



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: August 24, 2005
RE: University of Notre Dame / 141-20012-00013
FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

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 13-15-5-3, this permit 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.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require 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
FNPER.dot 1/10/05



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

August 24, 2005

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Mr. James Lyphout
University of Notre Dame du Lac
415 Main Building
Notre Dame, IN 46556

Re: 141-20012
Significant Source Modification to:
Part 70 Permit No.: T141-7412-00013

Dear Mr. Lyphout:

University of Notre Dame du Lac was issued Part 70 operating permit T141-7412-00013 on June 30, 2004 for a stationary power plant for heating purposes and a dry cleaning operation. An application to modify the source was received on September 2, 2004. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

- (a) One (1) 249 MMBtu/hr boiler identified as Boiler No. 6, constructed in 2005. The unit will be fired primarily on natural gas with No. 2 fuel oil used as backup fuel. The unit will be located on campus in a new building adjacent to the existing boiler house.
- (b) Five (5) underground diesel fuel storage tanks, identified as UST1B-6 thru UST5B-6 with maximum storage capacity of 20,000 gallons each.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).
2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.
3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.
4. Pursuant to 326 IAC 2-2-8(a)(1), this permit to construct shall expire if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of eighteen (18) months or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.
6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

This significant source modification authorizes construction of the new emission units. Operating conditions shall be incorporated into the Part 70 operating permit as a significant permit modification in accordance with 326 IAC 2-7-10.5(l)(2) and 326 IAC 2-7-12. Operation is not approved until the significant permit modification has been issued.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter call (800) 451-6027, and ask for Walter Habeb or extension 2 - 8422, or dial (317) 232- 8422

Sincerely,

Original signed by
Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments

WVH

cc: File - St. Joseph
St. Joseph County Health Department
Northern Regional Office
Air Compliance Section Inspector - Rick Reynolds
Compliance Data Section
Administrative and Development



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PART 70 SIGNIFICANT SOURCE MODIFICATION AND PREVENTION OF SIGNIFICANT DETERIORATION

OFFICE OF AIR QUALITY

**University of Notre Dame du Lac
100 Facilities Building
Notre Dame, Indiana 46556**

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this approval.

This approval is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Significant Source Modification No.: 141-20012-00013	
Issued by: Original signed by Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: August 24, 2005

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SECTION A

SOURCE SUMMARY

This approval is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the emission units contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee 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 Permittee to obtain additional permits or seek modification of this approval pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary power plant.

Responsible Official:	James Lyphout, V. President of Business Operations
Source Address:	100 Facilities Building, Notre Dame, Indiana 46556
Mailing Address:	415 Main Building, Notre Dame, Indiana 46556
General Source Phone Number:	574-631-6666
SIC Code:	8221
County Location:	St. Joseph
Source Location Status:	Nonattainment for ozone under the 8-hour standard Attainment for all other criteria pollutants
Source Status:	Part 70 Permit Program Major Source, under PSD and Emission Offset

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source is approved to construct and operate the following emission units and pollution control devices:

- (a) One (1) 249 MMBtu/hr boiler identified as Boiler No. 6, equipped with a low NOx burner and flue gas recirculation (FGR), fired primarily on natural gas with No. 2 fuel oil used as backup fuel. The unit will exhaust through stack S-9 monitored by a certified COM and NOx CEM.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

- (f) Five (5) underground fuel oil storage tanks, identified as UST1B-6 thru UST5B-6 with maximum storage capacity of 20,000 gallons each.

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

Terms in this permit 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 2-7) shall prevail.

B.2 Effective Date of the Permit [40CFR 124]

Pursuant to 40 CFR 124.15, 40 CFR 124.19, and 40 CFR 124.20, the effective date of this permit will be thirty-three (33) days after issuance.

B.3 Revocation of Permits [326 IAC 2-2-8]

Pursuant to 326 IAC 2-2-8(a)(1), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of eighteen (18) months or more.

SECTION C GENERAL OPERATION CONDITIONS

C.1 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

- (a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification.
- (c) A "responsible official" is defined at 326 IAC 2-7-1(34).

C.2 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit including the following information on each facility:
 - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

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

The PMP and the PMP extension notification do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) The Permittee shall implement the PMPs as necessary to ensure that failure to implement a PMP does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or contributes to any violation. The PMP does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (d) Records of preventive maintenance shall be retained for a period of at least five (5) years. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

C.3 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

- (a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:
- Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue,
Indianapolis, Indiana 46204
- Any such application shall be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

C.4 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 permit:

- (a) Opacity shall not exceed an average of thirty percent (30%) 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.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee 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).

C.6 Operation of Equipment [326 IAC 2-7-6(6)]

Except as otherwise provided by statute or rule, or in this permit, all air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission units vented to the control equipment are in operation.

C.7 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted by using ambient air quality modeling pursuant to 326 IAC 1-7-4.

Testing Requirements [326 IAC 2-7-6(1)]

C.8 Performance Testing [326 IAC 3-6][326 IAC 2-1.1-11]

- (a) Compliance testing on new emission units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this approval, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this approval, shall be submitted to:

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

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ, if the source submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.9 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or USEPA.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

C.10 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

If required by Section D, all monitoring and record keeping requirements shall be implemented when operation begins. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment.

C.11 Maintenance of Continuous Opacity Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

- (a) The Permittee shall calibrate, maintain, and operate all necessary continuous opacity monitoring systems (COMS) and related equipment. For a boiler, the COM shall be in operation at all times that any draft fan is in operation, except as provided otherwise in the Section D requirements.

- (b) All continuous opacity monitoring systems shall meet the performance specifications of 40 CFR 60, Appendix B, Performance Specification No.1, and are subject to monitor system certification requirements pursuant to 326 IAC 3-5.
- (c) Whenever a continuous opacity monitor (COM) is malfunctioning or will be down for calibration, maintenance, or repairs for a period of one (1) hour or more, compliance with the applicable opacity limits shall be demonstrated by the following:
 - (1) The affected boiler(s) shall combust only natural gas and visible emission (VE) notations shall be performed once per shift during daylight operations following the shutdown or malfunction of the certified COM. A trained employee shall record whether emissions are normal or abnormal for the state of peration of the emission unit at the time of the reading.
 - (A) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
 - (B) VE notations may be discontinued, and the affected boiler(s) may resume combustion of fuel oil, once a COM is online.
 - (C) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.
- (d) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous opacity monitoring system pursuant to 326 IAC 3-5.

C.12 Maintenance of Continuous Emission Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

- (a) The Permittee shall calibrate, maintain, and operate all necessary continuous emission monitoring systems (CEM) and related equipment. For a boiler, the CEM shall be in operation at all times that the induced draft fan is in operation.
- (b) All continuous emission monitoring systems shall meet the performance specifications of 40 CFR 60, Appendix B, Performance Specification No. 2 and No.4, and are subject to monitor system certification requirements pursuant to 326 IAC 3-5.
- (c) In the event that a breakdown of a continuous emission monitoring system occurs, a record shall be made of the time and reason of the breakdown and efforts made to correct the problem.
- (d) Whenever a continuous emission monitor (CEM) is malfunctioning or will be down for calibration, maintenance, or repairs for a period of four (4) hours or more, compliance with the applicable NOx limits shall be demonstrated by one of the following methods:
 - 1) NOx emissions from the affected boiler will be measured using a portable analyzer. The portable analyzer must be operated and calibrated according to manufacturer's specifications and must be designed to determine NOx concentrations in the exhaust stack within an accuracy of $\pm 5\%$. NOx concentrations using a portable analyzer shall be determined and recorded at least once per hour until the CEM is restored to service.

- 2) NOx emissions will be predicted using procedures in accordance with 40 CFR §60.48b(g)(2). If predictive monitoring is used to determine NOx emissions, a predictive monitoring plan shall have been submitted to and approved by the Administrator in accordance with 40 CFR §60.49b(c).
- 3) NOx emissions will be measured in accordance with 40 CFR §60.48b(g)(2).

C.13 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60 Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

C.14 Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

- (a) Whenever a condition in this permit requires the measurement of pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ($\pm 2\%$) of full scale reading.
- (b) Whenever a condition in this permit requires the measurement of a (temperature, flow rate, or pH level), the instrument employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ($\pm 2\%$) of full scale reading.
- (c) The Permittee may request the IDEM, OAQ approve the use of a pressure gauge or other instrument that does not meet the above specifications provided the Permittee can demonstrate an alternative pressure gauge or other instrument specification will adequately ensure compliance with permit conditions requiring the measurement of pressure drop or other parameters.

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.15 Compliance Response Plan - Preparation, Implementation, Records, and Reports[326 IAC 2-7-5] [326 IAC 2-7-6]

- (a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. A CRP shall be submitted to IDEM, OAQ upon request. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee, supplemented from time to time by the Permittee, maintained on site, and comprised of:
 - (1) Reasonable response steps that may be implemented in the event that a response step is needed pursuant to the requirements of Section D of this permit; and an expected timeframe for taking reasonable response steps.
 - (2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan and the Permittee documents such response in accordance with subsection (e) below, the Permittee shall amend its Compliance Response Plan to include such response steps taken.
- (b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:

- (1) Reasonable response steps shall be taken as set forth in the Permittees current Compliance Response Plan; or
 - (2) If none of the reasonable response steps listed in the Compliance Response Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.
 - (3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, the IDEM, OAQ shall be promptly notified of the expected date of the shut down, the status of the applicable compliance monitoring parameter with respect to normal, and the results of the actions taken up to the time of notification.
 - (4) Failure to take reasonable response steps shall constitute a violation of the permit.
- (c) The Permittee is not required to take any further response steps for any of the following reasons:
- (1) A false reading occurs due to the malfunction of the monitoring equipment and prompt action was taken to correct the monitoring equipment.
 - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for a minor permit modification to the permit, and such request has not been denied.
 - (3) An automatic measurement was taken when the process was not operating.
 - (4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.
- (d) When implementing reasonable steps in response to a compliance monitoring condition, if the Permittee determines that an exceedance of an emission limitation has occurred, the Permittee shall report such deviations pursuant to Section B-Deviations from Permit Requirements and Conditions.
- (e) The Permittee shall record all instances when response steps are taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.
- (f) Except as otherwise provided by a rule or provided specifically in Section D, all monitoring as required in Section D shall be performed when the emission unit is operating, except for time necessary to perform quality assurance and maintenance activities.

C.16 Emergency Provisions [326 IAC 2-7-16]

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
- (2) The permitted facility was at the time being properly operated;
- (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit; (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, and the Northern Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality,
Compliance Section), or

Telephone Number: 317-233-5674 (ask for Compliance Section)

Facsimile Number: 317-233-5967

Telephone Number: 1-800-753-5519 (Northern Regional Office)

Facsimile Number: 574-245-4877

- (5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

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

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and
- (C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- 6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
 - (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
 - (e) IDEM, OAQ, may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4-(c)(10) be revised in response to an emergency.

- (f) Failure to notify IDEM, OAQ, by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.
- (g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

C.17 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The documents submitted pursuant to this condition do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.18 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]

- (a) Records of all required data, reports and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.19 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

- (a) The reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue,
Indianapolis, Indiana 46204
- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit 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.

- (c) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (d) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

- (h) One (1) 249 MMBtu/hr boiler identified as Boiler No. 6, equipped with a low NOx burner and flue gas recirculation (FGR), fired primarily on natural gas with No. 2 fuel oil used as backup fuel. The unit will exhaust through stack S-9 monitored by a certified COM and certified NOx CEM.

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

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Particulate Matter Limitation (PM) [326 IAC 6-1-2]

Pursuant to 326 IAC 6-1-2 total PM emissions from Boiler No. 6 shall not exceed 0.15 pounds per MMBtu on No. 2 fuel oil or 0.01 grains per dry standard cubic foot on natural gas.

D.1.2 Particulate Matter (PM₁₀) Emission Limitations [326 IAC 2-2-6]

Pursuant to 326 IAC 2-2-5 and 2-2-6 (PSD Requirements), PM₁₀ emissions from Boiler No. 6 shall be limited to less than 0.014 lb/MMBtu and 15.58 tons per twelve (12) month consecutive period when burning No. 2 fuel oil or 0.008 lb/MMBtu and 8.29 tons per twelve (12) month consecutive period when burning natural gas.

D.1.3 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 from stack S/V 9 shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined per 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.

D.1.4 Sulfur Dioxide Emission Limitations [326 IAC 2-2-5, 2-2-6]

Pursuant to 326 IAC 2-2-5 and 2-2-6 (PSD Requirements), SO₂ emissions from Boiler No. 6 shall be limited to less than 0.50 pounds per MMBtu and 545.31 tons per twelve (12) month consecutive period when burning No. 2 fuel oil.

D.1.5 Carbon Monoxide Emission Limitations [326 IAC 2-2-5, 2-2-6]

Pursuant to 326 IAC 2-2-5 and 2-2-6 (PSD Requirements), CO emissions from Boiler No. 6 shall be limited to 0.295 lb/MMBtu and 321.73 tons per twelve (12) month consecutive period when burning No. 2 fuel oil or 0.084 lb/MMBtu and 91.61 tons per twelve (12) month consecutive period when burning natural gas.

D.1.6 New Source Performance Standards Per [40 CFR 60.40b, Subpart Db]

Pursuant to 40 CFR 60, Subpart Db, the following limitations apply:

- (a) Pursuant to 40 CFR 60.44b(a), the NO_x emissions from Boiler No. 6 shall not exceed 0.20 lb/MMBtu.
- (b) Pursuant to 40 CFR 60.44b(f), opacity may not exceed 20%.
- (c) Only very low sulfur fuel (no greater than 0.5%) will be combusted in the unit.
- (d) Pursuant to 40 CFR 60.43b(b), particulate matter emissions shall not exceed 0.10 lb/MMBtu.

D.1.7 Nitrogen Oxide Emission limitations [326 IAC 2-3]

When burning natural gas, the NO_x emissions rate shall not exceed 0.036 lb/MMBtu based on operation with low NO_x burners and necessary flue gas recirculation.

Overall NO_x emissions are limited to less than 40 tons per twelve (12) month consecutive period for gas and oil firing combined, as determined by the continuous emissions monitoring system (CEMS) or other means approved by the Department.

D.1.8 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

The provisions of 40 CFR Part 60 Subpart A - General Provisions, which are incorporated as 326 IAC 12-1, apply to Boiler No. 6 except when otherwise specified in 40 CFR Part 60 Subpart Db.

D.1.9 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants for Source Categories [40 CFR 63 Subpart A]

Pursuant to 40 CFR Part 63, Subpart A, the Permittee shall comply with an applicable promulgated MACT standard in accordance with the schedule provided in the MACT. The MACT requirements include the applicable General Provisions requirements of 40 CFR Part 63, Subpart A. Pursuant to 40 CFR 63.9(b), the Permittee shall submit an initial notification not later than 120 days after the effective date of the MACT, unless the MACT specifies otherwise. The MACT and the General Provisions of 40 CFR 63, Subpart A will become new applicable requirements, as defined by 326 IAC 2-7-1(6), that must be incorporated into the Part 70 permit.

D.1.10 National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial and Institutional Boilers and Process Heaters [40 CFR Part 63, Subpart DDDDD]

- (a) The 249 MMBtu/hr boiler identified as Boiler No. 6 is subject to the National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial and Institutional Boilers and Process Heaters [40 CFR Part 63, Subpart DDDDD].
- (b) The PM emissions shall not exceed 0.03 pounds per MMBtu of heat input, hydrogen chloride emissions shall not exceed 0.0005 pounds per MMBtu of heat input and CO emissions shall not exceed 400 parts per million (ppm) by volume on a dry basis corrected to 3% oxygen (30 day rolling average for units 100 MMBtu/hour or greater).
- (c) If emission limits included in this article conflict with, or are inconsistent with, any other emission limitations established in this permit, the more stringent limits shall apply.

D.1.11 Operation Standards [326 IAC 2-1.1-5(a)(4)] [40 CFR 261] [40 CFR 279] [329 IAC 13]

- (a) The burning of hazardous waste, as defined by 40 CFR 261, is prohibited in Boiler No. 6.
- (b) If used, any boiler tube chemical cleaning waste liquids evaporated in the boiler shall only contain the cleaning solution and two full volume boiler rinses. Any boiler tube chemical cleaning waste liquids evaporated in the boiler, and any used oil combusted shall meet the toxicity characteristic requirements for non-hazardous waste.

D.1.12 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for Boiler No. 6.

Compliance Determination Requirements

D.1.13 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

Within 60 days of achieving maximum production rate, but no later than 180 days after initial startup, the Permittee shall perform opacity, CO, NO_x, PM and PM₁₀ tests utilizing methods approved by the Commissioner to show compliance with the applicable limits. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the emissions units are in compliance.

D.1.14 Fuel Oil Sulfur Content Limit

To demonstrate compliance with Condition D.1.4 when Boiler No. 6 combusts fuel oil, the sulfur content of the fuel oil combusted shall not exceed 0.5 percent by weight. Sulfur content will be demonstrated to have met this limit pursuant to 326 IAC 3-7-4. During No. 2 fuel oil fire, Boiler No. 6 will combust only very low sulfur oil as defined in 40 CFR Part 60, Subpart Db.

D.1.15 Sulfur Dioxide Emissions and Sulfur Content [326 IAC 3] [326 IAC 7-2] [326 IAC 7-1.1-2]

- (a) Pursuant to 326 IAC 7-2-1(c)(3), the Permittee shall demonstrate that when combusting fuel oil in Boiler No. 6, the sulfur dioxide emissions do not exceed the equivalent of 0.5 pounds per MMBtu, using a calendar month average.
- (b) Pursuant to 326 IAC 7-2-1(e) and 326 IAC 3-7-4, fuel sampling and analysis data shall be collected as follows:
 - (1) The Permittee may, with the prior approval of the department, modify the procedures specified in 326 IAC 3-7-4(a), use alternate equivalent procedures, or rely upon vendor analysis of fuel delivered, if accompanied by a vendor certification [326 IAC 3-7-4(b)]; or,
 - (2) The Permittee shall perform sampling and analysis of fuel oil samples in accordance with 326 IAC 3-7-4(a).
 - (A) Oil samples shall be collected from the tanker truck load prior to transferring fuel to the storage tank; or
 - (B) Oil samples shall be collected from the storage tank immediately after each addition of fuel to the tank.
- (b) Upon written notification to IDEM by a facility owner or operator, continuous emission monitoring data collected and reported pursuant to 326 IAC 3-5 may be used as the means for determining compliance with the emission limitations in 326 IAC 7. Upon such notification, the other requirements of 326 IAC 7-2 shall not apply. [326 IAC 7-2-1(g)]

D.1.16 Continuous Emissions Monitoring [326 IAC 3-5]

- (a) Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions), the continuous opacity monitoring system (COM) and the continuous emission monitoring system (CEM) for Boiler No. 6 when combusting fuel oil or natural gas shall be calibrated, maintained, and operated for measuring opacity and NO_x emissions respectively which meet all applicable performance specifications of 326 IAC 3-5-2.

- (b) The continuous opacity monitoring system (COM) and the continuous emission monitoring system (CEM) are subject to the monitor system certification requirements pursuant to 326 IAC 3-5-3.
- (c) Except as noted in C.12 and C.13 (regarding VE and NOx alternative monitoring) nothing in this permit shall excuse the Permittee from complying with the requirements to operate the continuous opacity monitoring system (COM) and the continuous emission monitoring system (CEM) pursuant to 326 IAC 3-5.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.17 Visible Emissions Notations [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

When Boiler No. 6 is exhausting to stack S-9, and it is combusting fuel oil, opacity will be monitored in accordance with 40 CFR Part 60, Subpart Db.

Record Keeping and Reporting Requirements

D.1.18 Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

- (a) To document compliance with the SO₂ Conditions D.1.4 and D.1.15 the Permittee shall maintain records in accordance with (1) through (6) below. Records shall be complete and sufficient to establish compliance with the SO₂ limit as required in Conditions D.1.4 and D.1.15.

- (1) Calendar dates covered in the compliance determination period;
- (2) Actual fuel oil usage since last compliance determination period and equivalent sulfur dioxide emissions;
- (3) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period; and

If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:

- (4) Fuel supplier certifications;
 - (5) The name of the fuel supplier; and
 - (6) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.
- (b) Boiler No. 6 is subject to applicable emissions limitations provided in CFR 40 Part 60, Subpart Db. Compliance will be demonstrated in accordance with Subpart Db provisions.
 - (c) Boiler No. 6 is subject to applicable emissions limitations provided in 40 CFR Part 60, Subpart DDDDD. Compliance will be demonstrated in accordance with Subpart DDDDD provisions.
 - (d) To document compliance with D.1.6, D.1.7 and D.1.16 the Permittee shall maintain records of the results of continuous opacity monitoring (COM) and the continuous emission monitoring (CEM) systems.
 - (e) To document compliance with D.1.12, the Permittee shall maintain records of the results of all boiler inspections, including any additional inspections prescribed by the Preventive Maintenance Plan.

- (f) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.19 Reporting Requirements

- (a) A quarterly summary of the information to document compliance with Conditions D.1.1, D.1.2 and D.1.4 through D.1.7 under natural gas and fuel oil firing shall be submitted to the address listed in Section C - General Reporting Requirements, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (b) All reports shall be submitted in accordance with Section C - General Reporting Requirements, of this permit.

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

This operation also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

- (i) Five (5) underground fuel oil storage tanks, identified as UST1B-6 thru UST5B-6 with maximum storage capacity of 20,000 gallons each.

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

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

The provisions of 40 CFR Part 60 Subpart A - General Provisions, which are incorporated as 326 IAC 12-1, apply to the underground storage tanks, identified as UST, and UST1B-6 thru UST5B-6, described in this section except when otherwise specified in 40 CFR 60 Subpart Kb.

D.2.2 Standards of Performance for Volatile Organic Liquid Storage Vessels [326 IAC 12][40 CFR §60.116b]

Pursuant to 326 IAC 12-1-1 (Petroleum Liquid Storage Facilities), the six (6) underground fuel oil storage tanks, identified as UST1B-6 thru UST5B-6, shall comply with New Source Performance Standards (NSPS), 326 IAC 12 (40 CFR Part 60.116b, Subpart Kb). 40 CFR §60.116b, paragraphs (a) and (b) require the Permittee to maintain accessible records showing the dimensions of each storage vessel and an analysis showing the capacity of the storage vessel. Records shall be kept for the life of the storage tank.

These requirements are incorporated by reference from July 1, 2002 version of 40 CFR 60 Subpart Kb and are no longer federally enforceable.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY

PART 70 SOURCE MODIFICATION CERTIFICATION

Source Name: University of Notre Dame du Lac
Source Address: 100 Facilities Building, Notre Dame, IN 46556
Mailing Address: 100 Facilities Building, Notre Dame, In 46556

Source Modification No.: 141-20012-00013

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this approval.

Please check what document is being certified:

- Test Result (specify)
- Report (specify)
- Notification (specify)
- Affidavit (specify)
- Other (specify)

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION
100 North Senate Avenue
Indianapolis, Indiana 46204**

**PART 70 OPERATING PERMIT
EMERGENCY/DEVIATION OCCURRENCE REPORT**

Source Name: University of Notre Dame du Lac
Source Address: 100 Facilities Building, Notre Dame, Indiana 46556
Mailing Address: 100 Facilities Building, Notre Dame, Indiana, 46556
Part 70 Permit No.: 141-20012-00013

This form consists of 2 pages

Page 1 of 2

Check either No. 1 or No.2	
<input checked="" type="radio"/>	1. This is an emergency as defined in 326 IAC 2-7-1(12) C The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and C The Permittee must submit notice in writing or by facsimile within two (2) days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7-16
<input checked="" type="radio"/>	2. This is a deviation, reportable per 326 IAC 2-7-5(3)(c) C The Permittee must submit notice in writing within ten (10) calendar days

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency/Deviation:
Describe the cause of the Emergency/Deviation:

If any of the following are not applicable, mark N/A

Page 2 of 2

Date/Time Emergency/Deviation started:
Date/Time Emergency/Deviation was corrected:
Was the facility being properly operated at the time of the emergency/deviation? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO ₂ , VOC, NO _x , CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency/deviation:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by:
Title / Position:
Date:
Phone:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Source Modification Quarterly Report
Boiler No. 6

Source Name: University of Notre Dame du Lac
Source Address: 100 Facilities Building, Notre Dame, In 46556
Mailing Address: 100 Facilities Building, Notre Dame, In 46556
Source Modification No.: 141-20012-00013
Facility: SO2 emissions, sulfur content fuel oil usage Boiler No. 6
Limits: SO2 emissions from Boiler No. 6 on Distillate or No.2 fuel oil shall not exceed 0.5 lb/MMBtu

YEAR:

Month	Monthly Average Fuel Oil Sulfur Content (%)	Monthly Average Fuel Oil Heat Content (MMBtu/gallon)	Fuel Oil Consumption (Total Gallons)	Equivalent Sulfur Dioxide Emissions (lb/MMBtu)

- 9 No deviation occurred in this quarter.
- 9 Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by:
Title / Position:
Signature:
Date:
Phone:

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Prevention of Significant Deterioration (PSD) Significant Source Modification and Significant Permit Modification for a Part 70 Operating Permit

Source Background and Description

Source Name:	University of Notre Dame du Lac
Source Location:	100 Facilities Building, Notre Dame, IN 46556
County:	St. Joseph
SIC Code:	8221
Operation Permit No.:	141-7412-00013
Operation Permit Issuance Date:	June 30, 2004
Significant Source Modification No.:	141-20012-00013
Significant Permit Modification No.:	141-20402-00013
Permit Reviewers:	Walter Habeeb

The Office of Air Quality (OAQ) has reviewed a modification application from University of Notre Dame du Lac (the University), relating to the construction and operation of the following emission units and pollution control devices:

- (h) One (1) 249 MMBtu/hr boiler identified as Boiler No. 6, equipped with a low NO_x burner and flue gas recirculation (FGR), primarily fired on natural gas with No. 2 fuel oil used as backup fuel. The unit will exhaust through stack S-9 monitored by a certified COM and NO_x CEM.
- (i) Five (5) underground fuel oil storage tanks, identified as UST1B-6 thru UST5B-6 with maximum storage capacity of 20,000 gallons each.

History

The University Power Plant was initially constructed in 1932, and consists of 5 boilers, which are currently not subject to New Source Performance Standard. The electric power and steam produced from this plant is consumed onsite. The remaining portion of electric demand is met through a contract with American Electric Power (AEP). On September 7, 2004, the University submitted an application to OAQ requesting to add to the existing plant one (1) 249 MMBtu/hr boiler (Boiler No.6) and five (5) 20,000 gallon underground fuel oil storage tanks (USTs). The University was issued a Part 70 permit on June 30, 2004.

Alternatively, the University may address fuel storage needs for proposed Boiler No. 6 via a change in service for existing USTs.

Stack Summary

Stack ID	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
S-9	160	5.0	72,100	324

Recommendation

The staff recommends to the Commissioner that the major modification under Prevention of Significant Deterioration and Part 70 Significant Source Modification 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 September 7, 2004.

Emission Calculations

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

Potential To Emit of the Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit (PTE) is defined as “the maximum capacity of a stationary source 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 University has agreed to limit NO_x emissions from the proposed boiler during fuel oil fire to make the requirements of Emission Offset not applicable and has requested the associated permit contain federally enforceable language regarding same.

The following table reflects PTE before controls from all emission units listed on page 1 of this TSD. Control equipment is not considered federally enforceable until it has been required in a federally-enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	15.58
PM ₁₀	15.58
SO ₂	545.31
VOC	6.11
CO	321.73
NO _x	39.8

HAPs	Potential To Emit (tons/year)
Highest single HAP (HCl)	8.65
Aggregate of HAPs	10.94

Justification for Modification

- (a) This change is being approved through a Part 70 Significant Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5 (f)(1) because the proposed project is a major modification under 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)).
- (b) This modification is major for PSD review, because the source is a major NSR source and the net emissions increase from this modification is greater than the significance thresholds under 326 IAC 2-2-1 for PM₁₀, SO₂ and CO.

County Attainment Status

The source is located in St. Joseph County.

Pollutant	Status
PM10	Attainment
PM2.5	Attainment
SO ₂	Attainment
NOx	Attainment
1 Hour Ozone	Attainment
8 Hour Ozone	Non-attainment
CO	Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOCs) and nitrogen oxides (NOx) are regulated under the Clean Air Act (CAA) for the purpose of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC emissions and NOx are considered when evaluating the rule applicability relating to the ozone standards. St. Joseph County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC emissions and NOx were reviewed pursuant to the requirements for emission offset.
- (b) St. Joseph County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Source Status

Existing Source PSD Definition (emissions after controls, based upon 8,760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	94.79
PM10	31.00
SO ₂	3156.00
VOC	4.00
CO	78.00
NOx	599.00
Lead	0.04

- (a) This existing source is a major stationary source for PSD because an attainment regulated pollutant is emitted at a rate of 100 tons per year or more, and it is one of the 28 listed source categories.
- (b) This existing source is a major stationary source under the Emission Offset requirements because a nonattainment regulated pollutant is emitted at a rate of 100 tons per year or more.
- (c) The information in the above table is based on the emissions statement submitted by this source for the year 2003.

Proposed Modification

PTE from the proposed modification (based on 8,760 hours of operation per year at rated capacity including enforceable emission control and production limit, where applicable):

Pollutant	PM (ton/yr)	PM ₁₀ (ton/yr)	SO ₂ (ton/yr)	VOC (ton/yr)	CO (ton/yr)	NO _x (ton/yr)	All HAP's (ton/yr)
Boiler No. 6	15.58	15.58	545.31	6.0	321.73	39.8*	10.94
Fuel Oil Storage Tanks UST1B-6 thru UST5B-6	0.0	0.0	0.0	0.11	0.0	0.0	0.0
Total	15.58	15.58	545.31	6.11	321.73	39.8	10.94
PSD Significant Level	25	15	40	40	100	40	25

* Natural gas and /or fuel oil fired

This modification is major for PSD Review, because the potential to emit SO₂ is greater than 40 tons per year, the potential to emit CO is greater than 100 tons per year and the potential to emit PM₁₀ is greater than 15 tons per year.

To address NSR concerns, the unit will be primarily fired on natural gas, with No. 2 fuel oil used as a backup fuel. Additionally, NO_x emissions will be reduced with a low NO_x burner as specified in the following sections of this document.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source was issued a Part 70 (T 141-7412-00013) permit on June 30, 2004. The equipment being reviewed under this permit shall be incorporated in the existing Part 70 permit.

Federal Rule Applicability

- (a) Each underground fuel oil storage tank (UST) has a capacity of more than 75 cubic meters and less than 151 cubic meters, and will store liquid with a maximum true vapor pressure less than 15 kilopascals. Therefore, each tank is exempt from the general provisions of 40 CFR Part 60 and the provisions of Subpart Kb except as specified in paragraphs (a) and (b) of 40 CFR §60.116b, which require record keeping.

Pursuant to 326 IAC 12-1-1 (Petroleum Liquid Storage Facilities), the five (5) underground fuel oil storage tanks, identified as UST1B-6 thru UST5B-6, shall comply with New Source Performance Standards (NSPS), 326 IAC 12 (40 CFR Part 60.116b, Subpart Kb). 40 CFR §60.116b, paragraphs (a) and (b) require the Permittee to maintain accessible records showing the dimensions of each storage vessel and an analysis showing the capacity of the storage vessel. Records shall be kept for the life of the storage tank.

These requirements are incorporated by reference from July 1, 2002 version of 40 CFR 60 Subpart Kb and are no longer federally enforceable.

- (b) This modification is not subject to the requirements of Acid Rain Program (40 CFR 72), because the source does not produce electricity for sale.
- (c) Boiler No.6 will be constructed after January 13, 2003 and is therefore considered a new affected source and will be subject to the provisions of 40 CFR Part 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters.
- (i) Boiler No. 6 (rated at 249 MMBtu/hr) is considered an institutional boiler because it will be used to provide steam for electricity generation.

- (ii) Boiler No. 6 belongs to the large liquid fuel category because it burns only gaseous and liquid fuels, has a rating capacity greater than 10 MMBtu/hour and has an annual capacity factor of greater than 10%.
 - (iii) Compliance with the NESHAP Subpart DDDDD is required upon initial start up of Boiler No. 6.
 - (iv) PM emissions shall not exceed 0.03 pounds per MMBtu of heat input, hydrogen chloride emissions shall not exceed 0.0005 pounds per MMBtu of heat input and CO emissions shall not exceed 400 parts per million (ppm) by volume on a dry basis corrected to 3% oxygen on a 30 day rolling average for units 100 MMBTU/hour or greater (See Table 1 to Subpart DDDDD of Part 63).
- (d) The modification is not subject to the provisions of 40 CFR Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE) because it is not an internal combustion engine.
- (e) Boiler No. 6 is not subject to the provisions of 40 CFR Part 64 (Compliance Assurance Monitoring) because it does not use a control device to achieve compliance.
- (f) Boiler No. 6 is subject to the provisions of 40 CFR Part 60, Subpart Db (Standards of Performance for Industrial-Commercial—Institutional Steam Generating Units), because it will be constructed after June 19, 1984 and it has a heat input capacity of greater than 100 MMBtu per hour.
- (i) Pursuant to 40 CFR 60.44b(a), NO_x emissions from Boiler No.6 shall not exceed 0.20 lb/MMBtu.
 - (ii) Per 40 CFR 60.43b(f), opacity may not exceed 20%.
 - (iii) No greater than 0.5 % sulfur fuel oil will be combusted in the unit.
 - (iv) Per 40 CFR 60.43b(b) particulate matter emissions shall not exceed 0.10 lb/MMBtu.

State Rule Applicability

326 IAC 1-6-3 (Preventive Maintenance):

- (a) The Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) after commencement of operation, including the following information:
 - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and,
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- (b) The Permittee shall implement the PMPs as necessary to ensure that lack of proper maintenance does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) PMPs shall be submitted to IDEM, OAQ upon request and shall be subject to review and approval by IDEM, OAQ.

326 IAC 1-7 (Stack Height Provisions):

The exhaust stack for proposed Boiler No. 6 is subject to the requirements of 326 IAC 1-7 (Stack Height Provisions) because the potential SO₂ emissions which exhaust through the stack are greater than 25 tons per year. This rule requires that the stack be constructed using Good Engineering Practice (GEP), unless field studies or other methods of modeling show to the satisfaction of IDEM that no excessive ground level concentrations, due to less than adequate stack height, will result.

326 IAC 2-4.1-1 (HAPs Major Source: New Source Toxics Rule)

The New Source Toxics Control rule requires any new or reconstructed major source of hazardous air pollutants (HAPs) for which there is no applicable NESHAP to implement maximum achievable control technology (MACT), determined on a case-by-case basis, when the potential to emit of any single HAP is greater than 10 TPY or a combination of HAPs is greater than 25 TPY.

HAP emissions from Boiler No. 6 will be below the thresholds specified above. Therefore, these emissions are not subject to the requirements of this rule.

The unit is subject to MACT requirements at 40 CFR Part 63, Subpart DDDDD.

326 IAC 2-2-3 (Best Available Control Technology)

The construction and operation of Boiler No. 6 is located at a non-profit educational institution. Therefore, pursuant to 326 IAC 2-2-2(h), this modification is exempt from this requirement. The applicant submitted copies of letters from the Internal Revenue Service confirming the not-for-profit status for the University's operation per Section 509 and 501 of the IRS code.

326 IAC 2-2-5 and 326 IAC 2-2-6 (Air Quality Impacts and Increment Consumption)

The attached modeling analysis, included as Appendix B, was conducted to show that the major new source does not violate the NAAQS and does not exceed the incremental consumption above eighty percent (80%) of the PSD increment for any affected pollutant. To maintain this status, pursuant to 326 IAC 2-2 (Prevention of Significant Deterioration), the Permittee shall limit SO₂ emissions to less than 0.5 pounds per MMBtu and 545.31 tons per twelve (12) month consecutive period when burning fuel oil. CO emission limits shall be limited to 0.295 pounds per MMBtu and 321.73 tons per twelve (12) month consecutive period when burning No. 2 fuel oil or 0.084 pounds per MMBtu and 91.61 tons per twelve (12) month consecutive period when burning natural gas. PM₁₀ emission limits shall be 0.14 pounds per MMBtu and 15.58 tons per twelve (12) month consecutive period when burning fuel oil or 0.008 pounds per MMBtu and 8.29 tons per twelve (12) month consecutive period when burning natural gas. Regulatory limits were used to establish SO₂ and PM₁₀ limits and CO limits were set by vendor specifications.

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting) because it is required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program. In accordance with the compliance schedule specified in 326 IAC 2-6-3(b)(1), starting in 2007 and every three (3) years thereafter, the Permittee shall submit by July 1 an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c).

326 IAC 3-5-1 (Applicability; monitoring requirements for applicable pollutants)

A continuous opacity monitoring system (COM) is not required under state regulations for this boiler because the boiler can comply with the applicable limits without particulate control.

326 IAC 3-5 (Continuous Monitoring of Emissions)

Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions) and 40 CFR Part 60, Subpart Db, continuous emission monitoring systems for Boiler No. 6 shall be calibrated, maintained, and operated for measuring NO_x which meet all applicable performance specifications of 326 IAC 3-5-2 and 40 CFR 60.48b.

326 IAC 5-1 (Opacity Limitations)

The source is located in the area north of Kern Road and east of Pine Road. Therefore, pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of thirty percent (30%) 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 Part 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 6-1 (Particulate Rules: Nonattainment Area Limitations)

This source is subject to 326 IAC 6-1-2(b) because it is a steam generating unit and has actual emissions of particulate matter greater than 10 tons per year. When firing on No. 2 fuel oil this unit will be limited to a particulate matter content of no greater than fifteen-hundredths (0.15) pound per MMBtu. When firing on natural gas this unit will be limited to a particulate matter content of no greater than 0.01gr/dscf.

326 IAC 7-1.1-2 (Sulfur Dioxide Emission Limitations)

The natural gas/fuel oil fired Boiler No. 6 is subject to the requirements of 326 IAC 7-1.1-2 because the plant is a fuel combustion facility, and SO₂ potential to emit is greater than 25 tons per year. Pursuant to 326 IAC 7-1.1-2, the sulfur dioxide emissions from the boiler shall be no greater than 0.5 lb/MMBtu of distillate oil consumed.

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

The installation of this 249 MMBtu/hr boiler has potential VOC emissions of less than 25 tons per year. Therefore, pursuant to 326 IAC 8-1-6 (New Facilities, General Reduction Requirements), the requirements of BACT do not apply to the unit.

326 IAC 8-9-1(b) (Volatile Organic Liquid Storage Facilities) (Applicability)

The five (5) stationary underground diesel fuel storage tanks, each with a design capacity of less than 39,000 gallons, are not subject this rule because it is not applicable to St. Joseph County facilities.

326 IAC 9 (Carbon Monoxide Emission Limits)

Pursuant to 326 IAC 9 (Carbon Monoxide Emission Limits), the source is subject to this rule because it is a stationary source that emits CO emissions and commenced operation after March 21, 1972. There is no specific emissions limit under this rule, because the source is not an operation listed under 326 IAC 9-1-2.

326 IAC 10-4-1 (Nitrogen Oxides)

Boiler No. 6 is not an "Electricity Generating Unit" because it does not produce electricity for sale. Additionally, the unit will have a heat input rating less than 250 MMBtu/hour. Therefore, the boiler is not subject to the requirements of Rule 326 IAC 10-4-1 that establishes a NO_x trading program.

Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions) and 40 CFR Part 60, Subpart Db, continuous emission monitoring systems for Boiler No. 6 shall be calibrated, maintained, and operated for measuring NO_x which meet all applicable performance specifications of 326 IAC 3-5-2 and 40 CFR 60.48b.

Testing Requirements

Within 60 days of achieving maximum production rate, but no later than 180 days after initial startup, the Permittee shall perform opacity, CO, NO_x, PM and PM₁₀ tests utilizing methods

approved by the Commissioner to show compliance with applicable limits. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the emissions units are in compliance.

Compliance with the sulfur dioxide emission limitation will be demonstrated using fuel sampling and analysis.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that the source can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this boiler are as follows:

- (a) Boiler No. 6 is subject to applicable emissions limitations provided in 40 CFR Part 60, Subpart Db. Compliance will be demonstrated in accordance with Subpart Db provisions.
- (b) Boiler No. 6 is subject to applicable emissions limitations provided in 40 CFR Part 60, Subpart DDDDD. Compliance will be demonstrated in accordance with Subpart DDDDD provisions.
- (c) Whenever a continuous opacity monitor (COM) is malfunctioning or will be down for calibration, maintenance, or repairs for a period of one (1) hour or more, compliance with the applicable opacity limits shall be demonstrated by the following:
 - (1) The affected boiler(s) shall combust only natural gas and visible emission (VE) notations shall be performed once per shift during daylight operations following the shutdown or malfunction of the certified COM. A trained employee shall record whether emissions are normal or abnormal for the state of operation of the emission unit at the time of the reading.
 - (A) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
 - (B) VE notations may be discontinued, and the affected boiler(s) may resume combustion of fuel oil, once a COM is online.
 - (C) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C -

Compliance Response Plan - Preparation, Implementation, Records, and Reports. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

Permit Changes

The modification will add the following units to the existing TV permit No.141-7412-00013 (bold language has been added and language with a strikeout has been omitted).

- 1) Condition A.2 is revised as follows.

A.2 Emission Units and Pollution Control Equipment Summary

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

- (a) One (1) No.6 fuel oil or natural gas fired boiler constructed in 1961, identified as B-1, with a maximum design capacity of 137 MMBtu per hour heat input, exhausting to stack S-1.
- (b) Two (2) coal or natural gas fired boilers constructed in 1952, identified as B-2 and B-3, with maximum design capacities of 96 MMBtu per hour heat input each, each equipped with low NOx burners when using natural gas, and cyclones, identified as D-1 and D-2, respectively, for particulate control on each when combusting coal, with opacity measured by a certified continuous opacity monitor identified as COM1 when combusting coal, exhausting at stack S-1.
- (c) One (1) coal, No.2 fuel oil, or natural gas fired boiler constructed in 1966, identified as B-4, with a maximum design capacity of 234 MMBtu per hour heat input, equipped with an electrostatic precipitator, identified as E-1, for particulate control when combusting coal, with opacity measured by a certified continuous opacity monitor identified as COM2 when combusting coal and/or oil, exhausting at stack S-2.
- (d) One (1) No.2 fuel oil or natural gas boiler constructed in 1973, identified as B-5, with a maximum design capacity of 244.5 MMBtu per hour heat input, equipped with low NOx burners for natural gas and fuel oil, exhausting at stack S-3.
- (e) Two (2) diesel-fired generators constructed in 1953, identified as G-3 and G-4, with maximum design capacities of 13.70 MMBtu per hour heat input each, exhausting to stacks S-4 and S-5, respectively.
- (f) Three (3) diesel-fired generators, for which a construction permit was issued in 2003, identified as G-8, G-9, and G-10, each with a maximum rated capacity of 2,593 brake horsepower (6.59 MMBtu per hour heat input each), exhausting to stacks S-6, S-7, and S-8, respectively, with total additional generator capacity of 5.79 MW.
- (g) Dry cleaning operations, identified as DC-1, consisting of two (2) dry-to-dry systems using perchloroethylene, with a maximum amount of 1.0 gallon per day disposed of or sold. The air-perchloroethylene gas-vapor streams are routed through two (2) refrigerated condensers for control.
- (h) **One (1) 249 MMBtu/hr boiler identified as Boiler No. 6 equipped with a low NOx burner and flue gas recirculation (FGR), fired primarily on natural gas with No. 2 fuel oil used as backup fuel. The unit will exhaust through stack SV-9 monitored by a certified COM and certified NOx CEM.**

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

- (f) **Five (5) underground fuel oil storage tanks, identified as UST1B-6 thru UST5B-6 with maximum storage capacity of 20,000 gallons each.**
- 2) A new Section D is added to the permit for the new emission unit (D.7), listed as D.1 in the source modification.

SECTION D.7 FACILITY OPERATION CONDITIONS

<p>Facility Description [326 IAC 2-7-5(15)]:</p> <p>(h) One (1) 249 MMBtu/hr boiler identified as Boiler No. 6, equipped with a low NOx burner and flue gas recirculation (FGR), fired primarily on natural gas with No. 2 fuel oil used as backup fuel. The unit will exhaust through stack S-9 monitored by a certified COM and certified NOx CEM.</p> <p>(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)</p>

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.7.1 Particulate Matter Limitation (PM) [326 IAC 6-1-2]

Pursuant to 326 IAC 6-1-2 total PM emissions from Boiler No. 6 shall not exceed 0.15 pounds per MMBtu on No. 2 fuel oil or 0.01 grains per dry standard cubic foot on natural gas.

D.7.2 Particulate Matter (PM₁₀) Emission Limitations [326 IAC 2-2-6]

Pursuant to 326 IAC 2-2-5 and 2-2-6 (PSD Requirements), PM₁₀ emissions from Boiler No. 6 shall be limited to less than 0.014 lb/MMBtu and 15.58 tons per twelve (12) month consecutive period when burning No. 2 fuel oil or 0.008 lb/MMBtu and 8.29 tons per twelve (12) month consecutive period when burning natural gas.

D.7.3 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 from stack S-9 shall meet the following, unless otherwise stated in this permit:

- (a) **Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined per 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.**

D.7.4 Sulfur Dioxide Emission Limitations [326 IAC 2-2-5, 2-2-6]

Pursuant to 326 IAC 2-2-5 and 2-2-6 (PSD Requirements), SO₂ emissions from Boiler No. 6 shall be limited to less than 0.50 pounds per MMBtu and 545.31 tons per twelve (12) month consecutive period when burning No. 2 fuel oil.

D.7.5 Carbon Monoxide Emission Limitations [326 IAC 2-2-5, 2-2-6]

Pursuant to 326 IAC 2-2-5 and 2-2-6 (PSD Requirements), CO emissions from Boiler No. 6 shall be limited to 0.295 lb/MMBtu and 321.73 tons per twelve (12) month consecutive period when burning No. 2 fuel oil or 0.084 lb/MMBtu and 91.61 tons per twelve (12) month consecutive period when burning natural gas.

D.7.6 New Source Performance Standards Per [40 CFR 60.40b, Subpart Db]

Pursuant to 40 CFR 60, Subpart Db, the following limitations apply:

- (a) Pursuant to 40 CFR 60.44b(a), the NO_x emissions from Boiler No. 6 shall not exceed 0.20 lb/MMBtu when burning fuel oil.
- (b) When burning natural gas, the NO_x emissions rate shall not exceed 0.036 lb/MMBtu based on operation with low NO_x burners and necessary flue gas recirculation.
- (c) Pursuant to 40 CFR 60.44b(f), opacity may not exceed 20%.
- (d) Only very low sulfur fuel (no greater than 0.5%) will be combusted in the unit.
- (e) Pursuant to 40 CFR 60.43b(b), particulate matter emissions shall not exceed 0.10 lb/MMBtu.

D.7.7 Nitrogen Oxide Emission Limitations [326 IAC 2-3]

Overall NO_x emissions are limited to less than 40 tons per twelve (12) month consecutive period for gas and oil firing combined, as determined by the continuous emissions monitoring system (CEMS) or other means approved by the Department. If No. 2 fuel oil is combusted during any portion of a twelve (12) month period, natural gas usage shall be reduced such that NO_x emissions for the period are less than 40 tons.

D.7.8 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

The provisions of 40 CFR Part 60 Subpart A - General Provisions, which are incorporated as 326 IAC 12-1, apply to Boiler No. 6 except when otherwise specified in 40 CFR Part 60 Subpart Db.

D.7.9 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants for Source Categories [40 CFR 63 Subpart A]

Pursuant to 40 CFR Part 63, Subpart A, the Permittee shall comply with an applicable promulgated MACT standard in accordance with the schedule provided in the MACT. The MACT requirements include the applicable General Provisions requirements of 40 CFR 63, Subpart A. Pursuant to 40 CFR 63.9(b), the Permittee shall submit an initial notification not later than 120 days after the effective date of the MACT, unless the MACT specifies otherwise. The MACT and the General Provisions of 40 CFR 63, Subpart A will become new applicable requirements, as defined by 326 IAC 2-7-1(6), that must be incorporated into the Part 70 permit.

D.7.10 National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial and Institutional Boilers and Process Heaters [40 CFR Part 63, Subpart DDDDD]

- (a) The 249 MMBtu/hr boiler identified as Boiler No. 6 is subject to the National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial and Institutional Boilers and Process Heaters [40 CFR Part 63, Subpart DDDDD].
- (b) The PM emissions shall not exceed 0.03 pounds per MMBtu of heat input, Hydrogen Chloride emissions shall not exceed 0.0005 pounds per MMBtu of heat input and CO emissions shall not exceed 400 parts per million (ppm) by volume on a dry basis corrected to 3% oxygen (30 day rolling average for units 100 MMBTU/hour or greater).
- (c) If emission limits included in this article conflict with, or are inconsistent with, any other emission limitations established in this permit, the more stringent limits shall apply.

D.7.11 Operation Standards [326 IAC 2-1.1-5(a)(4)] [40 CFR 261] [40 CFR 279] [329 IAC 13]

- (a) The burning of hazardous waste, as defined by 40 CFR 261, is prohibited in Boiler No. 6.

- (b) If used, any boiler tube chemical cleaning waste liquids evaporated in the boiler shall only contain the cleaning solution and two full volume boiler rinses. Any boiler tube chemical cleaning waste liquids evaporated in the boiler, and any used oil combusted shall meet the toxicity characteristic requirements for non-hazardous waste.

D.7.12 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for Boiler No. 6.

Compliance Determination Requirements

D.7.13 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

Within 60 days of achieving maximum production rate, but no later than 180 days after initial startup, the Permittee shall perform opacity, CO, NO_x, PM and PM₁₀ tests when burning fuel oil, utilizing methods approved by the Commissioner to show compliance with the applicable limits. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the emissions units are in compliance.

D.7.14 Fuel Oil Sulfur Content Limit

To demonstrate compliance with condition D.7.4 when Boiler No. 6 combusts fuel oil, the sulfur content of the fuel oil combusted shall not exceed 0.5 percent by weight. Sulfur content will be demonstrated to have met this limit pursuant to 326 IAC 3-7-4. During No. 2 fuel oil fire, Boiler No. 6 will combust only very low sulfur oil as defined in 40 CFR Part 60, Subpart Db.

D.7.15 Sulfur Dioxide Emissions and Sulfur Content [326 IAC 3] [326 IAC 7-2] [326 IAC 7-1.1-2]

- (a) Pursuant to 326 IAC 7-2-1(c)(3), the Permittee shall demonstrate that when combusting fuel oil in Boiler No. 6, the sulfur dioxide emissions do not exceed the equivalent of 0.5 pounds per MMBtu, using a calendar month average.
- (b) Pursuant to 326 IAC 7-2-1(e) and 326 IAC 3-7-4, fuel sampling and analysis data shall be collected as follows:
- (1) The Permittee may, with the prior approval of the department, modify the procedures specified in 326 IAC 3-7-4(a), use alternate equivalent procedures, or rely upon vendor analysis of fuel delivered, if accompanied by a vendor certification [326 IAC 3-7-4(b)]; or,
 - (2) The Permittee shall perform sampling and analysis of fuel oil samples in accordance with 326 IAC 3-7-4(a).
 - (A) Oil samples shall be collected from the tanker truck load prior to transferring fuel to the storage tank; or
 - (B) Oil samples shall be collected from the storage tank immediately after each addition of fuel to the tank.
- (c) Upon written notification to IDEM by a facility owner or operator, continuous emission monitoring data collected and reported pursuant to 326 IAC 3-5 may be used as the means for determining compliance with the emission limitations in 326 IAC 7. Upon such notification, the other requirements of 326 IAC 7-2 shall not apply. [326 IAC 7-2-1(g)].

D.7.16 Continuous Emissions Monitoring [326 IAC 3-5]

- (a) Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions), the continuous opacity monitoring system (COM) for B 4, when combusting fuel oil or coal, shall be calibrated, maintained, and operated for measuring opacity which meet all applicable performance specifications of 326 IAC 3-5-2.
- (b) The continuous opacity monitoring system (COM) is subject to the monitor system certification requirements pursuant to 326 IAC 3-5-3.
- (c) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate the continuous opacity monitoring system (COM) pursuant to 326 IAC 3-5.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.7.17 Visible Emissions Notations [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

When Boiler No. 6 is exhausting to stack S-9, opacity will be monitored in accordance with 40 CFR Part 60, Subpart Db.

Record Keeping and Reporting Requirements

D.7.18 Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

- (a) To document compliance with the SO₂ Conditions D.7.4 and D.7.15 the Permittee shall maintain records in accordance with (1) through (6) below. Records shall be complete and sufficient to establish compliance with the SO₂ limit as required.
 - (1) Calendar dates covered in the compliance determination period;
 - (2) Actual fuel oil usage since last compliance determination period and equivalent sulfur dioxide emissions;
 - (3) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period; and

If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:

 - (4) Fuel supplier certifications;
 - (5) The name of the fuel supplier; and
 - (6) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.
- (b) Boiler No. 6 is subject to applicable emissions limitations provided in CFR 40 Part 60, Subpart Db. Compliance will be demonstrated in accordance with Subpart Db provisions.

Boiler No. 6 is subject to applicable emissions limitations provided in 40 CFR Part 60, Subpart DDDDD. Compliance will be demonstrated in accordance with Subpart DDDDD provisions.

- (c) To document compliance with D.7.6, D.7.7 and D.7.16 the Permittee shall maintain records of the results of continuous opacity monitoring (COM) and the continuous emission monitoring (CEM) systems.
- (d) To document compliance with D.1.12, the Permittee shall maintain records of the results of all boiler inspections, including any additional inspections prescribed by the Preventive Maintenance Plan.
- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.7.19 Reporting Requirements

- (a) A quarterly summary of the information to document compliance with Conditions D.7.1, D.7.2, D.7.4 through D.7.7 under natural gas and fuel oil firing shall be submitted to the address listed in Section C - General Reporting Requirements, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
 - (b) All reports shall be submitted in accordance with Section C - General Reporting Requirements, of this permit.
- 3) Section D.7 Insignificant Activities will be changed to Section D.8 and the following will be added.
- (f) Five (5) underground fuel oil storage tanks, identified as UST1B-6 thru UST5B-6 with maximum storage capacity of 20,000 gallons each.

D.8.2 Standards of Performance for Volatile Organic Liquid Storage Vessels [326 IAC 12][40 CFR §60.116b]

Pursuant to 326 IAC 12-1-1 (Petroleum Liquid Storage Facilities), the five (5) underground fuel oil storage tanks, identified as UST1B-6 thru UST5B-6, shall comply with New Source Performance Standards (NSPS), 326 IAC 12 (40 CFR Part 60.116b, Subpart Kb). 40 CFR §60.116b, paragraphs (a) and (b) require the Permittee to maintain accessible records showing the dimensions of each storage vessel and an analysis showing the capacity of the storage vessel. Records shall be kept for the life of the storage tank.

These requirements are incorporated by reference from July 1, 2002 version of 40 CFR 60 Subpart Kb and are no longer federally enforceable.

Conclusion

Construction and operation of this proposed modification shall be subject to the conditions of the attached Significant Source Modification No. 141- 20012-00013 under Prevention of Significant Deterioration and Significant Permit Modification No. 141-20402-00013.

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

Addendum to the Technical Support Document (TSD) for a Prevention of Significant Deterioration (PSD) Significant Source Modification and Significant Permit Modification for a Part 70 Operating Permit

Source Background and Description

Source Name:	University of Notre Dame du Lac
Source Location:	100 Facilities Building, Notre Dame, IN 46556
County:	St. Joseph
SIC Code:	8221
Operation Permit No.:	141-7412-00013
Operation Permit Issuance Date:	June 30, 2005
Significant Source Modification No.:	141-20012-00013
Significant Permit Modification No.:	141-20402-00013
Permit Reviewer:	Walter Habeeb

On June 22, 2005 the Office of Air Quality (OAQ) had a notice published in The South Bend Tribune in St. Joseph County, stating that University of Notre Dame du Lac (the University), had applied for a Significant Source Modification Permit to add one (1) 249 MMBtu/hr boiler identified as Boiler No. 6 for a heating purposes. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On July 30, 2005, University of Notre Dame du Lac (the University) submitted comments on the proposed Significant Source Modification Permit. The summary of the comments and the IDEM response to those comments is as follows (bold language has been added and language with a line through it has been deleted):

Comment No. 1

SSM – Section C.12 Maintenance of Continuous Emission Monitoring Equipment
{326 IAC 2-7-5(3)(A)(iii)} – Page 9 of 23, and

SPM – Section C.13 Maintenance of Continuous Emission Monitoring Equipment
{326 IAC 2-7-5(3)(A)(iii)} – Page 21 of 63

Should be corrected to read,

- (b) All continuous emission monitoring systems shall meet the performance specifications of 40 CFR 60, Appendix B, Performance Specifications No. 4 **2 and No. 4**, and are subject to monitor system certification requirements pursuant to 326 IAC 3-5.

Response No. 1

40 CFR 60, Appendix B Performance Specifications No. 2 and No. 4 are the appropriate performance specifications for the emissions the source is required to monitor (NO_x, SO₂, and CO), therefore this condition will be corrected to read as follows:

- (b) All continuous emission monitoring systems shall meet the performance specifications of 40 CFR 60, Appendix B, Performance Specifications No. 4 **No. 2 and No. 4**, and are subject to monitor system certification requirements pursuant to 326 IAC 3-5.

Comment No. 2

SSM-Section C.12 Maintenance of Continuous Emission Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)] – page 9 of 23, and

SPM-Section C.13 Maintenance of Continuous Emission Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)] – page 21 of 63

Should be corrected to read,

- (c) In the event that a breakdown of a continuous ~~opacity~~ **emissions** monitoring system occurs, a record shall be made of the time and reason of the breakdown and efforts to correct the problem.

Response No. 2

SSM C.12 and SPM C.13 should read “continuous emissions monitoring” therefore, they will be changed to read as follows:

- (c) In the event that a breakdown of a continuous ~~opacity~~ **emissions** monitoring system occurs, a record shall be made of the time and reason of the breakdown and efforts to correct the problem.

Comment No. 3

SSM – Section C.12 Maintenance of Continuous Emission Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)] – Page 9 of 23, and

SPM – Section C.13 Maintenance of Continuous Emission Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)] – Page 21 of 63

To maintain compliance and provide sufficient repair time, (d) should read,

- (d) Whenever a continuous emissions monitor (CEM) is malfunctioning or will be down for calibration, maintenance, or repairs for a period of **four (4)** (~~4~~) hours or more, compliance with the applicable NOx limits shall be demonstrated by one of the following methods:
- ~~1) Using standby monitoring systems, Method 7, Method 7A or other approved reference methods.~~
 - ~~2) This method must provided emission data for a minimum of 75 percent of the operating hours in each steam generating unit operating day~~
- 1) NOx emissions from the affected boiler will be measured using a portable analyzer. The portable analyzer must be operated and calibrated according to manufacturer’s specifications and must be designed to determine NOx concentrations in the exhaust stack within accuracy of ±5%. NOx concentrations using a portable analyzer shall be determined and recorded at least once per hour until the CEM is restored to service.**

- 2) **NO_x emissions will be predicted using procedures in accordance with 40 CFR §60.48b(g)(2). If predictive monitoring is used to determine NO_x emissions, a predictive monitoring plan shall have been submitted to and approved by the Administrator in accordance with 40 CFT §60.49b(c).**
- 3) **NO_x emissions will be measured in accordance with 40 CFR §60.48b(g)(2).**

Response No. 3

The methods for monitoring during CEM downtime as suggested by Notre Dame are acceptable to IDEM. Therefore, Conditions C.12 (SSM), C.13 (SPM) and D.7.16 will be changed to read as follows:

C12 (SSM) and C.13 (SPM)

- (a) The Permittee shall calibrate, maintain, and operate all necessary continuous emission monitoring systems (CEM) and related equipment. For a boiler, the CEM shall be in operation at all times that the induced draft fan is in operation.
- (b) All continuous emission monitoring systems shall meet the performance specifications of 40 CFR 60, Appendix B, Performance Specification ~~No. 4~~ **No. 2 and No. 4** and are subject to monitor system certification requirements pursuant to 326 IAC 3-5.
- (c) In the event that a breakdown of a continuous ~~opacity~~ **emission** monitoring system occurs, a record shall be made of the time and reason of the breakdown and efforts made to correct the problem.
- (d) Whenever a continuous emission monitor (CEM) is malfunctioning or will be down for calibration, maintenance, or repairs for a period of ~~one (1)~~ **four (4)** hours or more, compliance with the applicable NO_x limits shall be demonstrated by one of the following methods:
 - 1) **NO_x emissions from the affected boiler will be measured using a portable analyzer. The portable analyzer must be operated and calibrated according to manufacturer's specifications and must be designed to determine NO_x concentrations in the exhaust stack within an accuracy of ±5%. NO_x concentrations using a portable analyzer shall be determined and recorded at least once per hour until the CEM is restored to service.**
 - 2) **NO_x emissions will be predicted using procedures in accordance with 40 CFR §60.48b(g)(2). If predictive monitoring is used to determine NO_x emissions, a predictive monitoring plan shall have been submitted to and approved by the Administrator in accordance with 40 CFR §60.49b(c).**
 - 3) **NO_x emissions will be measured in accordance with 40 CFR §60.48b(g)(2).**

Comment No. 4

SPM – D.1.4 Operation Standards [326 IAC 2-1.1-5(a)(4)] [40 CFR 279] [328 IAC 13]

Re-label subsection (c) to (b).

Response No. 4

Subsection SPM D1.4(c) should have been labeled (b), it will be re-labeled (b).

D.1.4 Operation Standards [326 IAC 2-1.1-5(a)(4)] [40 CFR 261] [329 IAC 13]

- (a) The burning of hazardous waste, as defined by 40 CFR 261, is prohibited in boiler B-1. If used, any boiler tube chemical cleaning waste liquids evaporated in the boiler, and any used oil combusted shall meet the toxicity characteristic requirements for non-hazardous waste.
- (e b) If used, any boiler tube chemical cleaning waste liquids evaporated in the boiler shall only contain the cleaning solution and two full volume boiler rinses.

Comment No. 5

SPM – D.7.6 New Source Performance Standards Per [40 CFR 60.40b, Subpart Db]
SSM – D.1.6 New Source Performance Standards Per [40 CFR 60.40b, Subpart Db]
Technical Support Document (TSD) for Prevention of Significant Deterioration (PSD) Significant Source Modification and Significant Permit Modification for Part 70 Operating Permit – D.7.6 New Source Performance Standards Per [40 CFR 60.40b, Subpart Db].

- (a) delete “when burning fuel oil” in the TSD (page 11) already correct in SPM and SSM
- (b) delete this Section in its entirety and move to Section D.7.7 (D.1.7).

Response No. 5

NOx emissions are not permitted to exceed 0.20 lb/MMBtu when burning fuel oil or natural gas, therefore the words “when burning fuel oil” will be omitted. The limit in (b) will be moved to conditions D.2.6 and D.1.6 because it is not part of the requirements for the New Source Performance Standards Per [40 CFR 60.40b, Subpart Db]. IDEM does not make revisions to the original TSD, but this TSD addendum serves as a documentation of the change. Sections D.7.6 (SPM) and D.1.6 (SSM) will be changed to read:

D.7.6 and D.1.6

- (a) Pursuant to 40 CFR 60.44b(a), the Nox emissions from boiler No. 6 shall not exceed 0.20 lb/MMBtu7 when burning fuel.
- ~~(b) When burning natural gas, the NOx emissions rate shall not exceed 0.036 lb/MMBtu based on operation with low NOx burners and necessary flue gas recirculation.~~
- (e b) Pursuant to 40 CFR 60.44b(f), opacity may not exceed 20%.
- (d c) Only very low sulfur fuel (no greater than 0.5%) will be combusted in the unit.
- (e d) Pursuant to 40 CFR 60.43b(b), particulate matter emissions shall not exceed 0.10 lb/MMBtu.

Comment No. 6

SPM – Section D.7.7 Nitrogen Oxide Emission [326 IAC 2-3]
SSM – Section 1.7 Nitrogen Oxide Emission [326 IAC 2-3]
Technical Support Document (TSD) for a Prevention of Significant Deterioration (PSD) Significant Source Modification and Significant Permit Modification for a Part 70 Operating Permit – D.7.7 Nitrogen Oxide Emission Limitations [326 IAC 2-3].

Insert as a first paragraph the following language,

When burning natural gas, the NOx emissions rate shall not exceed 0.036 lb/MMBtu based on operation with low NOx burners and necessary flue gas recirculation.

Response No. 6

Section (b) is not a NSPS requirement and therefore will be removed from D.7.6, D.1.6 and placed in Section D.7.7 and D.1.7. Sections D.7.7 (SPM) and D.1.7 (SSM) will be changed to

read as follows (again revisions are not made to the original TSD but are shown in this TSD addendum):

Nitrogen Oxide Emission Limitations [326 IAC 2-3]

When burning natural gas, the NOx emissions rate shall not exceed 0.036 lb/MMBtu based on operation with low NOx burners and necessary flue gas recirculation.

Overall NOx emissions are limited to less than 40 tons per twelve (12) month consecutive period for gas and oil firing combined, as determined by the continuous emissions monitoring system (CEMS) or other means approved by the Department. If No.2 fuel oil is combusted during any portion of a twelve (12) month period, natural gas usage shall be reduced such that NOx emissions for the period are less than 40 tons.

Comment No. 7

SPM – Section D.7.13

(SSM – Section D.1.13 Language is Correct)

Technical Support Document (TSD) for a Prevention of Significant Deterioration (PSD) Significant Source Modification and Significant Permit Modification for a Part 70 Operating Permit – D.7.13 Testing Requirements [326 IAC 2-7-6(1)][326 IAC 2-1.1-11].

The testing requirements in D.1.13 are correctly stated. The SPM D.7.13 and TSD page 13 need to be corrected to be the same as the SSM by deleting the reference in the first sentence of this section “when burning fuel oil”.

Response No. 7

This change had already been made to SPM D.7.13 and TSD page 13 in earlier revisions of the draft before it went to public notice.

Comment No. 8

SPM – Section D.7.16 Continuous Emissions Monitoring [326 IAC 3-5] – Page 51 of 63
TSD – Page 14 Section D.7.16 Continuous Emissions Monitoring

The entire Section D.7.16 – Continuous Emissions Monitoring [326 IAC 3-5] refers to existing Boiler No. 4 and should be deleted from this section and replaced in its entirety with text from Section D.1.16 of the SSM – Significant Source Modification – Page 16 of 23, to read as follows:

D.7.16 Continuous Emissions Monitoring [326 IAC 3-5]

- (a) Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions), the continuous opacity monitoring system (COM) and the continuous emission monitoring system (CEM) for Boiler No. 6 when combusting fuel oil or natural gas, shall be calibrated, maintained, and operated for measuring opacity and NOx emissions respectively which meet all applicable performance specifications of 326 IAC 3-5-2.
- (b) The continuous opacity monitoring system (COM) and the continuous emission monitoring system (CEM) are subject to the monitor system certification requirements pursuant to 326 IAC 3-5-3.
- (c) Except as noted in C.12 and C.13 (regarding VE and NOx alternative monitoring), nothing in this permit shall excuse the Permittee from complying with requirements to operate the continuous opacity monitoring system (COM) and the continuous emission monitoring system (CEM) pursuant to 326 IAC 3-5.

Response No. 8

SPM – Section D.7.16 Continuous Emissions Monitoring [326 IAC 3-5] and SSM – Section D.1.16 Continuous Emissions Monitoring [326 IAC 3-5] need to be corrected to include continuous emission monitoring – they will be changed to read as follows:

D.7.16 (D.1.16) Continuous Emissions Monitoring [326 IAC 3-5]

- (a) Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions), the continuous opacity monitoring system (COM) **and the continuous emission monitoring system (CEM)** for boiler ~~B-4~~ **NO. 6**, when combusting fuel oil or ~~coal~~ **natural gas**, shall be calibrated, maintained and operated for measuring opacity **and NOx emissions respectively** which meet all applicable performance specifications of 326 IAC 3-5-2.
- (b) The continuous opacity monitoring system (COM) **and the continuous emission monitoring system (CEM)** ~~are~~ **is** subject to the monitor system certification requirements pursuant to 326 IAC 3-5-3.
- (c) **Except as noted in Section C Maintenance of Continuous Emission Monitoring Equipment and Section C Monitoring Methods regarding VE and NOx alternative monitoring** Nothing in this permit shall excuse the Permittee from complying with the requirements to operate the continuous opacity monitoring system (COM) **and the continuous emission monitoring system (CEM)** pursuant to 326 IAC 3-5.

Comment No. 9

D.8.2 (SPM) and TSD

D.8.2 Standards of Performance for Volatile Organic Liquid Storage Vessels [326 IAC 12][40 CFR §60.116b].

Insert “UST and” between “as...UST1B-6”

Response No. 9

The words “UST and” refer to the existing tank for existing generators (G-8, 9 and 10) and therefore will be inserted in the first sentence of D.8.2 as show since it is also subject to the New Source Performance Standards.

D.8.2 Standards Performance for Volatile Organic Liquid Storage Vessels [326 IAC 12][40CFR §60.116b].

Pursuant to 326 IAC 12-1-1 (Petroleum Liquid Storage Facilities), the ~~five (5)~~ **six (6)** underground fuel oil storage tanks, identified as **UST and** UST1B-6, shall comply with New Source Performance Standards (NSPS), 326 IAC 12 (40 CFR Part 60.116b, Subpart Kb). 40 CFR §60.116b, paragraphs (a) and (b) require the Permittee to maintain accessible records showing the dimensions of each storage vessel and an analysis showing the capacity of the storage vessel. Records shall be kept for the life of the storage tank.

Comment No. 10

Technical Support Document (TSD) for a Prevention of Significant Deterioration (PSD) Significant Source Modification and Significant Permit Modification for a Part 70 Operating Permit – Proposed Modification – Page 4 of 14.

The third paragraph, second sentence of the Proposed Modification Section reads “Additionally, NOx emissions will be reduced with a low NOx burner as specified in the following sections of this document.”

Should be corrected to read,

“Additionally, NOx emissions will be reduced with a low NOx burner **and flue gas recirculation** as specified in the following sections of this document.”

Response No. 10

This TSD addendum to the Significant Source Modification and Significant Permit Modification to a Part 70 Operating Permit will serve to note the following change from page 4 of 14 of the TSD. The third paragraph, second sentence will be corrected to read:

“Additionally, NOx emissions will be reduced with a low NOx burner **and flue gas recirculation** as specified in the following sections of this document.”

Comment No. 11

Technical Support Document (TSD) for a Prevention of Significant Deterioration (PSD) Significant Source Modification and Significant Permit Modification for a Part 70 Operating Permit – State Rule Applicability – Page 7 of 14.

The citation 326 IAC 5-1(a) (Opacity Limitations) needs the word “in” between “thirty percent” and “any”.

The citation 326 IAC 8-9-1(b) (Volatile Organic Liquid Storage Facilities) (Applicability) needs the word “to” insert between “subject” and “this”.

The second paragraph of citation 326 IAC 9 (Carbon Monoxide Emission Limits) should have its own citation of 326 IAC 10 (Nitrogen Oxides) and read as follows:

326 IAC 10 (Nitrogen Oxides)

Boiler No. 6 is not an “Electricity Generating Unit” because it does not produce electricity for sale. Additionally, the unit will have a heat input rating less than 250 MMBtu/hour. Therefore, the boiler is not subject to the requirements of Rule 326 IAC 10-4-1 that establishes a NOx trading program.

The third paragraph of citation 326 IAC 9 (Carbon Monoxide Emission Limits) repeats 326 IAC 3-5 (Continuous Monitoring of Emissions) on Page 6 of 14 and should be deleted.

Response No. 11

This TSD addendum to the Significant Source Modification and Significant Permit Modification for a Part 70 Operating Permit will serve to note the following changes to Rules 326 IAC 5-1, 326 IAC 8-9-1, 326 IAC 9 and 326 IAC 10 on page 7 of 14 of the TSD (the TSD will not be changed). The following changes are noted:

326 IAC 5-1 (Opacity Limitations)

The source is located in the area north of Kern Road and east of Pine Road. Therefore, pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of thirty percent (30%) **in** any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

326 IAC 8-9-1(b) (Volatile Organic Liquid Storage Facilities) (Applicability)

The five (5) stationary underground diesel fuel storage tanks, each with a design capacity of less than 39,000 gallons, are not subject to this rule because it is not applicable to St. Joseph County facilities.

326 IAC 9 (Carbon Monoxide Emission Limits)

Pursuant to 326 IAC 9 (Carbon Monoxide Emission Limits), the source is subject to this rule because it is a stationary source that emits CO emissions and commenced operation after March 21, 1972. There is no specific emissions limit under this rule, because the source is not an operation listed under 326 IAC 9-1-2.

326 IAC 10-4-1 (Nitrogen Oxides)

Boiler No. 6 is not an "Electricity Generating Unit" because it does not produce electricity for sale. Additionally, the unit will have a heat input rating less than 250 MMBtu/hour. Therefore, the boiler is not subject to the requirements of Rule 326 IAC 10-4-1 that establishes a NOx trading program.

~~Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions) and 40 CFR Part 60, Subpart D_b, continuous emission monitoring systems for Boiler No. 6 shall be calibrated, maintained, and operated for measuring NOx which meet all applicable performance specifications of 326 IAC 3-5-2 and 40 CFR 60.48b.~~

On July 7, 2005 the following comment was received from Sam Portanova of the U.S. EPA, Region 5.

Comment No. 1

D.1.7 (SSM) and D.7.7 (SPM)

To assure that the modification is minor for NOx and not subject to non attainment NSR, permit condition D.1.7 states: "If No. 2 fuel oil is combusted during any portion of a twelve month period, natural gas shall be reduced such that NOx emissions for the period are less than 40 tons." How does this assure that NOx emissions remain below 40 tpy? The 1st table on page 1 of Appendix A indicates that this boiler will have higher NOx emissions using fuel oil compared to natural gas. If so, how can a curtailment of natural gas be the controlling factor in determining NOx emissions? Wouldn't a reduction in natural gas usage result in an increase in fuel oil usage and, thus, higher NOx emissions?

Response No. 1

The sentence reads incorrectly, the last sentence will be removed so the meaning of the sentence will be; for combined natural gas and fuel oil firing NOx emissions will be limited to less than 40 tons per 12 month consecutive period. D.1.7 will be changed to read:

D.1.7 Nitrogen Oxide Emission limitations [326 IAC 2-3]

Overall NOx emissions are limited to less than 40 tons per twelve (12) month consecutive period for natural gas and oil firing combined, as determined by the continuous emissions monitoring system (CEMs) or other means approved by the Department. ~~If No. 2 fuel oil is combusted during any portion of a twelve (12) month period, natural gas usage shall be reduced such that NOx emissions for the period are less than 40 tons.~~

Appendix A - Source Emission Calculations from Boiler No. 6

Company Name: University of Notre Dame du Lac
 Address City IN Zip: 100 Facilities Building, Notre Dame, In 46556
 Permit No.: 141-20012
 Plt ID: No. 141-00013
 Reviewer: Walter Habeeb
 Date: February 24, 2005

Worst Case Potential Emissions from N.G. or No. 2 Fuel Oil (TPY) *							
249.0 MMBtu No. 6 Boiler Operating On	PM/PM10	NOx	SO2	VOC	CO	Highest Single HAP (HCl)**	All Other HAP's ***
No. 2 Fuel Oil	15.58	39.84	545.31		321.73		
Natural Gas				6.00		8.65	2.29
Storage Tanks				0.11			
Annual Emission all HAP's (TPY)							10.94
Annual Emission (TPY)	15.58	39.84	545.31	6.11	321.73		

* Emission based on emission factors provided by University of Notre Dame- see page 2 for detailed calculations.

** HCl emission provided by University of Notre Dame (calculated using Equation 9 on page 55262 of 40 CFR, Part 63, Subpart DDDDD, of Federal Register).

*** Emission based on emission factors from pages 3 & 4 of this Appendix (A)

Potential VOC Emissions from Boiler No. 6 Fuel Storage Tanks				
Tank No.	Volume (gal)	Net Throughput (gal/yr)	Emissions (lb/yr)*	Emissions (tpy)
Tank UST1B-6	20,000	15,580,286	44.21	0.022
Tank UST2B-6	20,000	15,580,286	44.21	0.022
Tank UST3B-6	20,000	15,580,286	44.21	0.022
Tank UST4B-6	20,000	15,580,286	44.21	0.022
Tank UST5B-6	20,000	15,580,286	44.21	0.022
Total				0.11

* Emission information provided by University of Notre Dame- based on most recent version of USEPA's TANKS software program.

UNIVERSITY OF NOTRE DAME DU LAC

Proposed Boiler No. 6

Criteria Pollutant Potential Emissions - Fuel Oil and Natural Gas

Permit No. 141-20012-00013

Page 2 Of 4

141-20402-00013

Fuel Oil Combustion

Unit Capacity, MMBtu per hour	Annual Operation, hours	Annual Fuel Oil Combustion, 1000 gallons	SO ₂		NO _x		VOC		CO		PM/PM ₁₀		Pb	
			Emission Factor, lb per mmBtu ¹	Potential Emissions, tons per year	Emission Factor, lb per mmBtu ²	Potential Emissions, tons per year ³	Emission Factor, lb per 1000 gallons ⁴	Potential Emissions, tons per year	Emission Factor, lb per mmBtu ⁵	Potential Emissions, tons per year	Emission Factor, lb per 1000 gallons ⁶	Potential Emissions, tons per year	Emission Factor, lb per 10 ¹² Btu ⁷	Potential Emissions, tons per year
249.0	8,760	15,580	0.50	545.31	0.10	39.84	0.34	2.65	0.295	321.73	2	15.58	9	0.01

Notes:

- ^{1/} Emissions factor based on regulatory limit per 326 IAC 7-1.1-2.
- ^{2/} Emissions factor per worst-case vendor specifications.
- ^{3/} Annual emissions calculated using emission factor, unit capacity, and limited hours of operation per annum.
- ^{4/} Per AP-42, Chapter 1.3, *Fuel Oil Combustion*, Table 1.3-3 (TOC values). Factor rated A.
- ^{5/} Emissions factor based on regulatory limit per 40 CFR Part 63, Subpart DDDDD.
- ^{6/} Per AP-42, Chapter 1.3, *Fuel Oil Combustion*, Table 1.3-1. Factors rated A.
- ^{7/} Per AP-42, Chapter 1.3, *Fuel Oil Combustion*, Table 1.3-10. Factor rated E.
- ^{8/} All emissions estimates assume operation of a fuel oil-fired boiler, with LNB.
- ^{9/} Assume calorific value of 140,000 Btu per gallon of fuel.

Natural Gas Combustion

Unit Capacity, MMBtu per hour	Annual Operation, hours	Annual Natural Gas Combustion, MMscf	SO ₂		NO _x		VOC		CO		PM/PM ₁₀		Pb	
			Emission Factor, lb per MMscf ¹	Potential Emissions, tons per year	Emission Factor, lb per mmBtu ²	Potential Emissions, tons per year	Emission Factor, lb per MMscf ¹	Potential Emissions, tons per year	Emission Factor, lb per MMscf ³	Potential Emissions, tons per year	Emission Factor, lb per MMscf ¹	Potential Emissions, tons per year	Emission Factor, lb per MMscf ¹	Potential Emissions, tons per year
249.0	8,760	2,181	0.6	0.65	0.036	39.26	5.5	6.00	84	91.61	7.6	8.29	0.0005	0.00055

Notes:

- ^{1/} Per AP-42, Chapter 1.4, *Natural Gas Combustion*, Table 1.4-2. Factor ratings vary from A to D.
- ^{2/} Emissions factor per worst-case vendor specifications.
- ^{3/} Per AP-42, Chapter 1.4, *Natural Gas Combustion*, Table 1.4-1. Factor ratings vary from A to B.
- ^{4/} All emissions estimates assume operation of a natural gas-fired boiler, with LNB.
- ^{5/} Assume calorific value of 1,000 Btu per scf.

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Company Name: University of Notre Dame du Lac
 Address City IN Zip: 100 Facilities Building, Notre Dame, In 46556
 Permit No.: 141-20012
 Plt ID: No. 141-00013
 Reviewer: Walter Habeeb
 Date: June 14, 2005

HAP's from Natural Gas							
			Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf			2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr			2.29E-03	1.31E-03	8.18E+02	1.96E-00	3.17E-03
			Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf			5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr			5.45E-04	1.20E-03	1.53E-03	4.14E-04	2.29E-03

Emission Factors are from AP-42, Table 1.4-3 for Natural Gas Combustion

Company Name: University of Notre Dame du Lac
 Address City IN Zip: 100 Facilities Building, Notre Dame, In 46556
 Permit No.: 141-20012
 Plt ID: No. 141-00013
 Reviewer: Walter Habeeb
 Date: June 14, 2005

HAP's from Fuel Oil							
			Arsenic	Beryllium	Cadmium	Chromium	Lead
Emission Factor in lb/mmBtu			4.0E-06	3.0E-06	3.0E-06	3.0E-06	9.0E-06
Potential Emission in tons/yr			4.36E-03	3.27E-03	3.27E-03	3.27E-03	9.82E-03
			Mercury	Manganese	Nickel	Selenium	
Emission Factor in lb/mmBtu			3.0E-06	6.0E-06	3.0E-06	1.5E-05	
Potential Emission in tons/yr			3.27E-03	6.54E-03	3.27E-03	1.64E-02	

Emission Factors are from AP-42, Table 1.3-1, 1.3-2 and 1.3-3 for Fuel Oil Combustion