

Attention:

Northwestern University  
Attn: Gary R. Wojtowicz  
2020 Ridge Avenue, Room 200  
Evanston, Illinois 60208-4320

State of Illinois

CLEAN AIR ACT PERMIT  
PROGRAM (CAAPP) PERMIT

Source:

Northwestern University  
2020 Ridge Avenue  
Evanston, Illinois 60208

I.D. No.: 031081AEQ  
Permit No.: 95070027

Permitting Authority:

Illinois Environmental Protection Agency  
Bureau of Air, Permit Section  
217/785-1705

**CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT**

Type of Application: Renewal  
Purpose of Application: Renew Existing CAAPP Permit for 5 Years

ID No.: 031081AEQ  
Permit No.: 95070027  
Statement of Basis No.: 95070027-2012

Date Application Received: May 27, 2008  
Date Issued: September 4, 2013

Expiration Date: September 4, 2018  
Renewal Submittal Date: 9 Months Prior to September 4, 2018

Source Name: Northwestern University, Evanston  
Address: 2020 Ridge Avenue  
City: Evanston  
County: Cook  
ZIP Code: 60208

This permit is hereby granted to the above-designated source authorizing operation in accordance with this CAAPP permit, pursuant to the above referenced application. This source is subject to the conditions contained herein. For further information on the source see Section 1 and for further discussion on the effectiveness of this permit see Condition 2.3(g).

If you have any questions concerning this permit, please contact Rosario Johnstone at 217/785-1705.

Robert W. Bernoteit  
Acting Manager, Permit Section  
Division of Air Pollution Control

RWB:MTR:RJ:psj

cc: IEPA, Permit Section  
IEPA, FOS, Region 1

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**Section 1 - Source Information**

**1. Addresses**

**Source**

Northwestern University, Evanston  
2020 Ridge Avenue  
Evanston, Illinois 60208

**Owner**

Northwestern University, Evanston  
2020 Ridge Avenue  
Evanston, Illinois 60208

**Operator**

Northwestern University, Evanston  
2020 Ridge Avenue  
Evanston, Illinois 60208

**Permittee**

The owner or operator of the source as identified in this table.

**2. Contacts**

**Certified Officials**

The source shall submit an Administrative Permit Amendment for any change in the Certified Officials, pursuant to Section 39.5(13) of the Act.

	<i>Name</i>	<i>Title</i>
<i>Responsible Official</i>	Gary R. Wojtowicz	Director of Facility Management Operations
<i>Delegated Authority</i>	No other individuals have been authorized by the IEPA.	

**Other Contacts**

	<i>Name</i>	<i>Phone No.</i>	<i>Email</i>
<i>Source Contact</i>	Gary R. Wojtowicz	847-491-5205	g-wojtowicz@northwestern.edu
<i>Technical Contact</i>	Gary R. Wojtowicz	847-491-5205	g-wojtowicz@northwestern.edu
<i>Correspondence</i>	Gary R. Wojtowicz	847-491-5205	g-wojtowicz@northwestern.edu
<i>Billing</i>	Gary R. Wojtowicz	847-491-5205	g-wojtowicz@northwestern.edu

**3. Single Source**

The source shall be defined to include all the following source(s):

<i>I.D. No.</i>	<i>Permit No.</i>	<i>Single Source Name and Address</i>
N/A	N/A	N/A

## Section 2 - General Permit Requirements

### 1. Prohibitions

- a. It shall be unlawful for any person to violate any terms or conditions of this permit issued under Section 39.5 of the Act, to operate the CAAPP source except in compliance with this permit issued by the IEPA under Section 39.5 or to violate any other applicable requirements. All terms and conditions of this permit issued under Section 39.5 are enforceable by USEPA and citizens under the Clean Air Act, except those, if any, that are specifically designated as not being federally enforceable in this permit pursuant to Section 39.5(7)(m). [Section 39.5(6)(a) of the Act]
- b. After the applicable CAAPP permit or renewal application submittal date, as specified in Section 39.5(5), the source shall not operate this CAAPP source without a CAAPP permit unless the complete CAAPP permit or renewal application for such source has been timely submitted to the IEPA. [Section 39.5(6)(b) of the Act]
- c. No owner or operator of the CAAPP source shall cause or threaten or allow the continued operation of an emission source during malfunction or breakdown of the emission source or related air pollution control equipment if such operation would cause a violation of the standards or limitations applicable to the source, unless this CAAPP permit granted to the source provides for such operation consistent with the Act and applicable Illinois Pollution Control Board regulations. [Section 39.5(6)(c) of the Act]
- d. Pursuant to Section 39.5(7)(g) of the Act, emissions from the source are not allowed to exceed any allowances that the source lawfully holds under Title IV of the Clean Air Act or the regulations promulgated thereunder, consistent with Section 39.5(17) of the Act and applicable requirements, if any.

### 2. Emergency Provisions

- a. Pursuant to Section 39.5(7)(k) of the Act, the owner or operator of the CAAPP source may provide an affirmative defense of emergency to an action brought for noncompliance with technology-based emission limitations under this CAAPP permit if the following conditions are met through properly signed, contemporaneous operating logs, or other relevant evidence:
  - i. An emergency occurred and the source can identify the cause(s) of the emergency.
  - ii. The source was at the time being properly operated.
  - iii. The source submitted notice of the emergency to the IEPA within 2 working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.
  - iv. During the period of the emergency the source took all reasonable steps to minimize levels of emissions that exceeded the emission limitations, standards, or requirements in this permit.
- b. For purposes of Section 39.5(7)(k), "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, such as an act of God, that requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under this permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operation error.
- c. In any enforcement proceeding, the source seeking to establish the occurrence of an emergency has the burden of proof. This provision is in addition to any emergency or

upset provision contained in any applicable requirement. This provision does not relieve the source of any reporting obligations under existing federal or state laws or regulations.

### **3. General Provisions**

#### **a. Duty to Comply**

The source must comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the CAA and the Act, and is grounds for any or all of the following: enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. [Section 39.5(7) (o) (i) of the Act]

#### **b. Need to Halt or Reduce Activity is not a Defense**

It shall not be a defense for the source in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. [Section 39.5(7) (o) (ii) of the Act]

#### **c. Duty to Maintain Equipment**

The source shall maintain all equipment covered under this permit in such a manner that the performance or operation of such equipment shall not cause a violation of applicable requirements. [Section 39.5(7) (a) of the Act]

#### **d. Disposal Operations**

The source shall be operated in such a manner that the disposal of air contaminants collected by the equipment operations, or activities shall not cause a violation of the Act or regulations promulgated there under. [Section 39.5(7) (a) of the Act]

#### **e. Duty to Pay Fees**

- i. The source must pay fees to the IEPA consistent with the fee schedule approved pursuant to Section 39.5(18) of the Act, and submit any information relevant thereto. [Section 39.5(7) (o) (vi) of the Act]
- ii. The IEPA shall assess annual fees based on the allowable emissions of all regulated air pollutants, except for those regulated air pollutants excluded in Section 39.5(18) (f) of the Act and insignificant activities in Section 3(c), at the source during the term of this permit. The amount of such fee shall be based on the information supplied by the applicant in its complete CAAPP permit application. [Section 39.5(18) (a) (ii) (A) of the Act]
- iii. The check should be payable to "Treasurer, State of Illinois" and sent to: Fiscal Services Section, Illinois Environmental Protection Agency, P.O. Box 19276, Springfield, Illinois, 62794-9276. Include on the check: ID #, Permit #, and "CAAPP Fees". [Section 39.5(18) (e) of the Act]

#### **f. Obligation to Allow IEPA Surveillance**

Pursuant to Sections 4(a), 39.5(7) (a) and 39.5(7) (p) (ii) of the Act, inspection and entry requirements that necessitate that, upon presentation of credentials and other documents as may be required by law and in accordance with constitutional limitations, the source shall allow the IEPA, or an authorized representative to perform the following:

- i. Enter upon the source's premises where the emission unit(s) are located or emissions-related activity is conducted, or where records must be kept under the conditions of this permit.

- ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit.
- iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
- iv. Sample or monitor any substances or parameters at any location at reasonable times:
  - A. As authorized by the Clean Air Act or the Act, at reasonable times, for the purposes of assuring compliance with this CAAPP permit or applicable requirements; or
  - B. As otherwise authorized by the Act.
- v. Enter and utilize any photographic, recording, testing, monitoring, or other equipment for the purposes of preserving, testing, monitoring, or recording any activity, discharge or emission at the source authorized by this permit.

**g. Effect of Permit**

- i. Pursuant to Section 39.5(7)(j)(iv) of the Act, nothing in this CAAPP permit shall alter or affect the following:
  - A. The provisions of Section 303 (emergency powers) of the CAA, including USEPA's authority under that Section.
  - B. The liability of the owner or operator of the source for any violation of applicable requirements prior to or at the time of permit issuance.
  - C. The applicable requirements of the acid rain program consistent with Section 408(a) of the CAA.
  - D. The ability of USEPA to obtain information from the source pursuant to Section 114 (inspections, monitoring, and entry) of the Clean Air Act.
- ii. Notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, pursuant to Sections 39.5(7)(j) and (p) of the Act, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements. [35 IAC 201.122 and Section 39.5(7)(a) of the Act]

**h. Severability Clause**

The provisions of this permit are severable. In the event of a challenge to any portion of this permit, other portions of this permit may continue to be in effect. Should any portion of this permit be determined to be illegal or unenforceable, the validity of the other provisions shall not be affected and the rights and obligations of the source shall be construed and enforced as if this permit did not contain the particular provisions held to be invalid and the applicable requirements underlying these provisions shall remain in force. [Section 39.5(7)(i) of the Act]

**4. Testing**

- a. Tests conducted to measure composition of materials, efficiency of pollution control devices, emissions from process or control equipment, or other parameters shall be conducted using standard test methods if applicable test methods are not specified by the applicable regulations or otherwise identified in the conditions of this permit. Documentation of the test date, conditions, methodologies, calculations, and test results shall be retained pursuant to the recordkeeping procedures of this permit. Reports of any tests conducted as required by this permit or as the result of a request by the IEPA

shall be submitted as specified in Condition 7.1 of this permit. [35 IAC Part 201 Subpart J and Section 39.5(7)(a) of the Act]

- b. Pursuant to Section 4(b) of the Act and 35 IAC 201.282, every emission source or air pollution control equipment shall be subject to the following testing requirements for the purpose of determining the nature and quantities of specified air contaminant emissions and for the purpose of determining ground level and ambient air concentrations of such air contaminants:
- i. **Testing by Owner or Operator:** The IEPA may require the owner or operator of the emission source or air pollution control equipment to conduct such tests in accordance with procedures adopted by the IEPA, at such reasonable times as may be specified by the IEPA and at the expense of the owner or operator of the emission source or air pollution control equipment. All such tests shall be made by or under the direction of a person qualified by training and/or experience in the field of air pollution testing. The IEPA shall have the right to observe all aspects of such tests.
  - ii. **Testing by the IEPA:** The IEPA shall have the right to conduct such tests at any time at its own expense. Upon request of the IEPA, the owner or operator of the emission source or air pollution control equipment shall provide, without charge to the IEPA, necessary holes in stacks or ducts and other safe and proper testing facilities, including scaffolding, but excluding instruments and sensing devices, as may be necessary.

## **5. Recordkeeping**

### **a. Control Equipment Maintenance Records**

A maintenance record shall be kept on the premises for each item of air pollution control equipment. At a minimum, this record shall show the dates of performance and nature of preventative maintenance activities. [Section 39.5(7)(a) of the Act]

### **b. Retention of Records**

- i. Records of all monitoring data and support information shall be retained for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. [Section 39.5(7)(e)(ii) of the Act]
- ii. Other records required by this permit including any logs, plans, procedures, or instructions required to be kept by this permit shall be retained for a period of at least 5 years from the date of entry unless a different period is specified by a particular permit provision pursuant to Section 39.5(7)(a) of the Act.

### **c. Availability of Records**

- i. The Permittee shall retrieve and provide paper copies, or as electronic media, any records retained in an electronic format (e.g., computer) in response to an IEPA or USEPA request during the course of a source inspection.
- ii. Upon written request by the IEPA for copies of records or reports required to be kept by this permit, the Permittee shall promptly submit a copy of such material to the IEPA. For this purpose, material shall be submitted to the IEPA within 30 days unless additional time is provided by the IEPA or the Permittee believes that the volume and nature of requested material would make this overly burdensome, in which case, the Permittee shall respond within 30 days with the explanation and a schedule for submittal of the requested material. (See also Condition 2.9(d))

<b>6. Certification</b>
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**a. Compliance Certification**

- i. Pursuant to Section 39.5(7)(p)(v)(C) of the Act, the source shall submit annual compliance certifications by including the following:
  - A. The identification of each term or condition of this permit that is the basis of the certification.
  - B. The compliance status.
  - C. Whether compliance was continuous or intermittent.
  - D. The method(s) used for determining the compliance status of the source, both currently and over the reporting period consistent with the conditions of this permit.
- ii. All compliance certifications shall be submitted to USEPA Region 5 in Chicago as well as to the IEPA Compliance Section pursuant to Section 39.5(7)(p)(v)(D). Addresses are included in Attachment 3.
- iii. All compliance reports required to be submitted shall include a certification in accordance with Condition 2.6 pursuant to Section 39.5(7)(p)(i) of the Act.

**b. Certification by a Responsible Official**

Any document (including reports) required to be submitted by this permit shall contain a certification by the responsible official of the source that meets the requirements of Section 39.5(5) of the Act and applicable regulations. [Section 39.5(7)(p)(i) of the Act]. An example Certification by a Responsible Official is included in Attachment 4 of this permit.

<b>7. Permit Shield</b>
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- a. Except as provided in Condition 2.7(b) below, the source has requested and has been granted a permit shield pursuant to Section 39.5(7)(j) of the Act. This permit shield provides that compliance with the conditions of this permit shall be deemed compliance with applicable requirements which were applicable as of the date the proposed permit for this source was issued, provided that either the applicable requirements are specifically identified within this permit, or the IEPA, in acting on this permit application, has determined that other requirements specifically identified are not applicable to this source and this determination (or a concise summary thereof) is included in this permit. This permit shield does not extend to applicable requirements which are promulgated after April 4, 2013 (date USEPA notice started), unless this permit has been modified to reflect such new requirements.
- b. Pursuant to Section 39.5(7)(j) of the Act, this permit and the terms and conditions herein do not affect the Permittee's past and/or continuing obligation with respect to statutory or regulatory requirements governing major source construction or modification under Title I of the CAA. Further, neither the issuance of this permit nor any of the terms or conditions of the permit shall alter or affect the liability of the Permittee for any violation of applicable requirements prior to or at the time of permit issuance.
- c. The issuance of this permit by the IEPA does not and shall not be construed as barring, diminishing, adjudicating or in any way affecting any currently pending or future legal, administrative or equitable rights or claims, actions, suits, causes of action or demands whatsoever that the IEPA or the USEPA may have against the applicant including, but not limited to, any enforcement action authorized pursuant to the provision of applicable federal and state law.

<b>8. Title I Conditions</b>
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As generally identified below, this CAAPP permit may contain certain conditions that relate to requirements arising from the construction or modification of emission units at this source. These requirements derive from permitting programs authorized under Title I of the Clean Air Act (CAA) and regulations thereunder, and Title X of the Illinois Environmental Protection Act (Act) and regulations implementing the same. Such requirements, including the New Source Review programs for both major (i.e., PSD and nonattainment areas) and minor sources, are implemented by the IEPA pursuant to Sections 39(a), 39(f) and 39.5(7) (a) of the Act.

- a. This permit may contain conditions that reflect requirements originally established in construction permits previously issued for this source. These conditions include requirements from preconstruction permits issued pursuant to regulations approved or promulgated by USEPA under Title I of the CAA, as well as requirements contained within construction permits issued pursuant to state law authority under Title X of the Act. Accordingly, all such conditions are incorporated into this CAAPP permit by virtue of being either an "applicable Clean Air Act requirement" or an "applicable requirement" in accordance with Section 39.5 of the Act. These conditions are identifiable herein by a designation to their origin of authority.
- b. This permit may contain conditions that reflect necessary revisions to requirements established for this source in preconstruction permits previously issued under the authority of Title I of the CAA. These conditions are specifically designated herein as "TIR".
  - i. Revisions to original Title I permit conditions are incorporated into this permit through the combined legal authority of Title I of the CAA and Title X of the Act. Public participation requirements and appeal rights shall be governed by Section 39.5 of the Act.
  - ii. Revised Title I permit conditions shall remain in effect through this CAAPP permit, and are therefore enforceable under the same, so long as such conditions do not expire as a result of a failure to timely submit a complete renewal application or are not removed at the applicant's request.
- c. This permit may contain conditions that reflect new requirements for this source that would ordinarily derive from a preconstruction permit established under the authority of Title I of the CAA. These conditions are specifically designated herein as "TIN".
  - i. The incorporation of new Title I requirements into this CAAPP permit is authorized through the combined legal authority of Title I of the CAA and Title X of the Act. Public participation requirements and appeal rights shall be governed by Section 39.5 of the Act.
  - ii. Any Title I conditions that are newly incorporated shall remain in effect through this CAAPP permit, and are therefore enforceable under the same, so long as such conditions do not expire as a result of a failure to timely submit a complete renewal application or are not removed at the applicant's request.

<b>9. Reopening and Revising Permit</b>
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**a. Permit Actions**

This permit may be modified, revoked, reopened and reissued, or terminated for cause in accordance with applicable provisions of Section 39.5 of the Act. The filing of a request by the source for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. [Section 39.5(7) (o) (iii) of the Act]

**b. Reopening and Revision**

Pursuant to Section 39.5(15) (a) of the Act, this permit must be reopened and revised if any of the following occur:

- i. Additional requirements become applicable to the equipment covered by this permit and three or more years remain before expiration of this permit;
- ii. Additional requirements become applicable to the source for acid deposition under the acid rain program;
- iii. The IEPA or USEPA determines that this permit contains a material mistake or that an inaccurate statement was made in establishing the emission standards or limitations, or other terms or conditions of this permit; or
- iv. The IEPA or USEPA determines that this permit must be revised or revoked to ensure compliance with the applicable requirements.

**c. Inaccurate Application**

The IEPA has issued this permit based upon the information submitted by the source in the permit application referenced on page 1 of this permit. Any misinformation, false statement or misrepresentation in the application shall be grounds for revocation or reopening of this CAAPP under Section 39.5(15) of the Act, pursuant to Sections 39.5(5) (e) and (i) of the Act.

**d. Duty to Provide Information**

The source shall furnish to the IEPA, within a reasonable time specified by the IEPA any information that the IEPA may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the source shall also furnish to the IEPA copies of records required to be kept by this permit. [Section 39.5(7) (o) (v) of the Act]

**10. Emissions Trading Programs**

No permit revision shall be required for increases in emissions allowed under any USEPA approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for elsewhere in this permit and that are authorized by the applicable requirement. [Section 39.5(7) (o) (vii) of the Act]

**11. Permit Renewal**

- a. Upon the expiration of this permit, if the source is operated, it shall be deemed to be operating without a permit unless a timely and complete CAAPP application has been submitted for renewal of this permit. However, if a timely and complete application to renew this CAAPP permit has been submitted, the terms and all conditions of the most recent issued CAAPP permit will remain in effect until the issuance of a renewal permit. [Sections 39.5(5) (l) and (o) of the Act]
- b. For purposes of permit renewal, a timely application is one that is submitted no less than 9 months prior to the date of permit expiration. [Section 39.5(5) (n) of the Act]

**12. Permanent Shutdown**

Pursuant to Section 39.5(7) (a) of the Act, this permit only covers emission units and control equipment while physically present at the source location(s). Unless this permit specifically provides for equipment relocation, this permit is void for the operation or activity of any item of equipment on the date it is removed from the permitted location(s) or permanently shut down. This permit expires if all equipment is removed from the permitted location(s), notwithstanding the expiration date specified on this permit.

**13. Startup, Shutdown, and Malfunction**

Pursuant to Section 39.5(7)(a) of the Act, In the event of an action to enforce the terms or conditions of this permit, this permit does not prohibit a Permittee from invoking any affirmative defense that is provided by the applicable law or rule.

## Section 3 - Source Requirements

### 1. Applicable Requirements

Pursuant to Sections 39.5(7) (a), 39.5(7) (b), and 39.5(7) (d) of the Act, the Permittee shall comply with the following applicable requirements. These requirements are applicable to all emission units (including insignificant activities unless specified otherwise in this Section) at the source.

#### a. Fugitive Particulate Matter

- i. Pursuant to 35 IAC 212.301 and 35 IAC 212.314, no person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally toward the zenith at a point beyond the property line of the source unless the wind speed is greater than 25 mph.
- ii. Compliance Method (Fugitive Particulate Matter)

Upon request by the IEPA, the Permittee shall conduct observations at the property line of the source for visible emissions of fugitive particulate matter from the source to address compliance with 35 IAC 212.301. For this purpose, daily observations shall be conducted for a week for particular area(s) of concern at the source, as specified in the request, observations shall begin either within one day or three days of receipt of a written request from the IEPA, depending, respectively, upon whether observations will be conducted by employees of the Permittee or a third-party observer hired by the Permittee to conduct observations on its behalf. The Permittee shall keep records for these observations, including identity of the observer, the date and time of observations, the location(s) from which observations were made, and duration of any fugitive emissions event(s).

#### b. Ozone Depleting Substances

Pursuant to 40 CFR 82.150(b), the Permittee shall comply with the standards for recycling and emissions reduction of ozone depleting substances pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR Part 82:

- i. Pursuant to 40 CFR 82.156, persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices.
- ii. Pursuant to 40 CFR 82.158, equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment.
- iii. Pursuant to 40 CFR 82.161, persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program.
- iv. Pursuant to 40 CFR 82 Subpart B, any person performing service on a motor vehicle for consideration when this service involves the refrigerant in the motor vehicle air conditioner shall comply with 40 CFR 82 Subpart B, Servicing of Motor Vehicle Air Conditioners.
- v. Pursuant to 40 CFR 82.166, all persons shall comply with the reporting and recordkeeping requirements of 40 CFR 82.166.

#### c. Asbestos Demolition and Renovation

- i. Asbestos Fees. Pursuant to Section 9.13(a) of the Act, for any site for which the Owner or Operator must file an original 10-day notice of intent to renovate or

demolish pursuant to Condition 3.1(c)(ii) below and 40 CFR 61.145(b), the owner or operator shall pay to the IEPA with the filing of each 10-day notice a fee of \$150.

- ii. Pursuant to 40 CFR 61 Subpart M, Standard of Asbestos, prior to any demolition or renovation at this facility, the Permittee shall fulfill notification requirements of 40 CFR 61.145(b).
- iii. Pursuant to 40 CFR 61.145(c), during demolition or renovation, the Permittee shall comply with the procedures for asbestos emission control established by 40 CFR 61.145(c).

**d. NESHAP Standards (40 CFR 63 Subpart JJJJJJ)**

Pursuant to 40 CFR 63.11196(a)(3), no later than March 21, 2014, the source must:

- i. Meet the applicable general provisions of 40 CFR 63 Subpart A. See Condition 7.2(a).
- ii. Have a one-time energy assessment performed on the source as specified in 40 CFR 63 Subpart JJJJJJ Table 2 Condition 4, pursuant to 40 CFR 63.11201(b).

**e. Future Emission Standards**

Pursuant to Section 39.5(15)(a) of the Act, this source shall comply with any new or revised applicable future standards of 40 CFR 60, 61, 62, or 63; or 35 IAC Subtitle B after the date issued of this permit. The Permittee shall, in accordance with the applicable regulation(s), comply with the applicable requirements by the date(s) specified and shall certify compliance with the applicable requirements of such regulation(s) as part of the annual compliance certification, as required by Condition 2.6(a). This permit may also have to be revised or reopened to address such new regulations in accordance to Condition 2.9.

**2. Applicable Plans and Programs**

Pursuant to Sections 39.5(7)(a), 39.5(7)(b), and 39.5(7)(d) of the Act, the Permittee shall comply with the following applicable requirements. These requirements are applicable to all emission units (including insignificant activities unless specified otherwise in this Section) at the source.

**a. Fugitive PM Operating Program**

Should this source become subject to 35 IAC 212.302, the Permittee shall prepare and operate under a Fugitive PM Operating Program consistent with 35 IAC 212.310 and submitted to the IEPA for its review. The Fugitive PM Operating Program shall be designed to significantly reduce fugitive particulate matter emissions, pursuant to 35 IAC 212.309(a). Any future Fugitive PM Operating Program made by the Permittee during the permit term is automatically incorporated by reference provided the Fugitive PM Operating Program is not expressly disapproved, in writing, by the IEPA within 30 days of receipt of the Fugitive PM Operating Program. In the event that the IEPA notifies the Permittee of a deficiency with any Fugitive PM Operating Program, the Permittee shall be required to revise and resubmit the Fugitive PM Operating Program within 30 days of receipt of notification to address the deficiency pursuant to Section 39.5(7)(a) of the Act.

**b. Episode Action Plan**

- i. Pursuant to 35 IAC 244.141, the Permittee shall have on file with the IEPA an Episode Action Plan for reducing the levels of emissions during yellow alerts, red alerts, and emergencies, consistent with safe operating procedures. The Episode Action Plan shall contain the information specified in 35 IAC 244.144.

- ii. The Permittee shall immediately implement the appropriate steps described in the Episode Action Plan should an air pollution alert or emergency be declared, as required by 35 IAC 244.169, or as may otherwise be required under 35 IAC 244, Appendix D.
- iii. Pursuant to 35 IAC 244.143(d), if an operational change occurs at the source which invalidates the Episode Action Plan, a revised Episode Action Plan shall be submitted to the IEPA for review within 30 days of the change and is automatically incorporated by reference provided the revision is not expressly disapproved, in writing, by the IEPA within 30 days of receipt of the revision. In the event that the IEPA notifies the Permittee of a deficiency with any revision to the Episode Action Plan, the Permittee shall be required to revise and resubmit the Episode Action Plan within 30 days of receipt of notification to address the deficiency pursuant to Section 39.5(7) (a) of the Act.
- iv. The Episode Action Plan, as submitted by the Permittee on 10/17/2012, is incorporated herein by reference. The document constitutes the formal Episode Action Plan required by 35 IAC 244.142, addressing the actions that will be implemented to reduce SO<sub>2</sub>, PM<sub>10</sub>, NO<sub>2</sub>, CO and VOM emissions from various emissions units in the event of a yellow alert, red alert or emergency issued under 35 IAC 244.161 through 244.165.
- v. Pursuant to Section 39.5(7) (b) of the Act, the Permittee shall keep a copy of the Episode Action Plan, any amendments or revisions to the Episode Action Plan (as required by Condition 3.2(c)), and the Permittee shall also keep a record of activities completed according to the Episode Action Plan.

**d. Risk Management Plan (RMP)**

Should this stationary source, as defined in 40 CFR 68.3, become subject to the federal regulations for Chemical Accident Prevention in 40 CFR Part 68, then the Permittee shall submit a compliance schedule for meeting the requirements of 40 CFR Part 68 by the date provided in 40 CFR 68.10(a); or submit a certification statement that the source is in compliance with all requirements of 40 CFR Part 68, including the registration and submission of the Risk Management Plan, as part of the annual compliance certification required by Condition 2.6(a). This condition is imposed in this permit pursuant to 40 CFR 68.215(a) (2) (i) and (ii).

**3. Title I Requirements**

As of the date of issuance of this permit, there are no source-wide Title I requirements that need to be included in this Condition.

**4. Synthetic Minor Limits**

As of the date of issuance of this permit, there are no source-wide synthetic minor limits that need to be included in this Condition.

**5. Reporting Requirements**

The Permittee shall submit the following information pursuant to Section 39.5(7) (f) of the Act. Addresses are included in Attachment 3.

**a. Prompt Reporting**

- i. A. Pursuant to Section 39.5(7) (f) (ii) of the Act, the Permittee shall promptly notify the IEPA, Air Compliance Section, within 30 days of deviations from applicable requirements as follows:
  - I. Requirements in Conditions 3.1(a) (i), 3.1(b), 3.1(c), and 3.1(d).

- B. All such deviations shall be summarized and reported as part of the Semiannual Monitoring Report required by Condition 3.5(b).
- ii. The Permittee shall notify the IEPA, Air Compliance Section, of all other deviations as part of the Semiannual Monitoring Report required by Condition 3.5(b).
- iii. The deviation reports shall contain at a minimum the following information:
  - A. Date and time of the deviation.
  - B. Emission unit(s) and/or operation involved.
  - C. The duration of the event.
  - D. Probable cause of the deviation.
  - E. Corrective actions or preventative measures taken.
- iv. All deviation reports required in this Permit shall be identified, summarized, and reported as part of the Semiannual Monitoring Report required by Condition 3.5(b).

**b. Semiannual Reporting**

- i. Pursuant to Section 39.5(7)(f)(i) of the Act, the Permittee shall submit Semiannual Monitoring Reports to the IEPA, Air Compliance Section, summarizing required monitoring as part of the Compliance Methods in this Permit submitted every six months as follows, unless more frequent reporting is required in other parts of this permit.

<u>Monitoring Period</u>	<u>Report Due Date</u>
January through June	July 31
July through December	January 31

- ii. The Semiannual Monitoring Report must be certified by a Responsible Official consistent with Condition 2.6(b).

**c. Annual Emissions Reporting**

Pursuant to 35 IAC Part 254, the Source shall submit an Annual Emission Report due by May 1 of the year following the calendar year in which the emissions took place. All records and calculations upon which the verified and reported data are based must be retained by the source.

**Section 4 - Emission Unit Requirements**

**4.1 Natural Gas Fired Boilers, Central Utility Plant**

**1. Emission Units and Operations**

Emission Units	Pollutants Being Regulated	Original Construction Date	Modification/ Reconstruction Date	Air Pollution Control Devices or Measures	Monitoring Devices
Three 125 mmBtu/hr Natural Gas Fired Boilers (EC1, EC2 and EC3)	CO, NO <sub>x</sub>	1967	N/A	None	None

**2. Applicable Requirements**

For the emission units in Condition 4.1.1 above, the Permittee shall comply with the following applicable requirements pursuant to Sections 39.5(7) (a), 39.5(7) (b), and 39.5(7) (d) of the Act.

**a. i. Opacity Requirements**

A. Pursuant to 35 IAC 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to 35 IAC 212.122.

**ii. Compliance Method (Opacity Requirements)**

Monitoring

A. Pursuant to Sections 39.5(7) (b) and (d) of the Act, at a minimum, the Permittee shall perform observations for opacity on each boiler in accordance with Method 22 for visible emissions at least once every calendar year. If visible emissions are observed, the Permittee shall take corrective action within 4 hours of such observation. Corrective action may include, but is not limited to, shut down of the boiler, maintenance and repair, and/or adjustment of fuel usage. If corrective action was taken, the Permittee shall perform a follow up observation for visible emissions in accordance with Method 22. If visible emissions continue, then measurements of opacity in accordance with Method 9 and Section 7.1 shall be conducted within 7 days in accordance with Condition 2.4.

Recordkeeping

B. Pursuant to Section 39.5(7) (b) of the Act, the Permittee shall keep records for each observation for opacity conducted. These records shall include, at a minimum: date and time the observation was performed, name(s) of observing personnel, identification of which equipment was observed, whether or not the equipment was running properly, the findings of the observation including the presence of any visible emissions, and a description of any corrective action taken including if the corrective action took place within 4 hours of the observation.

C. Pursuant to Section 39.5(7) (b) of the Act, if required, the Permittee shall keep records for all opacity measurements made in accordance with USEPA Method 9.

**b. i. Carbon Monoxide Requirements (CO)**

A. Pursuant to 35 IAC 216.121, no person shall cause or allow the emission of carbon monoxide (CO) into the atmosphere from any fuel combustion emission

source with actual heat input greater than 2.9 MW (10 mmBtu/hr) to exceed 200 ppm, corrected to 50 percent excess air.

ii. Compliance Method (CO Requirements)

Monitoring

- A. Pursuant to Section 39.5(7)(d), the Permittee shall comply with the following inspection and tune-up requirements for the boilers. Inspections/tune-ups shall be conducted biennially but no later than 25 months after the previous one:
- I. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (the Permittee may delay the burner inspection until the next scheduled unit shutdown, but each burner shall be inspected at least once every 36 months).
  - II. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.
  - III. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly.
  - IV. Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available.
  - V. Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made).

Recordkeeping

- B. Pursuant to Section 39.5(7)(b) of the Act, the Permittee shall keep records onsite of tune-ups containing the following information:
- I. The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured before and after the tune-up of the boiler.
  - II. A description of any corrective actions taken as a part of the tune-up of the boiler.
  - III. The type and amount of fuel used over the 12 months prior to the biennial tune-up of the boiler.
- C. Pursuant to Section 39.5(7)(b) of the Act, the Permittee shall keep records of each inspection performed along with a maintenance, repair log and tune-ups performed. These records shall include, at a minimum:
- date and time inspections were performed,
  - name(s) of inspection personnel,
  - identification of equipment being inspected,
  - findings of the inspections,

- operation and maintenance procedures,
- description of all maintenance and repair activities performed including if the activity resulted in a modification or reconstruction of the piece of equipment.

### 3. Non-Applicability Determinations

- a. The boilers are not subject to the New Source Performance Standards (NSPS) for Small Industrial Commerce Institutional Steam Generating Units, 40 CFR Part 60, Subpart Dc, because the boilers were constructed or reconstructed before Jun 9, 1989 pursuant to 40 CFR 60.40c(a).
- b. The boilers are not subject to the New Source Performance Standards (NSPS) Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units, 40 CFR Part 60, Subpart Db, because the boilers are not modified, or reconstructed after Jun 19, 1984, pursuant to 40 CFR 60.40b(a).
- c. The boilers are not subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers Area Source, 40 CFR Part 63 Subparts A and JJJJJJ, because the boiler is a gas-fired boiler as defined in 40 CFR 63.11237 pursuant to 40 CFR 63.11195(e).
- d. The boilers are not subject to the National Emission Standards for Hazardous Air Pollution (NESHAP) for National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heat, 40 CFR Part 63 Subpart DDDDD, because the source is not located at a major source of HAP emissions.
- e. The boilers are not subject to 35 IAC 212.206 because the boilers use natural gas exclusively.
- f. The boilers are not subject to 35 IAC 214.161 because the boilers use natural gas exclusively.
- g. Pursuant to 35 IAC 218.303, because these are the fuel combustion emission units, the boilers are not subject to 35 IAC Part 218, Subpart G.
- h. The boilers are not subject to 35 IAC 217.141 because the actual heat input is less than 250 mmBtu/hr.
- i. The boilers are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the boilers do not use an add-on control device to achieve compliance with an emission limitation or standard.

### 4. Other Requirements

As of the date of issuance of this permit, there are no other requirements that need to be included in this Condition.

### 5. Reporting Requirements

The Permittee shall submit the following information pursuant to Section 39.5(7)(f) of the Act. Addresses are included in Attachment 3.

#### a. Prompt Reporting

- i. A. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the Illinois EPA, Air Compliance Section, within 30 days of deviations from applicable requirements as follows:

Northwestern University  
I.D. #031081AEQ  
Permit #95070027

Date Received: 05/27/08  
Date Issued: 09/04/13

**Section 4 - Emission Unit Requirements**  
**4.1 - Natural Gas Fired Boilers - Unit 1a**

- I. Requirements in Conditions 4.1.2(a)(i), 4.1.2(b)(i), and 4.1.2(c)(i).
- B. All such deviations shall be summarized and reported as part of the Semiannual Monitoring Report required by Condition 3.5(b).
- ii. The Permittee shall notify the Illinois EPA, Air Compliance Section, of all other deviations as part of the Semiannual Monitoring Reports required by Condition 3.5(b).
- iii. The deviation reports shall contain at a minimum the following information:
  - A. Date and time of the deviation.
  - B. Emission unit(s) and/or operation involved.
  - C. The duration of the event.
  - D. Probable cause of the deviation.
  - E. Corrective actions or preventative measures taken.

**4.2 Natural Gas Boilers, Central Utility (EC-4)**

**1. Emission Units and Operations**

Emission Units	Pollutants Being Regulated	Original Construction Date	Modification/ Reconstruction Date	Air Pollution Control Devices or Measures	Monitoring Devices
181 mmBtu/hr Natural gas-fired Boiler with distillate fuel oil #2 maximum heat input (EC-4)	PM, CO, NO <sub>x</sub> , VOM, SO <sub>2</sub>	1983	2004	None	COMS CEMS for NO <sub>x</sub>

**2. Applicable Requirements**

For the emission unit in Condition 4.2.1 above, the Permittee shall comply with the following applicable requirements pursuant to Sections 39.5(7) (a), 39.5(7) (b), and 39.5(7) (d) of the Act.

**a. i. Opacity Requirements**

- A Pursuant to 40 CFR 60 Subpart Db, the emission of any gases from the boiler shall not have an opacity greater than 20 percent (6-minute average), except for one 6 minute period per hour of not more than 27 percent opacity, except as allowed by 40 CFR 60.43b(f) and (g). Opacity limits under 40 CFR 60.43b (f) and (g) apply at all times except during periods of startup, shutdown, or malfunction.
- B. Pursuant to 35 IAC 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit.

**ii. Compliance Method (Opacity Requirements)**

Monitoring

- A. Pursuant to 40 CFR 60.48b(a), the Permittee or operator of the boiler shall calibrate, maintain, and operate a continuous opacity monitoring systems (COMS) for measuring the opacity of emissions discharged to the atmosphere.

Recordkeeping

- B. Pursuant to 40 CFR 60.49b(f) (3), the Permittee shall keep records for COMS, including the records of the output of the system, the time when COMS is not in service and duration of each such event.

**b. i. Particulate Matter Requirements (PM)**

- A. Pursuant to 35 IAC 212.206, the emissions of particulate matter (PM) into the atmosphere in any one-hour period shall not exceed 0.15 kg/MW-hr (0.10 lb/mmBtu) of actual heat input from any fuel combustion emission unit using liquid fuel exclusively.
- B. Pursuant to Construction Permit #04090069, emissions from each boiler shall not exceed the following limits [T1]:

<u>Pollutant</u>	<u>Natural Gas Mode (Lb/Hr)</u>	<u>Fuel Oil Mode (Lb/Hr)</u>	<u>Total (Tons/Yr)</u>
PM/PM <sub>10</sub>	0.91	5.25	9.6

ii. Compliance Method (PM Requirements)

**Monitoring**

- A. Pursuant to Construction Permit #04090069, compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running total of 12 months of data)

**Testing**

- B. Pursuant to Section 39.5(7)(d), the boiler during fuel oil mode of operation shall be tested by using USEPA Method 1 to 4, 5 or USEPA approved test method, once every five years upon issuance of this permit.
- C. Pursuant to Section 39.5(7)(a), the Permittee shall also comply with the requirements in Section 7.1.

**Recordkeeping**

- D. Pursuant to Section 39.5(7)(a), the Permittee shall keep the records of each fuel combusted (mmscf/mo and mmscf/yr for natural gas; gal/mo and gal/yr for fuel oil).
- E. Pursuant to Section 39.5(7)(a), the Permittee shall keep the records of monthly and annual PM emissions when fired with natural gas and when fired with distillate fuel oil (pounds/hour, ton/month, and ton/year), including supporting calculations.
- F. Pursuant to Construction Permit #04090069, records of the periods when the fuel oil is used longer than 48 hours per calendar year.
- G. Pursuant to 40 CFR 60.49b(d)(1), the Permittee shall record and maintain records of the amounts of each fuel combusted during each day (mmscf for natural gas; gallons for fuel oil).
- H. Pursuant to Section 39.5(7)(a), the Permittee shall maintain records for hours of operation per calendar year for each mode of operation (fuel oil or natural gas, hr/yr).
- I. Pursuant to Section 39.5(7)(a), the Permittee shall also comply with the requirements in Section 7.1.

c. i. **Carbon Monoxide Requirements (CO)**

- A. Pursuant to 35 IAC 216.121, the emissions of carbon monoxide (CO) into the atmosphere from any fuel combustion emission unit with actual heat input greater than 2.9 MW (10 mmBtu/hr) shall not exceed 200 ppm, corrected to 50 percent excess air.
- B. Pursuant to Construction Permit #04090069, the boiler shall not exceed the following limits [T1]:

<u>Pollutant</u>	Natural Gas Mode (Lb/Hr)	Fuel Oil Mode (Lb/Hr)	Total (Tons/Yr)
CO	13.58	13.13	54.3

ii. Compliance Method (CO Requirements)

Testing

- A. Pursuant to Section 39.5(7) (d), the boiler during each mode of operation (natural gas and fuel oil) shall be tested by using USEPA Method 10 or USEPA approved method, once every five years upon issuance of this permit.
- B. Pursuant to Section 39.5(7) (a), The Permittee shall also comply with the requirements in Section 7.1.

Monitoring

- C. Pursuant to Construction Permit #04090069, compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months ( running total of 12 months of data).
- I. Pursuant to Section 39.5(7) (d), the Permittee shall comply with the inspection and tune-up requirements for the boiler as specified on 4.2.2(h) (i).

Recordkeeping

- D. Pursuant to Section 39.5(7) (b) of the Act, the Permittee shall keep the records of inspections and tune-ups performed.
- E. Pursuant to Construction Permit #04090069, records of the periods when the fuel oil is used longer than 48 hours per calendar year.
- F. Pursuant to Section 39.5(7) (a), the Permittee shall keep the records of each fuel combusted (mmscf/mo and mmscf/yr for natural gas; gal/mo and gal/yr for fuel oil).
- G. Pursuant to Section 39.5(7) (a), the Permittee shall keep the records of monthly and annual CO emissions when fired with natural gas and fired with distillate fuel oil (pounds/hour, ton/month, and ton/year), including supporting calculations.
- H. Pursuant to Section 39.5(7) (a), the Permittee shall maintain records for hours of operation per calendar year for each mode of operation (fuel oil or natural gas, hr/yr).
- I. Pursuant to Section 39.5(7) (a), the Permittee shall also comply with the requirements in Section 7.1.

d. i. Sulfur Dioxide Requirements (SO<sub>2</sub>)

- A. Pursuant to 40 CFR 60.42b(k) (2) Subpart Db, the boiler combusts very low sulfur oil, the sulfur content in the fuel oil# 2 contains no more than 0.5 weight percent sulfur, when combusted without SO<sub>2</sub> emission control, has a SO<sub>2</sub> emission rate equal to or less than 215 ng/J (0.5 lb/mmBtu) heat input, pursuant to the definition of "very low sulfur oil" in 40 CFR 60.41b(a).
- B. Pursuant to 35 IAC 214.161(b), the emission of sulfur dioxide (SO<sub>2</sub>) into the atmosphere in any one-hour period from any existing fuel combustion emission unit, burning liquid fuel exclusively shall not exceed 0.46 kg of sulfur dioxide per MW-hr of actual heat input when distillate fuel oil is burned (0.3 lb/mmBtu).

**Section 4 - Emission Unit Requirements**  
**4.2 - Natural Gas Boilers - Unit 1a**  
**40 CFR 60, Subpart Db**

- C. Pursuant to permit #04090069, sulfur content in the fuel oil shall not exceed 0.28 weight percent. [T1]
- D. Pursuant to Construction Permit #04090069, emissions from the boiler shall not exceed the following limits: [T1]

<u>Pollutant</u>	<u>Natural Gas Mode (Lb/Hr)</u>	<u>Fuel Oil Mode (Lb/Hr)</u>	<u>Total (Tons/Yr)</u>
SO <sub>2</sub>	0.54	17.50	33.9

ii. Compliance Method (SO<sub>2</sub> Requirements)

Testing

- A. Pursuant to Section 39.5(7)(d), the boiler during fuel oil mode of operation shall be tested by using USEPA Method 6 or USEPA approved method, once every five years upon issuance of this permit.
- B. Pursuant to Section 39.5(7)(a), the Permittee shall also comply with the requirements in Section 7.1.

Monitoring

- C. Pursuant to Section 39.5(7)(d), the Permittee shall take the samples of sulfur content in the fuel oil mode by using ASTM D7039-07. Such samples shall be taken at least once per year of the fuel stored on site or from any new shipment of fuel oil received.
- D. Pursuant to Construction Permit #04090069, compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months ( running total of 12 months of data).

Recordkeeping

- E. Pursuant to Section 39.5(7)(a), the Permittee shall keep the records of each fuel combusted.
- F. Pursuant to Section 39.5(7)(a), the Permittee shall keep the records of monthly and annual SO<sub>2</sub> emissions when fired with natural gas and when fired with distillate fuel oil, including supporting calculations (pounds/hour, ton/month, and ton/year).
- G. Pursuant to Section 39.5(7)(a), the Permittee shall keep the records of sulfur content in the fuel oil.
- H. Pursuant to 40 CFR 60.49b(r)(1), the Permittee shall obtain and maintain fuel receipts (such as a current, valid purchase contract, tariff sheet, or transportation contract) from the fuel supplier that certify that the oil meets the definition of distillate oil and gaseous fuel meets the definition of natural gas as defined in 40 CFR 60.41b and the applicable sulfur limit. Reports shall be submitted to the IEPA certifying that only very low sulfur oil meeting this definition, natural gas, very low fuels that are known to contain insignificant amounts of sulfur were combusted in the affected facility during the reporting period.
- I. Pursuant to Section 39.5(7)(a), the Permittee shall maintain records for hours of operation per calendar year for each mode of operation (fuel oil or natural gas, hr/yr).

J. Pursuant to Section 39.5(7)(a), the Permittee shall also comply with the requirements in Section 7.1.

e. i. Nitrogen Oxide Requirements (NO<sub>x</sub>)

- A. Pursuant to 40 CFR 60 Subpart Db, the boiler combusts distillate fuel oil# 2 that contain 0.05 weight percent nitrogen or less, pursuant to the definition of "distillate fuel oil" in 40 CFR 60.41b(a).
- B. Pursuant to 40 CFR 60.44b(a)(1)(ii), the emission of nitrogen oxides (NO<sub>x</sub>) from the boiler, including periods of startup, malfunction, and breakdown, shall not exceed 0.2 lb/mmBtu, on a 30-day rolling average, for high heat release steam generating units.
- C. Pursuant to Construction Permit #04090069, emissions from the boiler shall not exceed the following limits: [T1]

<u>Pollutant</u>	<u>Natural Gas Mode (Lb/Hr)</u>	<u>Fuel Oil Mode (Lb/Hr)</u>	<u>Total (Tons/Yr)</u>
NO <sub>x</sub>	19.91	35.00	79.6

ii. Compliance Method (NO<sub>x</sub> Requirements)

Monitoring

- A. Pursuant to Construction Permit #04090069, compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running total of 12 months of data).
- B. Pursuant to Section 40 CFR 60.48b(b)(1), the owner or operator of the boiler shall calibrate, maintain, and operate CEMS for measuring NO<sub>x</sub> and O<sub>2</sub> (or CO<sub>2</sub>) emissions discharged to the atmosphere, and shall record the output of the system, including the following:
  - I. Pursuant to under 40 CFR 60.48b(c), the CEMS shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.
  - II. Pursuant to 40 CFR 60.48b(d), the 1-hour average NO<sub>x</sub> emission rates measured by the continuous NO<sub>x</sub> monitor required by 40 CFR 60.48b(b)(1) and required under 40 CFR 60.13(h) shall be expressed in ng/J or lb/mmBtu heat input and shall be used to calculate the average emission rates under 40 CFR 60.44b. The 1-hour averages shall be calculated using the data points required under 40 CFR 60.13(h)(2).
  - III. Pursuant to 40 CFR 60.48b(e), the procedures under 40 CFR 60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems. For boiler combusting oil, or natural gas, the span value for NO<sub>x</sub> is determined using one of the procedures under 40 CFR 60.48b(e)(2).
  - IV. Pursuant to 40 CFR 60.48b(f), when NO<sub>x</sub> emission data are not obtained because of CEMS breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7 of Appendix A of this part, Method 7A of

Appendix A of this part, or other approved reference methods to provide emission data for a minimum of 75 percent of the operating hours in each steam generating unit operating day, in at least 22 out of 30 successive steam generating unit operating days.

Recordkeeping

- E. Pursuant to 40 CFR 60.49b(g), the owner or operator of the boiler subject to the NO<sub>x</sub> standards under 40 CFR 60.44b shall maintain records of the following information for the steam generating unit operating daily:
  - I. Calendar date;
  - II. The average hourly NO<sub>x</sub> emission rates (expressed as NO<sub>2</sub>) (ng/J or lb/mmBtu heat input) measured or predicted;
  - III. The 30-day average NO<sub>x</sub> emission rates (ng/J or lb/mmBtu heat input) calculated at the end of each steam generating unit operating day from the measured or predicted hourly nitrogen oxide emission rates for the preceding 30 steam generating unit operating days;
  - IV. Identification of the steam generating unit operating days when the calculated 30-day average NO<sub>x</sub> emission rates are in excess of the NO<sub>x</sub> emissions standards under 40 CFR 60.44b, with the reasons for such excess emissions as well as a description of corrective actions taken;
  - V. Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken;
  - VI. Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data;
  - VII. Identification of "F" factor used for calculations, method of determination, and type of fuel combusted;
  - VIII. Identification of the times when the pollutant concentration exceeded full span of the CEMS;
  - IX. Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3; and
  - X. Results of daily CEMS drift tests and quarterly accuracy assessments as required under Appendix F, Procedure 1 of this part.
- F. Pursuant to Section 39.5(7)(a), the Permittee shall keep records of hourly, monthly and annual NO<sub>x</sub> emissions (lb/hr, ton/month, and ton/year) with supporting calculations based on the CEMS data.
- G. Pursuant to Section 39.5(7)(a), the Permittee shall keep records of receipts from fuel supplier, which certify that the oil meets the definition of distillate fuel oil as defines in 40 CFR 60.41b(a).

**f. i. Volatile Organic Material Requirements (VOM)**

- A. Pursuant to Construction Permit #04090069, emissions from the boiler shall not exceed the following limits. [T1]

<u>Pollutant</u>	<u>Natural Gas Mode (Lb/Hr)</u>	<u>Fuel Oil Mode (Lb/Hr)</u>	<u>Total (Tons/Yr)</u>
VOM	0.72	0.70	2.9

ii. Compliance Method (VOM Requirements)

Monitoring

A. Pursuant to Construction Permit #04090069, compliance with annual limits shall be determined from on a monthly basis from the sum of the data for the current month plus the preceding 11 months ( running total of 12 months of data.

Recordkeeping

B. Pursuant to Section 39.5(7) (b) of the Act, the Permittee shall maintain records of VOM emissions from the boiler when fired with natural gas and when fired with distillate fuel oil (pounds/hour, ton/month, and ton/year), including supporting calculations.

g. i. Operational or Production Requirements

A. Pursuant to Construction Permit #04090069, the Boiler shall be operated with low NO<sub>x</sub> burners

B. Pursuant to Construction Permit #04090069, natural gas usage shall not exceed 276 million scf/month and 1,378 million scf/year and fuel oil usage shall not exceed 0.90 million gallons/month and 4.467 million gallons/year. [T1]

ii. Compliance Method (Operational or Production Requirements)

A. Pursuant to Construction Permit #04090069, compliance with annual limits shall be determined from a running total of 12 months of data.

B. Pursuant to Section 39.5(7) (a) of the Act, the Permittee shall keep the following records:

I. Distillate fuel oil usage (gallons/mo and gallons/year) and natural gas usage (mmscf/mo and mmscf/yr).

II. Records of the periods when the fuel oil is used longer than 48 hours per calendar year.

h. i. Work Practice Requirements

A. Pursuant to 40 CFR 63.11223 (a) and (b), for sources subject to the work practice standard or the management practices of a tune-up, the owner or operator must conduct a biennial performance tune-up. Each biennial tune-up must be conducted no more than 25 months after the previous tune-up. The owner and operator must conduct a tune-up as specified in paragraphs 40 CFR 63.11223 (b) (1) through (7).

I. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (the owner or operator may delay the burner inspection until the next scheduled unit shutdown, but the owner or operator must inspect each burner at least once every 36 months).

- II. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.
- III. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly.
- IV. Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available.
- V. Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made).
- VI. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within one week of startup.

ii. Compliance Method (Work Practice Requirements)

Recordkeeping

- A. Pursuant to 40 CFR 63.11223(b) (6), the owner or operator must maintain onsite records containing the information in paragraphs 40 CFR 63.112223(b) (6) (i) through (iii).
  - I. The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured before and after the tune-up of the boiler.
  - II. A description of any corrective actions taken as a part of the tune-up of the boiler.
  - III. The type and amount of fuel used over the 12 months prior to the biennial tune-up of the boiler.

**3. Non-Applicability Determinations**

- a. Pursuant to 35 IAC 218.303, because the boiler is a fuel combustion emission unit, the boiler is not subject to 35 IAC Part 218, Subpart G.
- b. Pursuant to 35 IAC 217.141, the existing boiler with an actual heat input less than 73.2 MW (250 mmBtu/hr) are not subject to 35 IAC 217.141(a) through (c).
- c. The boiler is not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because it does not use an add-on control device(s) to achieve compliance with the limitations for any regulated air pollutant.
- e. The boiler is not subject to the National Emission Standards for Hazardous Air Pollution (NESHAP) for National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR Part 63 Subpart DDDDD, because the boiler is not located at a major source HAP emissions.

**4. Other Requirements**

As of the date of issuance of this permit, there are no other requirements that need to be included in this Condition.

**5. Reporting Requirements**

The Permittee shall submit the following information pursuant to Section 39.5(7)(f) of the Act.

**a. Prompt Reporting**

- i. A. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the IEPA, Air Compliance Section, within 30 days of deviations from applicable requirements as follows unless a different period is specified by a particular permit provision, i.e., NSPS or NESHAP requirement:
  - Requirements in Conditions 4.2.2(a)(i), (b)(i), (c)(i), (d)(i), (e)(i), (f)(i), (g)(i), and (h)(i)
- B. All such deviations shall be summarized and reported as part of the Semiannual Monitoring Report required by Condition 3.5(b).
- ii. The Permittee shall notify the IEPA, Air Compliance Section, of all other deviations as part of the Semiannual Monitoring Reports required by in Condition 3.5(b).
- iii. The deviation reports shall contain at a minimum the following information:
  - A. Date and time of the deviation.
  - B. Emission unit(s) and/or operation involved.
  - C. The duration of the event.
  - D. Probable cause of the deviation.
  - E. Corrective actions or preventative measures taken.

**b. Federal Reporting**

- i. Pursuant to 40 CFR 60 Subpart Db, Appendix B, the owner or operator of the boiler must submit the performance evaluation of the CEMS using the applicable performance specifications.
- ii. Pursuant to 40 CFR 60.49b(r)(1), the Permittee shall submit reports to the IEPA certifying that only very low sulfur oil and natural gas that are known to contain insignificant amounts of sulfur were combusted in the affected facility during the reporting period. Such reports shall be submitted along with Semiannual Monitoring Reports required by in Condition 3.5(b).
- iii. Pursuant to 40 CFR 63.11223(b)(6), submit biennial report containing the information in paragraphs 40 CFR 63.11223(b)(6)(i) through (iii), as specified on condition 4.2.(2)(h)(ii)(A).
- iv. Pursuant to 40 CFR 63.11225(c), for boilers that are subject only to a requirement to conduct a biennial tune-up according to 40 CFR 63.11225(b) and not subject to emission limits or operating limits, the owner or operator may prepare only a biennial compliance report as specified in paragraphs (b)(1) through (4).

**c. State Reporting**

- i. Pursuant to 35 IAC 217.155(b), the boiler shall demonstrate compliance by submitting an Initial Compliance Certification. By the applicable compliance date

set forth under 35 IAC 217.152, an owner or operator that is demonstrating compliance through the use of a continuous emissions monitoring system must certify to the IEPA that the boiler will be in compliance with the applicable emissions limitation of Subpart E by January 1, 2015. The compliance certification must include a certification of the installation and operation of a continuous emissions monitoring system required under Section 35 IAC 217.157 and the monitoring data necessary to demonstrate that the subject emission unit will be in initial compliance.

- ii. Pursuant to 35 IAC 217.156(g), the owner or operator of the boiler subject to Subpart E, must notify the IEPA of any exceedances of an applicable emissions limitation of Subpart D and E by sending the applicable report with an explanation of the causes of such exceedances to the IEPA within 30 days following the end of the applicable compliance period in which the emissions limitation was not met.
- iii. Pursuant to 35 IAC 217.156(j), the owner or operator of an emission unit subject to the requirements of 35 IAC 217.157 and demonstrating compliance through the use of a continuous emissions monitoring system must submit to the IEPA a report within 30 days after the end of each calendar quarter. This report must include the following:
  - A. Information identifying and explaining the times and dates when continuous emissions monitoring for NO<sub>x</sub> was not in operation, other than for purposes of calibrating or performing quality assurance or quality control activities for the monitoring equipment; and
  - B. An excess emissions and monitoring systems performance report in accordance with the requirements of 40 CFR 60.7(c) and (d) and 40 CFR 60.13, or 40 CFR 75, or an alternate procedure approved by the IEPA and USEPA.

**4.3 Natural Gas Boilers, Ryan Field**

**1. Emission Units and Operations**

<i>Emission Units</i>	<i>Pollutants Being Regulated</i>	<i>Original Construction Date</i>	<i>Modification/ Reconstruction Date</i>	<i>Air Pollution Control Devices or Measures</i>	<i>Monitoring Devices</i>
Two 21.0 mmBtu/hr Natural Gas Fired Boiler (KEW3-KEW4)	VOM, CO, NO <sub>x</sub>	1997	None	None	None

**2. Applicable Requirements**

For the emission units in Condition 4.3.1 above, the Permittee shall comply with the following applicable requirements pursuant to Sections 39.5(7)(a), 39.5(7)(b), and 39.5(7)(d) of the Act.

**a. i. Opacity Requirements**

A. Pursuant to 35 IAC 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to 35 IAC 212.122.

ii. Compliance Method (Opacity Requirements)

Monitoring

A. Pursuant to Sections 39.5(7)(b) and (d) of the Act, at a minimum, the Permittee shall perform observations for opacity on each boiler in accordance with Method 22 for visible emissions at least once every calendar year. If visible emissions are observed, the Permittee shall take corrective action within 4 hours of such observation. Corrective action may include, but is not limited to, shut down of the boiler, maintenance and repair, and/or adjustment of fuel usage. If corrective action was taken, the Permittee shall perform a follow up observation for visible emissions in accordance with Method 22. If visible emissions continue, then measurements of opacity in accordance with Method 9 and Section 7.1 shall be conducted within 7 days in accordance with Condition 2.4.

Recordkeeping

B. Pursuant to Section 39.5(7)(b) of the Act, the Permittee shall keep records for each observation for opacity conducted. These records shall include, at a minimum: date and time the observation was performed, name(s) of observing personnel, identification of which equipment was observed, whether or not the equipment was running properly, the findings of the observation including the presence of any visible emissions, and a description of any corrective action taken including if the corrective action took place within 4 hours of the observation.

C. Pursuant to Section 39.5(7)(b) of the Act, if required, the Permittee shall keep records for all opacity measurements made in accordance with USEPA Method 9.

**b. i. Carbon Monoxide Requirements (CO)**

A. Pursuant to 35 IAC 216.121, no person shall cause or allow the emission of carbon monoxide (CO) into the atmosphere from any fuel combustion emission

source with actual heat input greater than 2.9 MW (10 mmBtu/hr) to exceed 200 ppm, corrected to 50 percent excess air.

- B. Pursuant to Construction Permit #97020094, emissions from each boiler shall not exceed the following limits: [T1]

Carbon Monoxide (Ton/Month)	(Ton/Year)
0.56	6.75

ii. Compliance Method (CO Requirements)

Monitoring

- A. Pursuant to Section 39.5(7)(d), the Permittee shall comply with the following inspection and tune-up requirements for the boilers. Inspections/tune-ups shall be conducted annually:
- I. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (the Permittee may delay the burner inspection until the next scheduled unit shutdown).
  - II. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.
  - III. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly.
  - IV. Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available.
  - V. Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made).
- B. Pursuant to Construction Permit #97020094, compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

Recordkeeping

- C. Pursuant to Section 39.5(7)(b) of the Act, the Permittee shall keep records of each inspection performed along with a maintenance, repair log and tune-ups performed. These records shall include, at a minimum: date and time inspections were performed, name(s) of inspection personnel, identification of equipment being inspected, findings of the inspections, operation and maintenance procedures, and a description of all maintenance and repair activities performed including if the activity resulted in a modification or reconstruction of the piece of equipment.
- D. Pursuant to Section 39.5(7)(b) of the Act, the Permittee shall maintain records of CO emissions from the boilers with supporting calculations (ton/month, and ton/year).
- E. Pursuant to Section 39.5(7)(d), of the Act, the Permittee shall maintain inspection/tune-up reports containing the following information:

- I. The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured before and after the tune-up of the boiler.
- II. A description of any corrective actions taken as a part of the tune-up of the boiler.
- III. The type and amount of fuel used over the 12 months prior to the tune-up of the boiler.

c. i. **Nitrogen Oxide Requirements (NO<sub>x</sub>)**

A. Pursuant to Construction Permit #97020094, emissions from each boiler shall not exceed the following limits: [T1]

Nitrogen Oxide	
<u>(Ton/Month)</u>	<u>(Ton/Year)</u>
0.46	5.56

ii. Compliance Method (NO<sub>x</sub> Requirements)

Recordkeeping

- A Pursuant to Section 39.5(7)(b) of the Act, the Permittee shall maintain records of the NO<sub>x</sub>, emissions from the boilers including supporting calculations (ton/month, and ton/year).
- B Pursuant to Construction Permit #97020094, compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

<b>3. Non-Applicability Determinations</b>
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- a. The boilers are not subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers Area Source, 40 CFR Part 63 Subparts A and JJJJJJ, because the boilers are gas-fired boilers as defined in 40 CFR 63.11237 pursuant to 40 CFR 63.11195(e).
- b. The boilers are not subject to the National Emission Standards for Hazardous Air Pollution (NESHAP) for National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heat, 40 CFR Part 63 Subpart DDDDD, because the boilers are not located in a major source of HAP emissions.
- c. The boilers are not subject to the New Source Performance Standards (NSPS) Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units, 40 CFR Part 60, Subpart Db, because each boiler heat input is less than 100 mmBtu/hr, pursuant to 40 CFR 60.40b(a).
- d. The boilers are not subject to 35 IAC 212.206 and 35 IAC 214.161 because the boilers use natural gas exclusively.
- e. Pursuant to 35 IAC 218.303, because these are the fuel combustion emission units, the boilers are not subject to 35 IAC Part 218, Subpart G.
- f. The boilers are not subject to 35 IAC 217.141 because the heat input of the boilers are less than 250 mmBtu/hr.
- g. The boilers are not subject to 35 IAC 217 Subparts D and E, because each boiler heat input is less than 100 mmBtu/hr

- h. The boilers are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the boilers do not use an add-on control device to achieve compliance with an emission limitation or standard.

**4. Other Requirements**

As of the date of issuance of this permit, there are no other requirements that need to be included in this Condition.

**5. Reporting Requirements**

The Permittee shall submit the following information pursuant to Section 39.5(7)(f) of the Act. Addresses are included in Attachment 3.

**a. Prompt Reporting**

- i. A. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the IEPA, Air Compliance Section, within 30 days of deviations from applicable requirements as follows unless a different period is specified by a particular permit provision, i.e., NSPS or NESHAP requirement:
- I. Requirements in Conditions 4.3.2(a)(i) through 4.3.2(c)(i).
- B. All such deviations shall be summarized and reported as part of the Semiannual Monitoring Report required by Condition 3.5(b).
- ii. The Permittee shall notify the IEPA, Air Compliance Section, of all other deviations as part of the Semiannual Monitoring Report required by Condition 3.5(b).
- iii. The deviation reports shall contain at a minimum the following information:
- A. Date and time of the deviation.
- B. Emission unit(s) and/or operation involved.
- C. The duration of the event.
- D. Probable cause of the deviation.
- E. Corrective actions or preventative measures taken.

**4.4 Natural Gas Boilers, Administration Building**

**1. Emission Units and Operations**

<i>Emission Units</i>	<i>Pollutants Being Regulated</i>	<i>Original Construction Date</i>	<i>Modification/ Reconstruction Date</i>	<i>Air Pollution Control Devices or Measures</i>	<i>Monitoring Devices</i>
Two 4 mmBtu/hr Natural Gas Fired Boilers Adm. Building Unit 1c (HS1 and HS2)	NA	February 1976	None	None	None

**2. Applicable Requirements**

For the emission units in Condition 4.4.1 above, the Permittee shall comply with the following applicable requirements pursuant to Sections 39.5(7) (a), 39.5(7) (b), and 39.5(7) (d) of the Act.

**a. i. Opacity Requirements**

A. Pursuant to 35 IAC 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to 35 IAC 212.122.

**ii. Compliance Method (Opacity Requirements)**

Monitoring

A. Pursuant to Sections 39.5(7) (b) and (d) of the Act, at a minimum, the Permittee shall perform observations for opacity on each boiler in accordance with Method 22 for visible emissions at least once every calendar year. If visible emissions are observed, the Permittee shall take corrective action within 4 hours of such observation. Corrective action may include, but is not limited to, shut down of the boiler, maintenance and repair, and/or adjustment of fuel usage. If corrective action was taken, the Permittee shall perform a follow up observation for visible emissions in accordance with Method 22. If visible emissions continue, then measurements of opacity in accordance with Method 9 and Section 7.1 shall be conducted within 7 days in accordance with Condition 2.4.

Recordkeeping

B. Pursuant to Section 39.5(7) (b) of the Act, the Permittee shall keep records for each observation for opacity conducted. These records shall include, at a minimum: date and time the observation was performed, name(s) of observing personnel, identification of which equipment was observed, whether or not the equipment was running properly, the findings of the observation including the presence of any visible emissions, and a description of any corrective action taken including if the corrective action took place within 4 hours of the observation.

C. Pursuant to Section 39.5(7) (b) of the Act, if required, the Permittee shall keep records for all opacity measurements made in accordance with USEPA Method 9.

D. Pursuant to Section 39.5(7) (b) of the Act, the Permittee shall keep records of each inspection performed along with a maintenance, and repair log. These records shall include, at a minimum:

- date and time inspections were performed,

- name(s) of inspection personnel,
- identification of equipment being inspected,
- findings of the inspections,
- operation and maintenance procedures,
- description of all maintenance and repair activities performed including if the activity resulted in a modification or reconstruction of the piece of equipment.

**3. Non-Applicability Determinations**

- a. The boilers are not subject to the New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR Part 60 Subparts A and Dc, because the boiler has a design heat input capacity of less than 2.9 MW (10 mmBtu/hr) pursuant to 40 CFR 60.40c(a).
- b. The boilers are not subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers Area Source, 40 CFR Part 63 Subparts A and JJJJJJ, because the boiler is a gas-fired boiler as defined in 40 CFR 63.11237 pursuant to 40 CFR 63.11195(e).
- c. The boilers are not subject to the New Source Performance Standards (NSPS) Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units, 40 CFR Part 60, Subpart Db, because each boiler heat input is less than 100 mmBtu/hr, pursuant to 40 CFR 60.40b(a).
- d. The boilers are not subject to the National Emission Standards for Hazardous Air Pollution (NESHAP) for National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heat, 40 CFR Part 63 Subpart DDDDD, because the boilers is s not located at a major source of HAP emissions.
- e. The boilers are not subject to 35 IAC 212.206 and 35 IAC 214.161 because the boiler uses natural gas exclusively.
- f. Pursuant to 35 IAC 215.303, the provisions of 35 IAC 215.301 and 215.302 shall not apply to fuel combustion emission sources.
- g. The boiler is not subject to 35 IAC 216.121, because the heat input of the boiler is less than 10 mmBtu/hr).
- h. The boiler is not subject to 35 IAC 217.141 because the heat input of the boiler is less than 250 mmBtu/hr.
- i. The boiler is not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the boiler does not use an add-on control device to achieve compliance with an emission limitation or standard.
- j. The boilers are not subject to 35 IAC 217 Subparts D and E, because each boiler heat input is less than 100 mmBtu/hr.

**4. Other Requirements**

As of the date of issuance of this permit, there are no other requirements that need to be included in this Condition.

**5. Reporting Requirements**

The Permittee shall submit the following information pursuant to Section 39.5(7)(f) of the Act. Addresses are included in Attachment 3.

**a. Prompt Reporting**

- i. A. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the IEPA, Air Compliance Section, within 30 days of deviations from applicable requirements as follows unless a different period is specified by a particular permit provision, i.e., NSPS or NESHAP requirement:
  - I. Requirements in Conditions 4.4.2(a)(i).
- B. All such deviations shall be summarized and reported as part of the Semiannual Monitoring Report required by Condition 3.5(b).
- ii. The Permittee shall notify the IEPA, Air Compliance Section, of all other deviations as part of the Semiannual Monitoring Report required by Condition 3.5(b).
- iii. The deviation reports shall contain at a minimum the following information:
  - A. Date and time of the deviation.
  - B. Emission unit(s) and/or operation involved.
  - C. The duration of the event.
  - D. Probable cause of the deviation.
  - E. Corrective actions or preventative measures taken.

**4.5 Natural Gas Fired Boilers, Research Laboratory**

**1. Emission Units and Operations**

Emission Units	Pollutants Being Regulated	Original Construction Date	Modification/ Reconstruction Date	Air Pollution Control Devices or Measures	Monitoring Devices
Two 12.55 mmBtu/hr Natural Gas Fired Boilers (CB1 and CB2)	CO	1987	N/A	None	None

**2. Applicable Requirements**

For the emission units in Condition 4.5.1 above, the Permittee shall comply with the following applicable requirements pursuant to Sections 39.5(7) (a), 39.5(7) (b), and 39.5(7) (d) of the Act.

**a. i. Opacity Requirements**

A. Pursuant to 35 IAC 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to 35 IAC 212.122.

**ii. Compliance Method (Opacity Requirements)**

Monitoring

A. Pursuant to Sections 39.5(7) (b) and (d) of the Act, at a minimum, the Permittee shall perform observations for opacity on each boiler in accordance with Method 22 for visible emissions at least once every calendar year. If visible emissions are observed, the Permittee shall take corrective action within 4 hours of such observation. Corrective action may include, but is not limited to, shut down of the boiler, maintenance and repair, and/or adjustment of fuel usage. If corrective action was taken, the Permittee shall perform a follow up observation for visible emissions in accordance with Method 22. If visible emissions continue, then measurements of opacity in accordance with Method 9 and Section 7.1 shall be conducted within 7 days in accordance with Condition 2.4.

Recordkeeping

- B. Pursuant to Section 39.5(7) (b) of the Act, the Permittee shall keep records for each observation for opacity conducted. These records shall include, at a minimum: date and time the observation was performed, name(s) of observing personnel, identification of which equipment was observed, whether or not the equipment was running properly, the findings of the observation including the presence of any visible emissions, and a description of any corrective action taken including if the corrective action took place within 4 hours of the observation.
- C. Pursuant to Section 39.5(7) (b) of the Act, if required, the Permittee shall keep records for all opacity measurements made in accordance with USEPA Method 9.

**b. i. Carbon Monoxide Requirements (CO)**

A. Pursuant to 35 IAC 216.121, no person shall cause or allow the emission of carbon monoxide (CO) into the atmosphere from any fuel combustion emission source with actual heat input greater than 2.9 MW (10 mmBtu/hr) to exceed 200 ppm, corrected to 50 percent excess air.

ii. Compliance Method (CO Requirements)

Monitoring

- A. Pursuant to Section 39.5(7)(d), the Permittee shall comply with the following inspection and tune-up requirements for the boilers. Inspections/tune-ups shall be conducted biannually:
- I. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (the Permittee may delay the burner inspection until the next scheduled unit shutdown).
  - II. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.
  - III. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly.
  - IV. Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available.
  - V. Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made).

Recordkeeping

- B. Pursuant to Section 39.5(7)(d), the Permittee shall maintain onsite records of tune-ups containing the following information:
- The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured before and after the tune-up of the boiler.
  - A description of any corrective actions taken as a part of the tune-up of the boiler.
  - The type and amount of fuel used over the 12 months prior to the biennial tune-up of the boiler.
- C. Pursuant to Section 39.5(7)(b) of the Act, the Permittee shall keep records of each inspection performed along with a maintenance, repair log and and tune-ups performed. These records shall include, at a minimum:
- date and time inspections were performed,
  - name(s) of inspection personnel,
  - identification of equipment being inspected,
  - findings of the inspections,
  - operation and maintenance procedures,
  - description of all maintenance and repair activities performed including if the activity resulted in a modification or reconstruction of the piece of equipment.

**3. Non-Applicability Determinations**

- a. The boilers are not subject to the New Source Performance Standards (NSPS) for Small Industrial Commerce Institutional Steam Generating Units, 40 CFR Part 60, Subpart Dc, because the boilers were constructed or reconstructed before Jun 9, 1989 pursuant to 40 CFR 60.40c(a).
- b. The boilers are not subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers Area Source, 40 CFR Part 63 Subparts A and JJJJJJ, because the boiler is a gas-fired boiler as defined in 40 CFR 63.11237 pursuant to 40 CFR 63.11195(e).
- c. The boilers are not subject to the National Emission Standards for Hazardous Air Pollution (NESHAP) for National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heat, 40 CFR Part 63 Subpart DDDDD, because the boilers are not located at a major source of HAP emissions.
- d. The boilers are not subject to the New Source Performance Standards (NSPS) Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units, 40 CFR Part 60, Subpart Db, because each boiler heat input is less than 100 mmBtu/hr, pursuant to 40 CFR 60.40b(a).
- e. The boilers are not subject to 35 IAC 212.206 because the boilers use natural gas exclusively.
- f. The boilers are not subject to 35 IAC 214.161 because the boilers use natural gas exclusively.
- g. Pursuant to 35 IAC 215.303, the provisions of Sections 215.301 and 215.302 shall not apply to fuel combustion emission sources.
- h. The boilers are not subject to 35 IAC 217.141 because the actual heat input is less than 250 mmBtu/hr.
- i. The boilers are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the boilers do not use an add-on control device to achieve compliance with an emission limitation or standard.
- j. The boilers are not subject to 35 IAC 217 Subparts D and E, because each boiler heat input is less than 100 mmBtu/hr.

**4. Other Requirements**

As of the date of issuance of this permit, there are no other requirements that need to be included in this Condition.

**5. Reporting Requirements**

The Permittee shall submit the following information pursuant to Section 39.5(7)(f) of the Act. Addresses are included in Attachment 3.

**a. Prompt Reporting**

- i. A. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the Illinois EPA, Air Compliance Section, within 30 days of deviations from applicable requirements as follows:
  - I. Requirements in Conditions 4.5.2(a)(i) and 4.5.2(b)(i).

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Date Issued: 09/04/13

- B. All such deviations shall be summarized and reported as part of the Semiannual Monitoring Report required by Condition 3.5(b).
- ii. The Permittee shall notify the Illinois EPA, Air Compliance Section, of all other deviations as part of the Semiannual Monitoring Reports required by Condition 3.5(b).
- iii. The deviation reports shall contain at a minimum the following information:
  - A. Date and time of the deviation.
  - B. Emission unit(s) and/or operation involved.
  - C. The duration of the event.
  - D. Probable cause of the deviation.
  - E. Corrective actions or preventative measures taken.

**4.6 Gasoline Storage Tank and Dispensing Operations**

**1. Emission Units and Operations**

Emission Units	Pollutants Being Regulated	Original Construction Date	Modification/ Reconstruction Date	Air Pollution Control Devices or Measures	Monitoring Devices
One Gasoline Storage Tank (500 gallons capacity)	VOM	N/A	None	Submerged Loading Pipe, Stage II Vapor Recovery System	None

**2. Applicable Requirements**

For the emission units in Condition 4.6.1 above, the Permittee shall comply with the following applicable requirements pursuant to 39.5(7) (a), 39.5(7) (b), and 39.5(7) (d) of the Act.

**a. i. Work Practice Requirements (35 IAC Part 218)**

- A. Pursuant to 35 IAC 218.122(b), no person shall cause or allow the loading of any organic material into any stationary tank having a storage capacity of greater than 946 l (250 gal), unless such tank is equipped with a permanent submerged loading pipe.
- B. Pursuant to 35 IAC 218.583(a), the transfer of gasoline from any delivery vessel into the stationary storage tank at a gasoline dispensing operations shall include the following:
  - I. The tank is equipped with a submerged loading pipe.

**ii. Compliance Method (State Work Practice Requirements)**

Monitoring

- A. Pursuant to Section 39.5(7) (a) of the Act, the Permittee shall conduct semi-annual inspections of the gasoline storage tank and dispensing operation while the tank is being filled by inspecting at least the following:
  - Retractors, hoses, breakaways, swivels.
  - Adapters, vapor caps, rubber gaskets, and spill containment buckets.
  - Gauges and meters.
  - Submerged loading pipe is physically present and the condition of the pipe for integrity.

Recordkeeping

- B. Pursuant to Section 39.5(7) (a) and (d) of the Act, the Permittee shall maintain the records of conducted inspections, with a date and results of such inspections.
- C. Pursuant to Section 39.5(7) (a) and (d) of the Act, the Permittee shall keep a copy of operating instructions and maintenance log.

**b. i. Work Practice Requirements (40 CFR 63 Subpart CCCCCC)**

- A. Pursuant to 40 CFR 63.1116(a), the Permittee shall fulfill at least the following requirements in regards to the gasoline dispensing facility with monthly throughput of less than 10,000 gallons of gasoline:

- I. Minimize gasoline spills;
- II. Clean up spills as expeditiously as practicable;
- III. Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use; and
- IV. Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.

ii. Compliance Method (Federal Work Practice Requirements)

Monitoring

- A. Pursuant to Section 39.5(7)(a) of the Act, the Permittee shall conduct semi-annual inspections of the gasoline storage tank and dispensing operation while the tank is being filled by inspecting at applicable operating requirements established by 40 CFR 63 Subpart CCCCCC.

Recordkeeping

- B. Pursuant to Section 39.5(7)(a) and (d) of the Act, the Permittee shall keep on site written operating procedures or instructions on how to implement operating requirements established by 40 CFR 63 Subpart CCCCCC.
- C. Pursuant to Section 39.5(7)(a) and (d) of the Act, the Permittee shall maintain the records of conducted inspections, with a date and results of such inspections.

c. i. Operational and Production Requirements

- A. Pursuant to Section 39.5(7)(a) of the Act, the average monthly gasoline throughput shall not exceed 10,000 gallons.

ii. Compliance Method (Operational and Production Requirements)

Recordkeeping

- A. Pursuant to Section 39.5(7)(a) and (d) of the Act, the Permittee shall keep monthly and annual records of gasoline throughput.

**3. Non-Applicability Determinations**

- a. The gasoline storage tank and associated dispensing operations are not subject to 40 CFR 64, Compliance Assurance Monitoring (CAM) because these operations do not have potential pre-control device emissions of the applicable regulated air pollutant that equals or exceeds major source threshold levels.
- b. The gasoline storage tank is not subject to 35 IAC 218.301 because the gasoline storage tank does not use organic material as defined in 35 IAC 211.4250(b).
- c. The gasoline storage tank is not subject to 35 IAC 218.586(c) because the average monthly gasoline throughput is less than 10,000 gallons.
- d. The gasoline storage tank is not subject to 35 IAC 218.581 and 218.582 the tank is not a bulk gasoline plant or bulk gasoline terminal as defined in 35 IAC 211.790 and 211.810, respectively.

**4. Other Requirements**

As of the date of issuance of this permit, there are no such requirements that need to be included for gasoline storage tank.

**5. Reporting Requirements**

The Permittee shall submit the following information pursuant to 39.5(7)(f) of the Illinois Environmental Protection Act.

**a. Prompt Reporting**

- i. A. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the Illinois EPA, Air Compliance Section, within 30 days of deviations from applicable requirements as follows:
  - Requirements in Conditions 4.6.2(a)(i), (b)(i) and (c)(i).
- B. All such deviations shall be summarized and reported as part of the Semiannual Monitoring Report required by Condition 3.5(b).
- ii. The Permittee shall notify the Illinois EPA, Air Compliance Section, of all other deviations as part of the Semiannual Monitoring Reports required by in Condition 3.5(b).
- iii. The deviation report shall contain at a minimum the following information:
  - A. Date and time of the deviation.
  - B. Emission unit(s) and/or operation involved.
  - C. The duration of the event.
  - D. Probable cause of the deviation.
  - E. Corrective actions or preventative measures taken.

**Section 5 - Additional Title I Requirements**

This Section is reserved for Title I requirements not specified in Sections 3 or 4. As of the date of issuance of this permit, there are no Title I requirements that need to be separately addressed in this Section.

## Section 6 - Insignificant Activities Requirements

### 1. Insignificant Activities Subject to Specific Regulations

Pursuant to 35 IAC 201.210 and 201.211, the following activities at the source constitute insignificant activities. Pursuant to Sections 9.1(d) and 39.5(6)(a) of the Act, the insignificant activities are subject to specific standards promulgated pursuant to Sections 111, 112, 165, or 173 of the Clean Air Act. The Permittee shall comply with the following applicable requirements:

<i>Insignificant Activity</i>	<i>Number of Units</i>	<i>Insignificant Activity Category</i>
Gas turbines and stationary reciprocating internal combustion engines < 112 kW (150 HP)	31	35 IAC 201.210(a)(15)
Gas Turbines and Engines between 112 KW and 1,118 KW (150 and 1,500 HP) that are emergency or standby units.	4	35 IAC 201.210(a)(16)

#### a. Applicable Requirements

Pursuant to Sections 39.5(7)(a), 39.5(7)(b), and 39.5(7)(d) of the Act, the Permittee shall comply with the following applicable requirements in addition to the applicable requirements in Condition 6.4:

- i. Standards of Performance for New Stationary Sources - Engines
  - A. Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40 CFR 60 Subpart IIII)
    - I. Pursuant to 40 CFR 60.4205(b) and 60.4202(a)(2), the engine is subject to the emission limitations of 40 CFR 89.112 and 89.113.
    - II. The engine shall meet the applicable general provisions of 40 CFR 60 Subpart A. See Condition 7.3(a).
    - III. The engine shall comply with the applicable emission limitations and operating limitations; general compliance requirements; testing and initial compliance requirements; continuous compliance requirements; notifications, reports, and records; and other requirements and information of 40 CFR 60 Subpart IIII and 40 CFR 89 Subpart B.
- ii. National Emission Standards for Hazardous Air Pollutants for Source Categories - Engines
  - A. National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40 CFR 63 Subpart ZZZZ)
    - I. Pursuant to 40 CFR 63.6590(c), the engine must meet the requirements of Subpart ZZZZ by meeting the requirements of 40 CFR 60 Subpart IIII.

### 2. Insignificant Activities in 35 IAC 201.210(a)

In addition to any insignificant activities identified in Condition 6.1, the following additional activities at the source constitute insignificant activities pursuant to 35 IAC 201.210 and 201.211:

**Section 6 - Insignificant Activities Requirements**

<i>Insignificant Activity</i>	<i>Number of Units</i>	<i>Insignificant Activity Category</i>
Direct combustion units used for comfort heating and fuel combustion emission units as further detailed in 35 IAC 201.210(a) (4)	122	35 IAC 201.210(a) (4)
Storage tanks of virgin or rerefined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oil.	4	35 IAC 201.210(a) (11)
Gas turbines and stationary reciprocating internal combustion engines < 112 kW (150 HP).	31	35 IAC 201.210(a) (15)
Gas Turbines and Engines between 112 KW and 1,118 KW (150 and 1,500 HP) that are emergency or standby units.	4	35 IAC 201.210(a) (16)

**3. Insignificant Activities in 35 IAC 201.210(b)**

Pursuant to 35 IAC 201.210, the source has identified insignificant activities as listed in 35 IAC 201.210(b) (1) through (28) as being present at the source. The source is not required to individually list the activities.

**4. Applicable Requirements**

Insignificant activities in Conditions 6.1 and 6.2 are subject to the following general regulatory limits notwithstanding status as insignificant activities. The Permittee shall comply with the following requirements, as applicable:

- a. Pursuant to 35 IAC 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to 35 IAC 212.122, except as provided in 35 IAC 212.123(b).
- b. Pursuant to 35 IAC 212.321 or 212.322 (see Conditions 7.2(a) and (b)), no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units at a source or premises, exceed the allowable emission rates specified 35 IAC 212.321 or 212.322 and 35 IAC Part 266.
- c. Pursuant to 35 IAC 218.301, no person shall cause or allow the discharge of more than 8 lbs/hr of organic material into the atmosphere from any emission source, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 215 Subpart K shall apply only to photochemically reactive material.
- d. Pursuant to 35 IAC 218.182, for each cold cleaning degreaser, the Permittee shall comply with the applicable equipment and operating requirements of 35 IAC 218.182, except as provided in 35 IAC 218.181.

**5. Compliance Method**

Pursuant to Section 39.5(7) (b) of the Act, the source shall maintain records of the following items for the insignificant activities in Conditions 6.1 and 6.2:

- a. List of all insignificant activities, including insignificant activities added as specified in Condition 6.6, the categories the insignificant activities fall under, and supporting calculations as needed.
- b. Potential to emit emission calculations before any air pollution control device for each insignificant activity.

**6. Notification Requirements for Insignificant Activities**

The source shall notify the IEPA accordingly to the addition of insignificant activities:

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**a. Notification 7 Days in Advance**

- i. Pursuant to 35 IAC 201.212(b), 35 IAC 201.146(kkk), and Sections 39.5(12) (a) and (b) of the Act; for the addition of an insignificant activity that would be categorized under 35 IAC 201.210(a)(1) and 201.211 and is not currently identified in Conditions 6.1 or 6.2, a notification to the IEPA Permit Section 7 days in advance of the addition of the insignificant activity is required. A construction permit is not required. Addresses are included in Attachment 3. The notification shall include the following pursuant to 35 IAC 201.211(b):
  - A. A description of the emission unit including the function and expected operating schedule of the unit.
  - B. A description of any air pollution control equipment or control measures associated with the emission unit.
  - C. The emissions of regulated air pollutants in lb/hr and ton/yr.
  - D. The means by which emissions were determined or estimated.
  - E. The estimated number of such emission units at the source.
  - F. Other information upon which the applicant relies to support treatment of such emission unit as an insignificant activity.
- ii. Pursuant to 35 IAC 201.212(b), 35 IAC 201.146(kkk), and Sections 39.5(12) (a) and (b) of the Act; for the addition of an insignificant activity that would be categorized under 35 IAC 201.210(a)(2) through 201.210(a)(18) and is not currently identified in Conditions 6.1 or 6.2, a notification to the IEPA Permit Section 7 days in advance of the addition of the insignificant activity is required. A construction permit is not required. Addresses are included in Attachment 3.
- iii. Pursuant to Sections 39.5(12) (a) (i) (b) and 39.5(12) (b) (iii) of the Act, the permit shield described in Section 39.5(7) (j) of the Act (see Condition 2.7) shall not apply to any change made in Condition 6.6(a) above.

**b. Notification Required at Renewal**

Pursuant to 35 IAC 201.212(a) and 35 IAC 201.146(kkk), for the addition of an insignificant activity that would be categorized under 35 IAC 201.210(a) and is currently identified in Conditions 6.1 or 6.2, a notification is not required until the renewal of this permit. A construction permit is not required.

**c. Notification Not Required**

Pursuant to 35 IAC 201.212(c) and 35 IAC 201.146(kkk), for the addition of an insignificant activity that would be categorized under 35 IAC 201.210(b) as describe in Condition 6.3, a notification is not required. A construction permit is not required.

## Section 7 - Other Requirements

### 1. Testing

- a. Pursuant to Section 39.5(7) (a) of the Act, a written test protocol shall be submitted at least sixty (60) days prior to the actual date of testing, unless it is required otherwise in applicable state or federal statutes. The IEPA may at the discretion of the Compliance Section Manager (or designee) accept protocol less than 60 days prior to testing provided it does not interfere with the IEPA's ability to review and comment on the protocol and does not deviate from the applicable state or federal statutes. The protocol shall be submitted to the IEPA, Compliance Section and IEPA, Stack Test Specialist for its review. Addresses are included in Attachment 3. This protocol shall describe the specific procedures for testing, including as a minimum:
  - i. The name and identification of the emission unit(s) being tested.
  - ii. Purpose of the test, i.e., permit condition requirement, IEPA or USEPA requesting test.
  - iii. The person(s) who will be performing sampling and analysis and their experience with similar tests.
  - iv. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and the means by which the operating parameters for the emission unit and any control equipment will be determined.
  - v. The specific determinations of emissions and operation which are intended to be made, including sampling and monitoring locations.
  - vi. The test method(s) that will be used, with the specific analysis method, if the method can be used with different analysis methods. Include if emission tests averaging of 35 IAC 283 will be used.
  - vii. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with detailed justification. This shall be included as a waiver of the test procedures. If a waiver has already been obtained by the IEPA or USEPA, then the waiver shall be submitted.
  - viii. Any proposed use of an alternative test method, with detailed justification. This shall be included as a waiver of the test procedures. If a waiver has already been obtained by the IEPA or USEPA, then the waiver shall be submitted.
  - ix. Sampling of materials, QA/QC procedures, inspections, etc.
- b. The IEPA, Compliance Section shall be notified prior to these tests to enable the IEPA to observe these tests pursuant to Section 39.7(a) of the Act as follows:
  - i. Notification of the expected date of testing shall be submitted in writing a minimum of thirty (30) days prior to the expected test date, unless it is required otherwise in applicable state or federal statutes.
  - ii. Notification of the actual date and expected time of testing shall be submitted in writing a minimum of five (5) working days prior to the actual date of the test. The IEPA may at its discretion of the Compliance Section Manager (or designee) accept notifications with shorter advance notice provided such notifications will not interfere with the IEPA's ability to observe testing.
- c. Copies of the Final Report(s) for these tests shall be submitted to the IEPA, Compliance Section within fourteen (14) days after the test results are compiled and finalized but

no later than ninety (90) days after completion of the test, unless it is required otherwise in applicable state or federal statutes or the IEPA may at the discretion of the Compliance Section Manager (or designee) an alternative date is agreed upon in advance pursuant to Section 39.7(a) of the Act. The Final Report shall include as a minimum:

- i. General information including emission unit(s) tested.
  - ii. A summary of results.
  - iii. Discussion of conditions during each test run (malfunction/breakdown, startup/shutdown, abnormal processing, etc.).
  - iv. Description of test method(s), including description of sampling points, sampling train, analysis equipment, and test schedule.
  - v. Detailed description of test conditions, including:
    - A. Process information, i.e., mode(s) of operation, process rate, e.g. fuel or raw material consumption.
    - B. Control equipment information, i.e., equipment condition and operating parameters during testing.
    - C. A discussion of any preparatory actions taken, i.e., inspections, maintenance and repair.
  - vi. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration.
  - vii. An explanation of any discrepancies among individual tests or anomalous data.
  - viii. Results of the sampling of materials, QA/QC procedures, inspections, etc.
  - ix. Discussion of whether protocol was followed and description of any changes to the protocol if any occurred.
  - x. Demonstration of compliance showing whether test results are in compliance with applicable state or federal statutes.
- d. Copies of all test reports and other test related documentation shall be kept on site as required by Condition 2.5(b) pursuant to Section 39.5(7)(e)(ii) of the Act.

**2. 40 CFR 63 Subpart A Requirements (NESHAP)**

**a. 40 CFR 63 Subpart A and JJJJJJ - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources**

Pursuant to 40 CFR 63 Subpart A and JJJJJJ, the Permittee shall comply with the following applicable General Provisions as indicated:

<i>General Provision Citation</i>	<i>General Provision Applicable?</i>	<i>Subject of Citation</i>	<i>Explanation (if required)</i>
40 CFR 63.1	Yes	General Applicability of the General Provisions	
40 CFR 63.2	Yes	Definitions	
40 CFR 63.3	Yes	Units and Abbreviations	
40 CFR 63.4	Yes	Prohibited Activities and Circumvention	
40 CFR 63.5	No	Preconstruction Review and Notification Requirements	
40 CFR 63.6	Yes	Compliance with Standards and Maintenance Requirements	40 CFR 63.6(a), (b) (1) - (b) (5), (b) (7), (c), (f) (2) - (3), (g), (i), (j). 40 CFR 63.6(h) (2) to (9)
40 CFR 63.7	Yes	Performance Testing Requirements	40 CFR 63.7(a), (b), (c), (d), (e) (2) - (e) (9), (f), (g), and (h)
40 CFR 63.8	Yes	Monitoring Requirements	40 CFR 63.8(a), (b), (c) (1), (c) (1) (ii), (c) (2) to (c) (9), (d) (1) and (d) (2), (e), (f), and (g). 40 CFR 63.8(d) (3)
40 CFR 63.9	Yes	Notification Requirements	
40 CFR 63.10	Yes	Recordkeeping and Reporting Requirements	40 CFR 63.10(a) and (b) (1), 40 CFR 63.10(b) (2) (iii), 40 CFR 63.10(b) (2) (vi), 40 CFR 63.10(b) (2) (vii) to (xiv), 40 CFR 63.10(c) (1) to (9) 40 CFR 63.10(c) (12) and (13) 40 CFR 63.10(d) (1) and (2) 40 CFR 63.10(d) (4), 40 CFR 63.10(e) and (f)
40 CFR 63.11	No	Control Device and Work Practice Requirements	
40 CFR 63.12	Yes	State Authority and Delegations	
40 CFR 63.13	Yes	Addresses of State Air Pollution Control Agencies and EPA Regional Offices	
40 CFR 63.14	Yes	Incorporations by Reference	
40 CFR 63.15	Yes	Availability of Information and Confidentiality	
40 CFR 63.16	Yes	Performance Track Provisions	

**Section 8 - State Only Requirements**

**1. Permitted Emissions for Fees**

The annual emissions from the source for purposes of "Duties to Pay Fees" of Condition 2.3(e), not considering insignificant activities as addressed by Section 6, shall not exceed the following limitations. The overall source emissions shall be determined by adding emissions from all emission units. Compliance with these limits shall be determined on a calendar year basis. The Permittee shall maintain records with supporting calculations of how the annual emissions for fee purposes were calculated. This Condition is set for the purpose of establishing fees and is not federally enforceable. See Section 39.5(18) of the Act.

<i>Pollutant</i>		<i>Tons/Year</i>
Volatile Organic Material	(VOM)	12.33
Sulfur Dioxide	(SO <sub>2</sub> )	34.86
Particulate Matter	(PM)	16.83
Nitrogen Oxides	(NO <sub>x</sub> )	265.06
HAP, not included in VOM or PM	(HAP)	-----
Total		329.08

**2. NO<sub>x</sub> RACT Requirements**

**a. i. Natural Gas Fired Boilers, Central Utility Plant (See also Section 4.1)**

A. Pursuant to 35 IAC 217.164, no person shall cause or allow emissions of NO<sub>x</sub> into the atmosphere from any industrial boiler to exceed the following limitations, on and after January 1, 2015.

Fuel	Emission Unit Type and Rated Heat Input Capacity (mmBtu/hr)	NO <sub>x</sub> Emissions Limitation (lb/mmBtu)
Natural Gas	Industrial boiler greater than 100	0.08

**B. Monitoring**

I. Pursuant to IAC 217.157(a) (2) and IAC 217.152(a), the owner or operator of an industrial boiler with a rated heat input capacity greater than 100 mmBtu/hr but less than or equal to 250 mmBtu/hr subject to 35 IAC Part 217, Subpart E must install, calibrate, maintain, and operate by January 1, 2015, a continuous emissions monitoring system on the boiler for the measurement of NO<sub>x</sub> emissions discharged into the atmosphere in accordance with 40 CFR 60, Subpart A and Appendix B, Performance Specifications 2 and 3, and Appendix F, Quality Assurance Procedures, as incorporated by reference in Section IAC 217.104.

II. Pursuant to 35 IAC 217.166 and IAC 217.152(a), the owner or operator of an industrial boiler subject to the combustion tuning requirements of Section 35 IAC 217.164 must have combustion tuning performed on the boiler at least annually, starting January 1, 2015. The combustion tuning must be performed by an employee of the owner or operator or a contractor who has successfully completed a training course on the combustion tuning of boilers firing the fuel or fuels that are fired in the boiler.

C. Recordkeeping

- I. Pursuant to 35 IAC 217.156(a) through (j), the owner or operator of the boiler must maintain records that demonstrate compliance with the requirements of 35 IAC 217 Subpart D and E, which include, but are not limited to:
- A. The owner or operator of an emission unit subject to 35 IAC 217.152, must keep and maintain all records used to demonstrate initial compliance and ongoing compliance with the requirements of 35 IAC 217.152. Such records must be kept at the source and maintained for at least five years and must be available for immediate inspection and copying by the IEPA.
- B. The owner or operator of the boiler subject to 35 IAC 217 Subpart E, must maintain records that demonstrate compliance with the requirements, as applicable, that include the following:
- Identification, type (e.g., gas-fired), and location of each unit.
  - Calendar date of the record.
  - Monthly, seasonal, and annual operating hours.
  - Type and quantity of each fuel used monthly, seasonally, and annually.
  - Product and material throughput, as applicable.
  - Reports for all applicable emissions tests for NO<sub>x</sub> conducted on the unit, including results.
  - The date, time, and duration of any startup, shutdown, or malfunction in the operation of any emission unit subject to Subpart E, or any emissions monitoring equipment. The records must include a description of the malfunction and corrective maintenance activity.
  - A log of all maintenance and inspections related to the unit's air pollution control equipment for NO<sub>x</sub> that is performed on the unit.
  - A log for the NO<sub>x</sub> monitoring device, if present, including periods when not in service and maintenance and inspection activities that are performed on the device.
  - Identification of time periods for which operating conditions and pollutant data were not obtained by the continuous emissions monitoring system, including the reasons for not obtaining sufficient data and a description of corrective actions taken.
  - The owner or operator of an industrial boiler subject to 35 IAC 217 Subpart E must maintain records in order to demonstrate compliance with the combustion tuning requirements under 35 IAC 217.166.

C. Pursuant to 35 IAC 217.166 (a) through (e), the owner or operator must maintain the following records that must be made available to the Illinois EPA upon request:

- The date the combustion tuning was performed;
- The name, title, and affiliation of the person who performed the combustion tuning;
- Documentation demonstrating the provider of the combustion tuning training course, the dates the training course was taken, and proof of successful completion of the training course;
- Tune-up procedure followed and checklist of items (such as burners, flame conditions, air supply, scaling on heating surface, etc.) inspected prior to the actual tune-up; and
- Operating parameters recorded at the start and at conclusion of combustion tuning.

**b. i. Natural Gas Fired Boilers, Central Utility Plant (See also Section 4.2)**

A. Pursuant to 35 IAC 217.164, no person shall cause or allow emissions of NO<sub>x</sub> into the atmosphere from any industrial boiler to exceed the following limitations, on and after January 1, 2015.

Fuel	Emission Unit Type and Rated Heat Input Capacity (mmBtu/hr)	Nox Emissions Limitation (lb/mmBtu) or Requirement
Natural Gas	Industrial boiler greater than 100	0.08
Distillate Fuel Oil	Industrial boiler greater than 100	0.10

**B. Monitoring**

I. Pursuant to IAC 217.157(a) (2), the owner or operator of a boiler with a rated heat input capacity greater than 100 mmBtu/hr but less than or equal to 250 mmBtu/hr subject to 35 IAC Part 217, Subpart E must install, calibrate, maintain, and operate a continuous emissions monitoring system on the boiler for the measurement of NO<sub>x</sub> emissions discharged into the atmosphere in accordance with 40 CFR 60, Subpart A and Appendix B, Performance Specifications 2 and 3, and Appendix F, Quality Assurance Procedures, as incorporated by reference in Section IAC 217.104.

II. Pursuant to 35 IAC 217.166, the owner or operator of an industrial boiler subject to the combustion tuning requirements of Section 35 IAC 217.164 must have combustion tuning performed on the boiler at least annually, starting January 1, 2015. The combustion tuning must be performed by an employee of the owner or operator or a contractor who has successfully completed a training course on the combustion tuning of boilers firing the fuel or fuels that are fired in the boiler.

**C. Recordkeeping**

I. Pursuant to 35 IAC 217.156(a) through (j), the owner or operator of the boiler must maintain records that demonstrate compliance with the

requirements of 35 IAC 217 Subpart D and E, which include, but are not limited to:

- A. The owner or operator of an emission unit subject to 35 IAC 217.152 , must keep and maintain all records used to demonstrate initial compliance and ongoing compliance with the requirements of 35 IAC 217.152. Copies of such records must be submitted by the owner or operator of the source to the IEPA within 30 days after receipt of a written request by the IEPA. Such records must be kept at the source and maintained for at least five years and must be available for immediate inspection and copying by the IEPA.
  
- B. The owner or operator of the boiler subject to 35 IAC 217 Subpart E, must maintain records that demonstrate compliance with the requirements, as applicable, that include the following:
  - Identification, type (e.g., gas-fired), and location of each unit.
  - Calendar date of the record.
  - Monthly, seasonal, and annual operating hours.
  - Type and quantity of each fuel used monthly, seasonally, and annually.
  - Reports for all applicable emissions tests for NO<sub>x</sub> conducted on the unit, including results.
  - The date, time, and duration of any startup, shutdown, or malfunction in the operation of any emission unit subject to Subpart E, or any emissions monitoring equipment. The records must include a description of the malfunction and corrective maintenance activity.
  - A log of all maintenance and inspections related to the unit's air pollution control equipment for NO<sub>x</sub> that is performed on the unit.
  - A log for the NO<sub>x</sub> monitoring device, if present, including periods when not in service and maintenance and inspection activities that are performed on the device.
  - Identification of time periods for which operating conditions and pollutant data were not obtained by the continuous emissions monitoring system, including the reasons for not obtaining sufficient data and a description of corrective actions taken.
  
- C. The owner or operator of an industrial boiler subject to 35 IAC 217 Subpart E must maintain records in order to demonstrate compliance with the combustion tuning requirements under 35 IAC 217.166.
  
- D. Pursuant to 35 IAC 217.166 (a) through (e), the owner or operator must maintain the following records that must be made available to the Illinois EPA upon request:

- The date the combustion tuning was performed;
- The name, title, and affiliation of the person who performed the combustion tuning;
- Documentation demonstrating the provider of the combustion tuning training course, the dates the training course was taken, and proof of successful completion of the training course;
- Tune-up procedure followed and checklist of items (such as burners, flame conditions, air supply, scaling on heating surface, etc.) inspected prior to the actual tune-up; and
- Operating parameters recorded at the start and at conclusion of combustion tuning.

## Attachment 1 - List of Emission Units at This Source

<i>Section</i>	<i>Emission Units</i>	<i>Description</i>
4.1	Three 125 mmBtu/hr Natural Gas Fired Boiler	Provide power and heat for the university's needs (EC1, EC2 and EC3)
4.2	181 mmBtu/hr Natural Gas Fired Boiler	Provide power and heat for the university's needs (EC4)
4.3	Two 21 mmBtu/hr Natural Gas Fired Boiler	Provide power and heat for the university's needs (KEW3 and KEW4)
4.4	Two 4 mmBtu/hr Natural Gas Fired Boiler	Provide power and heat for the university's needs (HS1 and HS2)
4.5	Two 12.55 mmBtu/hr Natural Gas Fired Boiler	Provide power and heat for the university's needs (CB1 and CB2)
4.6	One Gasoline Storage Tank (500 gallons capacity)	Provides gasoline dispensing service for university's fleet

## Attachment 2 - Acronyms and Abbreviations

acfm	Actual cubic feet per minute
ACMA	Alternative Compliance Market Account
Act	Illinois Environmental Protection Act [415 ILCS 5/1 et seq.]
AP-42	Compilation of Air Pollutant Emission Factors, Volume 1, Stationary Point and Other Sources (and Supplements A through F), USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711
ATU	Allotment trading unit
BACT	Best Available Control Technology
BAT	Best Available Technology
BTU	British Thermal Units
CAA	Clean Air Act [42 U.S.C. Section 7401 et seq.]
CAAPP	Clean Air Act Permit Program
CAIR	Clean Air Interstate Rule
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
CISWI	Commercial Industrial Solid Waste Incinerator
CO	Carbon monoxide
CO <sub>2</sub>	Carbon dioxide
COMS	Continuous Opacity Monitoring System
CPMS	Continuous Parameter Monitoring System
dscf	Dry standard cubic foot
dscm	Dry standard cubic meter
EAF	Electric arc furnace
ERMS	Emissions Reduction Market System
°F	Degrees Fahrenheit
GHG	Green house gas
gr	Grains
HAP	Hazardous air pollutant
Hg	Mercury
HMIWI	Hospital medical infectious waste incinerator
HP	Horsepower
hr	Hour
H <sub>2</sub> S	Hydrogen sulfide
I.D. No.	Identification number of source, assigned by IEPA
IAC	Illinois Administrative Code
ILCS	Illinois Compiled Statutes
IEPA	Illinois Environmental Protection Agency
KW	Kilowatts
LAER	Lowest Achievable Emission Rate
lb	Pound

Northwestern University  
I.D. #031081AEQ  
Permit #95070027

Date Received: 05/27/08  
Date Issued: 09/04/13

m	Meter
MACT	Maximum Achievable Control Technology
mm	Million
mon	Month
MSDS	Material Safety Data Sheet
MSSCAM	Major Stationary Sources Construction and Modification (Non-attainment New Source Review)
MW	Megawatts
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO <sub>x</sub>	Nitrogen oxides
NSPS	New Source Performance Standards
NSR	New Source Review
PM	Particulate matter
PM <sub>10</sub>	Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 microns as measured by applicable test or monitoring methods
PM <sub>2.5</sub>	Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 microns as measured by applicable test or monitoring methods
ppm	Parts per million
ppmv	Parts per million by volume
PSD	Prevention of Significant Deterioration
PSEU	Pollutant-Specific Emission Unit
psia	Pounds per square inch absolute
PTE	Potential to emit
RACT	Reasonable Available Control Technology
RMP	Risk Management Plan
scf	Standard cubic feet
SCR	Selective catalytic reduction
SIP	State Implementation Plan
SO <sub>2</sub>	Sulfur dioxide
T1	Title I - identifies Title I conditions that have been carried over from an existing permit
T1N	Title I New - identifies Title I conditions that are being established in this permit
T1R	Title I Revised - identifies Title I conditions that have been carried over from an existing permit and subsequently revised in this permit
USEPA	United States Environmental Protection Agency
VOM	Volatile organic material

Attachment 3 - Contact and Reporting Addresses

<p style="text-align: center;">IEPA Compliance Section</p> <p style="text-align: center;">IEPA Stack Test Specialist</p> <p style="text-align: center;">IEPA Air Quality Planning Section</p> <p style="text-align: center;">IEPA Air Regional Field Operations Regional Office #1</p> <p style="text-align: center;">IEPA Permit Section</p>	<p>Illinois EPA, Bureau of Air Compliance &amp; Enforcement Section (MC 40) 1021 North Grand Avenue East P.O. Box 19276 Springfield, Illinois 62794-9276  Phone No.: 217/782-2113</p> <p>Illinois EPA, Bureau of Air Compliance Section Source Monitoring - Third Floor 9511 Harrison Street Des Plaines, Illinois 60016  Phone No.: 847/294-4000</p> <p>Illinois EPA, Bureau of Air Air Quality Planning Section (MC 39) 1021 North Grand Avenue East P.O. Box 19276 Springfield, Illinois 62794-9276  Phone No.: 217/782-2113</p> <p>Illinois EPA, Bureau of Air Regional Office #1 9511 Harrison Street Des Plaines, Illinois 60016  Phone No.: 847/294-4000</p> <p>Illinois EPA, Bureau of Air Permit Section (MC 11) 1021 North Grand Avenue East P.O. Box 19506 Springfield, Illinois 62794-9506  Phone No.: 217/785-1705</p>
<p style="text-align: center;">USEPA Region 5 - Air Branch</p>	<p>USEPA (AR - 17J) Air and Radiation Division 77 West Jackson Boulevard Chicago, Illinois 60604  Phone No.: 312/353-2000</p>

**Attachment 4 - Example Certification by a Responsible Official**

**SIGNATURE BLOCK**

NOTE: THIS CERTIFICATION MUST BE SIGNED BY A RESPONSIBLE OFFICIAL. APPLICATIONS WITHOUT A SIGNED CERTIFICATION WILL BE DEEMED AS INCOMPLETE.

I CERTIFY UNDER PENALTY OF LAW THAT, BASED ON INFORMATION AND BELIEF FORMED AFTER REASONABLE INQUIRY, THE STATEMENTS AND INFORMATION CONTAINED IN THIS APPLICATION ARE TRUE, ACCURATE AND COMPLETE. ANY PERSON WHO KNOWINGLY MAKES A FALSE, FICTITIOUS, OR FRAUDULENT MATERIAL STATEMENT, ORALLY OR IN WRITING, TO THE ILLINOIS EPA COMMITS A CLASS 4 FELONY. A SECOND OR SUBSEQUENT OFFENSE AFTER CONVICTION IS A CLASS 3 FELONY. (415 ILCS 5/44(H))

AUTHORIZED SIGNATURE:

BY:

\_\_\_\_\_

\_\_\_\_\_

AUTHORIZED SIGNATURE

TITLE OF SIGNATORY

\_\_\_\_\_

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

TYPED OR PRINTED NAME OF SIGNATORY

DATE