1-6 because potential emissions are less than twenty-five (25) tons of VOC per year.

Conclusion

The operation of natural gas-fired boilers at this correctional complex shall be subject to the conditions of Registration No. 039-23667-00657.

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

Two Natural Gas Boilers: Boiler 1 - 33.475 MMBtu/hr and Boiler 2 - 33.475 MMBtu/hr

**Company Name: Elkhart County Correction Complex
Address City IN Zip: 26821 County Road 26, Elkhart, IN 46517
Permit Number: R039-23667-00657
Plt ID: 039-00657
Reviewer: Tanya White/EVP
Date: Oct-06**

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

66.95

575.0

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO ₂	NO _x	VOC	CO
	1.9	7.6	0.6	50.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.55	2.18	0.17	14.37	1.58	24.15

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

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

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 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 (SUPPLEMENT D 3/98)

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

See next page for HAP emissions calculations.

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

**Two Natural Gas Boilers: Boiler 1 - 33.475 MMBtu/hr and Boiler 2 - 33.475 MMBtu/hr
HAP Emissions**

**Company Name: Elkhart County Correction Complex
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HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	6.04E-04	3.45E-04	2.16E-02	5.17E-01	9.77E-04

HAPs - Metals					
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.44E-04	3.16E-04	4.02E-04	1.09E-04	6.04E-04

Methodology is the same as previous page.

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