



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: February 16, 2009

RE: Grace College / 085-27465-00120

FROM: Matthew Stuckey, Branch 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, Suite N 501E, 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 1/2/08



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REGISTRATION OFFICE OF AIR QUALITY

**Grace College
200 Seminary Drive
Winona Lake, Indiana 46590**

Pursuant to 326 IAC 2-5.1 (Construction of New Sources: Registrations) and 326 IAC 2-5.5 (Registrations), (herein known as the Registrant) is hereby authorized to construct and operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this registration.

Registration No. 085-27465-00120

Issued by:

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

Issuance Date:

February 16, 2009

SECTION A

SOURCE SUMMARY

This registration is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 and A.2 is descriptive information and does not constitute enforceable conditions. However, the Registrant should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Registrant to obtain additional permits pursuant to 326 IAC 2.

A.1 General Information

The Registrant owns and operates a stationary college.

Source Address:	200 Seminary Drive, Winona Lake, Indiana 46590
Mailing Address:	200 Seminary Drive, Winona Lake, Indiana 46590
General Source Phone Number:	(574) 372-5100
SIC Code:	8221
County Location:	Kosciusko County
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Registration

A.2 Emission Units and Pollution Control Equipment Summary

This stationary source consists of the following emission units and pollution control devices:

- (a) two (2) natural gas-fired water heaters/boilers, located in the Building 02 Alpha Dorm, with a maximum heat input capacity of 1.08 and 0.986 MMBtu/hr;
- (b) five (5) natural gas-fired water heaters/boilers, located in the Building 05 Beta Dorm, with a maximum heat input capacity of 0.42, 0.21, 0.21, 0.21, and 0.21 MMBtu/hr;
- (c) three (3) natural gas-fired water heaters/boilers, located in the Building 11 Indiana Hall, with a maximum heat input capacity of 0.042, 0.15, and 0.15 MMBtu/hr;
- (d) two (2) natural gas-fired water heaters/boilers, located in the Building 13 Byers Music Hall, with a maximum heat input capacity of 0.08 and 0.15 MMBtu/hr;
- (e) one (1) natural gas-fired water heater/boiler, located in the Building 14 Epsilon Dorm, with a maximum heat input capacity of 0.075 MMBtu/hr;
- (f) three (2) natural gas-fired water heaters/boilers, located in the Building 16 Gamma A Dorm, with a maximum heat input capacity of 0.08, 0.08, and 0.08 MMBtu/hr;
- (g) two (2) natural gas-fired water heaters/boilers, located in the Building 17 Gamma C Dorm, with a maximum heat input capacity of 0.125 and 0.264 MMBtu/hr;
- (h) one (1) natural gas-fired water heater/boiler, located in the Building 24 SRC, with a maximum heat input capacity of 0.3 MMBtu/hr;
- (i) two (2) natural gas-fired water heaters/boilers, located in the Building 25 Orthopaedic Capital Center, with a maximum heat input capacity of 0.5 and 0.5 MMBtu/hr;
- (j) two (2) natural gas-fired water heaters/boilers, located in the Building 33 Lamp Post Dorm, with a maximum heat input capacity of 0.199 and 0.528 MMBtu/hr;
- (k) one (1) natural gas-fired water heater/boiler, located in the Building 45 Philathea Hall, with a maximum heat input capacity of 0.04 MMBtu/hr;

- (l) two (2) natural gas-fired steam boilers, identified as Steam Boiler 1 and Steam Boiler 2, located in the Building 46 Philathea Hall, constructed in 1964 and 2004, respectively, and with a maximum heat input capacity of 5.25 and 5.2 MMBtu/hr;
- (m) two (2) natural gas-fired water heaters/boilers, located in the Building 47 Physical Plant Admin, with a maximum heat input capacity of 0.04 and 0.125 MMBtu/hr;
- (n) one (1) natural gas-fired water heater/boiler, located in the Building 58 Billy Sunday, with a maximum heat input capacity of 0.04 MMBtu/hr;
- (o) three (3) natural gas-fired water heaters/boilers, located in the Building 80 Westminster, with a maximum heat input capacity of 0.365, 0.365, and 1.804 MMBtu/hr;
- (p) two (2) natural gas-fired heaters, located in the Building 03 Dining Commons, with a maximum heat input capacity of 0.1 and 0.35 MMBtu/hr;
- (q) six (6) natural gas-fired heaters, located in the Building 11 Indiana Hall, each with a maximum heat input capacity of 0.1 MMBtu/hr;
- (r) fifteen (15) natural gas-fired heaters, located in the Building 11 Indiana Hall, each with a maximum heat input capacity of 0.08 MMBtu/hr;
- (s) two (2) natural gas-fired heaters, located in the Building 13 Byers Music Hall, with a maximum heat input capacity of 0.1 and 0.1 MMBtu/hr;
- (t) one (1) natural gas-fired heater, located in the Building 14 Epsilon Dorm, with a maximum heat input capacity of 0.125 MMBtu/hr;
- (u) two (2) natural gas-fired heaters, located in the Building 16 Gamma A Dorm, with a maximum heat input capacity of 0.08 and 0.1 MMBtu/hr;
- (v) seventeen (17) natural gas-fired heaters, located in the Building 24 SRC, with a maximum heat input capacity of 0.115, 0.18, 0.18, 0.15, 0.18, 0.17, 0.12, 0.17, 0.25, 0.3, 0.3, 0.38, 0.14, 0.14, 0.14, 0.14, and 0.14 MMBtu/hr;
- (w) fifteen (15) natural gas-fired heaters, located in the Building 25 Orthopaedic Capital Center, with a maximum heat input capacity of 1.125, 1.125, 0.24, 0.18, 0.3, 0.24, 0.3, 0.1, 0.24, 0.125, 0.125, 0.152, 0.125, 0.08, and 0.08 MMBtu/hr;
- (x) five (5) natural gas-fired heaters, located in the Building 36 Maintenance Garage, each with a maximum heat input capacity of 0.125 MMBtu/hr;
- (y) two (2) natural gas-fired heaters, located in the Building 47 Physical Plant Admin, with a maximum heat input capacity of 0.25 and 0.1 MMBtu/hr;
- (z) one (1) natural gas-fired heater, located in the Building 48 Physical Plant Supply, with a maximum heat input capacity of 0.25 MMBtu/hr;
- (aa) three (3) natural gas-fired heaters, located in the Building 49 Furniture Shop, with a maximum heat input capacity of 0.08, 0.418, and 0.125 MMBtu/hr;
- (bb) two (2) natural gas-fired heaters, located in the Building 53 Rodeheaver Auditorium, each with a maximum heat input capacity of 0.4 MMBtu/hr;
- (cc) one (1) natural gas-fired heater, located in the Building 58 Billy Sunday, with a maximum heat input capacity of 0.15 MMBtu/hr;

- (dd) five (5) natural gas-fired heaters, located in the Building 80 Westminster, with a maximum heat input capacity of 0.25, 0.08, 0.25, 0.4, and 0.35 MMBtu/hr;

SECTION B

GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-1.1-1]

Terms in this registration shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-1.1-1) shall prevail.

B.2 Effective Date of Registration [IC 13-15-5-3]

Pursuant to IC 13-15-5-3, this registration is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

B.3 Registration Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation), this registration to operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this registration.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this registration.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this registration shall not require revocation of this registration.
- (d) For any cause which establishes in the judgment of IDEM the fact that continuance of this registration is not consistent with purposes of this article.

B.4 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to Registration No. 085-27465-00120 and issued pursuant to permitting programs approved into the state implementation plan have been either:
 - (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deleted.
- (b) All previous registrations and permits are superseded by this registration.

B.5 Annual Notification [326 IAC 2-5.1-2(f)(3)] [326 IAC 2-5.5-4(a)(3)]

Pursuant to 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3):

- (a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this registration.
- (b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, IN 46204-2251

- (c) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

B.6 Source Modification Requirement [326 IAC 2-5.5-6(a)]

Pursuant to 326 IAC 2-5.5-6(a), 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.

B.7 Registrations [326 IAC 2-5.1-2(i)]

Pursuant to 326 IAC 2-5.1-2(i), this registration does not limit the source's potential to emit.

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]

C.1 Opacity [326 IAC 5-1]

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 registration:

- (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.2 Fugitive Dust Emissions [326 IAC 6-4]

The Registrant 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 (Fugitive Dust Emissions).

SECTION D.1

OPERATION CONDITIONS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

- (a) two (2) natural gas-fired water heaters/boilers, located in the Building 02 Alpha Dorm, with a maximum heat input capacity of 1.08 and 0.986 MMBtu/hr;
- (b) five (5) natural gas-fired water heaters/boilers, located in the Building 05 Beta Dorm, with a maximum heat input capacity of 0.42, 0.21, 0.21, 0.21, and 0.21 MMBtu/hr;
- (c) three (3) natural gas-fired water heaters/boilers, located in the Building 11 Indiana Hall, with a maximum heat input capacity of 0.042, 0.15, and 0.15 MMBtu/hr;
- (d) two (2) natural gas-fired water heaters/boilers, located in the Building 13 Byers Music Hall, with a maximum heat input capacity of 0.08 and 0.15 MMBtu/hr;
- (e) one (1) natural gas-fired water heater/boiler, located in the Building 14 Epsilon Dorm, with a maximum heat input capacity of 0.075 MMBtu/hr;
- (f) three (2) natural gas-fired water heaters/boilers, located in the Building 16 Gamma A Dorm, with a maximum heat input capacity of 0.08, 0.08, and 0.08 MMBtu/hr;
- (g) two (2) natural gas-fired water heaters/boilers, located in the Building 17 Gamma C Dorm, with a maximum heat input capacity of 0.125 and 0.264 MMBtu/hr;
- (h) one (1) natural gas-fired water heater/boiler, located in the Building 24 SRC, with a maximum heat input capacity of 0.3 MMBtu/hr;
- (i) two (2) natural gas-fired water heaters/boilers, located in the Building 25 Orthopaedic Capital Center, with a maximum heat input capacity of 0.5 and 0.5 MMBtu/hr;
- (j) two (2) natural gas-fired water heaters/boilers, located in the Building 33 Lamp Post Dorm, with a maximum heat input capacity of 0.199 and 0.528 MMBtu/hr;
- (k) one (1) natural gas-fired water heater/boiler, located in the Building 45 Philathea Hall, with a maximum heat input capacity of 0.04 MMBtu/hr;
- (l) two (2) natural gas-fired steam boilers, identified as Steam Boiler 1 and Steam Boiler 2, located in the Building 46 Philathea Hall, constructed in 1964 and 2004, respectively, and with a maximum heat input capacity of 5.25 and 5.2 MMBtu/hr;
- (m) two (2) natural gas-fired water heaters/boilers, located in the Building 47 Physical Plant Admin, with a maximum heat input capacity of 0.04 and 0.125 MMBtu/hr;
- (n) one (1) natural gas-fired water heater/boiler, located in the Building 58 Billy Sunday, with a maximum heat input capacity of 0.04 MMBtu/hr;
- (o) three (3) natural gas-fired water heaters/boilers, located in the Building 80 Westminster, with a maximum heat input capacity of 0.365, 0.365, and 1.804 MMBtu/hr;

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]

D.1.1 Particulate Emission Limitations [326 IAC 6-2]

- (a) Pursuant to 326 IAC 6-2-3(d), particulate emissions from Steam Boiler 1, with a maximum heat input capacity of 5.25 MMBtu per hour and constructed in 1964, shall not exceed 0.8 pound per MMBtu of heat input.
- (b) Pursuant to 326 IAC 6-2-4, the particulate emissions from Steam Boiler 2, with a maximum heat input capacity of 5.20 MMBtu per hour and constructed in 2004, shall not exceed 0.6 pound per MMBtu of heat input.
- (c) Pursuant to 326 IAC 6-2-3(d), particulate emissions from any indirect heating unit existing and in operation on or before June 8, 1972 shall not exceed 0.8 pound per MMBtu of heat input.
- (d) Pursuant to 326 IAC 6-2-3(e), particulate emissions from any indirect heating unit with a heat input rate less than 250 MMBtu per hour, which began operation after June 8, 1972, and on or before September 21, 1983, shall not exceed 0.6 pound per MMBtu of heat input.
- (e) Pursuant to 326 IAC 6-2-4, particulate emissions from indirect heating facilities constructed after September 21, 1983, shall be limited by the following equation:

$$Pt = 1.09/Q^{0.26} \quad \text{where } Pt = \text{Pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input; and}$$
$$Q = \text{Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input.}$$

For a total source maximum operating capacity rating (Q) less than 10 MMBtu/hr, particulate emissions (Pt) shall not exceed 0.6 pound per MMBtu of heat input. For Q greater than or equal to 10,000 MMBtu/hr, Pt shall not exceed 0.1 pound per MMBtu of heat input.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH**

**REGISTRATION
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3).

Company Name:	Grace College
Address:	200 Seminary Drive
City:	Winona Lake, Indiana 46590
Phone Number:	(574) 372-5100
Registration No.:	085-27465-00120

I hereby certify that Grace College is :

- still in operation.
- no longer in operation.
- in compliance with the requirements of Registration No. 085-27465-00120.
- not in compliance with the requirements of Registration No. 085-27465-00120.

I hereby certify that Grace College is :

Authorized Individual (typed):
Title:
Signature:
Phone Number:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Registration

Source Description and Location
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Source Name:	Grace College
Source Location:	200 Seminary Drive, Winona Lake, Indiana 46590
County:	Kosciusko
SIC Code:	8221
Registration No.:	085-27465-00120
Permit Reviewer:	Anne-Marie C. Hart

On February 9, 2009, the Office of Air Quality (OAQ) received an application from Grace College related to the operation of natural gas-fired heaters and boilers at an existing college.

Existing Approvals

There have been no previous approvals issued to this source.

County Attainment Status

The source is located in Kosciusko County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Unclassifiable or attainment as of June 15, 2004, for the 8-hour ozone standard. ¹
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Not designated.
¹ Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005. Unclassifiable or attainment effective April 5, 2005, for PM2.5.	

- (a) **Ozone Standards**
 Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Kosciusko County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) **PM2.5**
 Kosciusko County has been classified as attainment for PM2.5. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM2.5 emissions, and the effective date of these rules was July 15, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements. The May 8, 2008 rule revisions require IDEM to regulate PM10 emissions as a surrogate for PM2.5 emissions until 326 IAC 2-2 is revised.

- (c) Other Criteria Pollutants
Kosciusko County has been classified as attainment or unclassifiable in Indiana for regulated criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

The fugitive emissions of criteria pollutants and hazardous air pollutants are counted toward the determination of 326 IAC 2-5.5 (Registrations) applicability.

Background and Description of Emission Units and Pollution Control Equipment

The Office of Air Quality (OAQ) has reviewed an application, submitted by Grace College on February 9, 2009, relating to the operation of natural gas-fired heaters and boilers at an existing college.

The source consists of the following existing emission units:

- (a) two (2) natural gas-fired water heaters/boilers, located in the Building 02 Alpha Dorm, with a maximum heat input capacity of 1.08 and 0.986 MMBtu/hr;
- (b) five (5) natural gas-fired water heaters/boilers, located in the Building 05 Beta Dorm, with a maximum heat input capacity of 0.42, 0.21, 0.21, 0.21, and 0.21 MMBtu/hr;
- (c) three (3) natural gas-fired water heaters/boilers, located in the Building 11 Indiana Hall, with a maximum heat input capacity of 0.042, 0.15, and 0.15 MMBtu/hr;
- (d) two (2) natural gas-fired water heaters/boilers, located in the Building 13 Byers Music Hall, with a maximum heat input capacity of 0.08 and 0.15 MMBtu/hr;
- (e) one (1) natural gas-fired water heater/boiler, located in the Building 14 Epsilon Dorm, with a maximum heat input capacity of 0.075 MMBtu/hr;
- (f) three (2) natural gas-fired water heaters/boilers, located in the Building 16 Gamma A Dorm, with a maximum heat input capacity of 0.08, 0.08, and 0.08 MMBtu/hr;
- (g) two (2) natural gas-fired water heaters/boilers, located in the Building 17 Gamma C Dorm, with a maximum heat input capacity of 0.125 and 0.264 MMBtu/hr;
- (h) one (1) natural gas-fired water heater/boiler, located in the Building 24 SRC, with a maximum heat input capacity of 0.3 MMBtu/hr;
- (i) two (2) natural gas-fired water heaters/boilers, located in the Building 25 Orthopaedic Capital Center, with a maximum heat input capacity of 0.5 and 0.5 MMBtu/hr;
- (j) two (2) natural gas-fired water heaters/boilers, located in the Building 33 Lamp Post Dorm, with a maximum heat input capacity of 0.199 and 0.528 MMBtu/hr;
- (k) one (1) natural gas-fired water heater/boiler, located in the Building 45 Philathea Hall, with a maximum heat input capacity of 0.04 MMBtu/hr;
- (l) two (2) natural gas-fired steam boilers, identified as Steam Boiler 1 and Steam Boiler 2, located in the Building 46 Philathea Hall, constructed in 1964 and 2004, respectively, and with a maximum heat input capacity of 5.25 and 5.2 MMBtu/hr;
- (m) two (2) natural gas-fired water heaters/boilers, located in the Building 47 Physical Plant Admin,

- with a maximum heat input capacity of 0.04 and 0.125 MMBtu/hr;
- (n) one (1) natural gas-fired water heater/boiler, located in the Building 58 Billy Sunday, with a maximum heat input capacity of 0.04 MMBtu/hr;
 - (o) three (3) natural gas-fired water heaters/boilers, located in the Building 80 Westminster, with a maximum heat input capacity of 0.365, 0.365, and 1.804 MMBtu/hr;
 - (p) two (2) natural gas-fired heaters, located in the Building 03 Dining Commons, with a maximum heat input capacity of 0.1 and 0.35 MMBtu/hr;
 - (q) six (6) natural gas-fired heaters, located in the Building 11 Indiana Hall, each with a maximum heat input capacity of 0.1 MMBtu/hr;
 - (r) fifteen (15) natural gas-fired heaters, located in the Building 11 Indiana Hall, each with a maximum heat input capacity of 0.08 MMBtu/hr;
 - (s) two (2) natural gas-fired heaters, located in the Building 13 Byers Music Hall, with a maximum heat input capacity of 0.1 and 0.1 MMBtu/hr;
 - (t) one (1) natural gas-fired heater, located in the Building 14 Epsilon Dorm, with a maximum heat input capacity of 0.125 MMBtu/hr;
 - (u) two (2) natural gas-fired heaters, located in the Building 16 Gamma A Dorm, with a maximum heat input capacity of 0.08 and 0.1 MMBtu/hr;
 - (v) seventeen (17) natural gas-fired heaters, located in the Building 24 SRC, with a maximum heat input capacity of 0.115, 0.18, 0.18, 0.15, 0.18, 0.17, 0.12, 0.17, 0.25, 0.3, 0.3, 0.38, 0.14, 0.14, 0.14, 0.14, and 0.14 MMBtu/hr;
 - (w) fifteen (15) natural gas-fired heaters, located in the Building 25 Orthopaedic Capital Center, with a maximum heat input capacity of 1.125, 1.125, 0.24, 0.18, 0.3, 0.24, 0.3, 0.1, 0.24, 0.125, 0.125, 0.152, 0.125, 0.08, and 0.08 MMBtu/hr;
 - (x) five (5) natural gas-fired heaters, located in the Building 36 Maintenance Garage, each with a maximum heat input capacity of 0.125 MMBtu/hr;
 - (y) two (2) natural gas-fired heaters, located in the Building 47 Physical Plant Admin, with a maximum heat input capacity of 0.25 and 0.1 MMBtu/hr;
 - (z) one (1) natural gas-fired heater, located in the Building 48 Physical Plant Supply, with a maximum heat input capacity of 0.25 MMBtu/hr;
 - (aa) three (3) natural gas-fired heaters, located in the Building 49 Furniture Shop, with a maximum heat input capacity of 0.08, 0.418, and 0.125 MMBtu/hr;
 - (bb) two (2) natural gas-fired heaters, located in the Building 53 Rodeheaver Auditorium, each with a maximum heat input capacity of 0.4 MMBtu/hr;
 - (cc) one (1) natural gas-fired heater, located in the Building 58 Billy Sunday, with a maximum heat input capacity of 0.15 MMBtu/hr;
 - (dd) five (5) natural gas-fired heaters, located in the Building 80 Westminster, with a maximum heat input capacity of 0.25, 0.08, 0.25, 0.4, and 0.35 MMBtu/hr;

Enforcement Issues

IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. IDEM is reviewing this matter and will take the appropriate action. This proposed approval is intended to satisfy the requirements of the construction permit rules.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination –Registration

The following table reflects the unlimited potential to emit (PTE) of the entire source before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Process/ Emission Unit	Potential To Emit of the Entire Source (tons/year)								
	PM	PM10 *	PM2.5	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Natural Gas Combustion	0.29	1.15	1.15	4.30	15.10	0.83	12.68	0.28	0.27 Hexane
Total PTE of Entire Source	0.29	1.15	1.15	4.30	15.10	0.83	12.68	0.28	0.27 Hexane
Exemptions Levels	5	5	5	10	10	10	25	25	10
Registration Levels	25	25	25	25	25	25	100	25	10
* Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".									

- (a) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of NO_x is within the ranges listed in 326 IAC 2-5.1-2(a)(1). The PTE of all other regulated criteria pollutants are less than the ranges listed in 326 IAC 2-5.1-2(a)(1). Therefore, the source is subject to the provisions of 326 IAC 2-5.1-2 (Registrations). A Registration will be issued.
- (b) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

- (a) The requirements of the New Source Performance Standard for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc (326 IAC 12), are not included in the permit, since all the boilers at the source have a maximum design heat capacity less than 10 MMBtu per hour.
- (b) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.

Compliance Assurance Monitoring (CAM)

- (d) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the unlimited potential to emit of the source is less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability Determination

The following state rules are applicable to the source:

- (a) 326 IAC 2-5.5 (Registrations)
Registration applicability is discussed under the Permit Level Determination – Registration section above.
- (b) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The potential to emit of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-4.1.
- (c) 326 IAC 2-6 (Emission Reporting)
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.
- (d) 326 IAC 5-1 (Opacity Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
- (1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (e) 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.
- (f) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
Each of the emission units at this source is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each emission unit is less than twenty-five (25) tons per year.

Natural Gas-Fired Water Heaters/Boilers

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

- (1) Pursuant to 326 IAC 6-2-3(d), particulate emissions from Steam Boiler 1, with a maximum heat input capacity of 5.25 MMBtu per hour and constructed in 1964, shall not exceed 0.8 pound per MMBtu of heat input.
- (2) Pursuant to 326 IAC 6-2-4, the particulate emissions from Steam Boiler 2, with a maximum heat input capacity of 5.20 MMBtu per hour and constructed in 2004, shall not exceed 0.6 pound per MMBtu of heat input.
- (3) Pursuant to 326 IAC 6-2-3(d), particulate emissions from any indirect heating unit existing and in operation on or before June 8, 1972 shall not exceed 0.8 pound per MMBtu of heat input.
- (4) Pursuant to 326 IAC 6-2-3(e), particulate emissions from any indirect heating unit with a heat input rate less than 250 MMBtu per hour, which began operation after June 8, 1972, and on or before September 21, 1983, shall not exceed 0.6 pound per MMBtu of heat input.
- (5) Pursuant to 326 IAC 6-2-4, particulate emissions from indirect heating facilities constructed after September 21, 1983, shall be limited by the following equation:

$$Pt = 1.09/Q^{0.26} \quad \text{where } Pt = \text{Pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input; and}$$
$$Q = \text{Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input.}$$

For a total source maximum operating capacity rating (Q) less than 10 MMBtu/hr, particulate emissions (Pt) shall not exceed 0.6 pound per MMBtu of heat input. For Q greater than or equal to 10,000 MMBtu/hr, Pt shall not exceed 0.1 pound per MMBtu of heat input.

Based on the AP-42, Chapter 1.4, natural gas combustion particulate emission factor of 1.9 pounds per million cubic foot (MMCF) of natural gas, each of the natural gas-fired water heaters/boilers at this source has particulate emissions as follows:

$$(1.9 \text{ pound PM/MMCF}) * (\text{MMCF}/1000 \text{ MMBtu}) = 0.0019 \text{ pound PM per MMBtu}$$

Therefore, each of the natural gas-fired water heaters/boilers at this source is able to comply with the particulate emission limitations under 326 IAC 6-2.

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on February 9, 2009.

The operation of this source shall be subject to the conditions of the attached proposed Registration No. 085-27465-00120. The staff recommends to the Commissioner that this Registration be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Anne-Marie C. Hart at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5174 or toll free at 1-800-451-6027 extension 4-5174.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

**Appendix A: Emissions Calculations
Natural Gas Combustion Only**

MM BTU/HR <100
Company Name: Grace College
Address City IN Zip: 200 Seminary Dr., Winona Lake, Indiana 46590
Registration Number: 085-27465-00120
Reviewer: Anne-Marie C. Hart
Date: February 13, 2009

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

34.473

302.0

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	28.5	100 **see below	5.5	84
Potential Emission in tons/yr	0.29	1.15	4.30	15.10	0.83	12.68

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
 **Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
 MMBtu = 1,000,000 Btu
 MMCF = 1,000,000 Cubic Feet of Gas
 Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
 Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
 Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Emission Factor in lb/MMcf	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	3.171E-04	1.812E-04	1.132E-02	0.27	5.134E-04

Emission Factor in lb/MMcf	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	7.550E-05	1.661E-04	2.114E-04	5.738E-05	3.171E-04

Total HAPs: 0.28

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