

217/782-2113

CONSTRUCTION PERMIT

PERMITTEE

Ethanex Energy  
Attn: Robert Walther  
14500 Parallel Road  
Basehor, Kansas 66007

Application No.: 07070041

I.D. No.: 081808AAB

Applicant's Designation: BIOMASSBOILER

Date Received: July 18, 2007

Subject: Jefferson Energy Center

Date Issued:

Location: East Highway 148, Waltonville

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of a biomass-fired boiler with overfire air, low-NO<sub>x</sub> burners, Limestone bed injection, a selective non-catalytic reduction (SNCR) system, spray dryer absorber and baghouse, associated fuel and ash storage and handling systems with baghouses, and other ancillary operations, as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following conditions.

If you have any questions on this permit, please call Bob Smet at 217/782-2113.

Edwin C. Bakowski, P.E.  
Acting Manager, Permit Section  
Division of Air Pollution Control

Date Signed: \_\_\_\_\_

ECB:RPS:psj

cc: Region 3  
USEPA Region V

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1.0 PROJECT CONDITIONS

1.1 Emission Limitations

a. Emissions from the biomass boiler facility and associated equipment shall not exceed the limitations shown in Tables I and II.

b. i. Annual emissions from the biomass boiler facility (i.e., the Jefferson Energy Center), the Waltonville Ethanol LLC plant and the overall source itself, i.e., the combination of these facilities, shall not exceed the following limits, in tons per year:

<u>Facility</u>	<u>PM</u>	<u>PM<sub>10</sub></u>	<u>SO<sub>2</sub></u>	<u>NO<sub>x</sub></u>	<u>VOM</u>	<u>CO</u>
Ethanol Plant	76.4	68.1	67.3	73.0	112.3	76.1
Boiler Facility	<u>187.3*</u>	<u>185.1*</u>	<u>85.4</u>	<u>223.4</u>	<u>83.2</u>	<u>201.5</u>
Source Totals	242.5*	230.7*	112.0	237.7	195.5	219.9

\* Excluding fugitive emissions of PM from roadways associated with the biomass boiler facility.

ii. Notwithstanding Condition 1.1(b)(i), for each hour or fraction thereof more than 3,500 hours in a 12 month period that the regenerative thermal oxidizer (RTO) at the ethanol plant is operated, the above limit for emissions of the boiler facility and the annual limits for emissions of the biomass boiler in Table II shall be reduced by the following amounts (in pounds) with a maximum possible reduction as shown (in tons):

	<u>PM</u>	<u>PM<sub>10</sub></u>	<u>SO<sub>2</sub></u>	<u>NO<sub>x</sub></u>	<u>VOM</u>	<u>CO</u>
Limit Reduction (pounds)	2.74	2.74	15.07	3.60	15.26	7.56
Max. Possible (tons)	4.81	4.81	26.40	6.31	26.73	13.24

iii. Notwithstanding Condition 1.1(b)(i), for each 480 million Btu or fraction thereof more than 420,480 million Btu that is fired in the gas-fired boilers at the ethanol plant, the above limit for emissions of the boiler facility and the annual limits for the affected boiler in Table II shall be reduced by the following amounts (in pounds) with a maximum possible reduction as shown (in tons):

	<u>PM</u>	<u>PM<sub>10</sub></u>	<u>SO<sub>2</sub></u>	<u>NO<sub>x</sub></u>	<u>VOM</u>	<u>CO</u>
Limit Reduction (pounds)	3.58	3.58	0.28	12.48	0.96	9.6
Max. Possible (tons)	1.57	1.57	0.12	5.47	0.42	4.2



- c. At all times, the Permittee shall maintain and operate the boiler and other emission units, including associated air pollution control equipment that are subject to Federal New Source Performance Standards (NSPS), in a manner consistent with good air pollution control practice for minimizing emissions, pursuant to 40 CFR 60.11(d).
- 1.3
- a.
    - i. This permit is based on the proposed biomass-fired facility not being a major source for purposes of 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The limits in this permit are intended to maintain this status for the facility, thereby ensuring that this project does not constitute a major modification pursuant to these rules.
    - ii. For this purpose, this permit is issued based on the biomass facility not being in one of the 28 listed categories of sources for which the major source threshold under PSD is 100 tons/year because the boiler facility is designed to burn biomass, which is not a fossil fuel, and the natural gas fired burners in the boiler will have a rated heat input capacity of only 95.0 mmBtu/hour, which is consistent with their role as auxiliary burners.
  - b.
    - i. This permit is issued based on the proposed biomass boiler and other new emission units constructed as part of the proposed boiler facility by themselves not being major sources for emissions of hazardous air pollutants (HAP), because the potential HAP emissions from the project will be less than 10 tons of an individual HAP, and 25 tons of total HAPs. Therefore a case-by-case determination of Maximum Achievable Control Technology (MACT) for emissions of HAP from the proposed boiler facility is not required for the units that are part of this project.
    - ii. This permit is issued based on the source, i.e., the combination of the ethanol plant and the boiler facility, continuing to be a minor source for emissions of hazardous air pollutants, so that emission units at the source are not subject to federal National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 63, adopted by USEPA.
  - c. This permit is issued based on the proposed biomass boiler facility not constituting a "pollution control facility", as defined by Section 3.330 of the Environmental Protection Act. Accordingly, local siting approval pursuant to Section 9.2 of the Environmental

Protection Act was not required before construction of the facility (See also Condition 2.1.5-1).

Note: Prior to changes in the manner of operation of the facility that would result in it becoming a pollution control facility; the facility would have to undergo local review and approval as a pollution control facility.

- 1.4 a. Under this permit, the biomass boiler and associated equipment may be operated for a period that ends 180 days after the boiler first fires biomass to allow for equipment shakedown and required emissions testing. This period may be extended by the Illinois EPA upon request of the Permittee if additional time is needed to complete shakedown or perform emission testing. This condition supersedes Standard Condition 6.
- b. Upon successful completion of emission testing of the biomass boiler demonstrating compliance with applicable short term emissions limitations, the Permittee may continue to operate the boiler and associated equipment as allowed by Section 39.5(5) of the Environmental Protection Act, that is, the Permittee may continue to operate the units covered by this permit until the Illinois EPA takes final action on the Permittee's application for a Clean Air Act Permit Program (CAAPP) permit for the source, provided that the Permittee has properly applied for such permit in a timely fashion.

#### 1.5 Emission Standards of General Applicability

In addition to other applicable regulations, the emission units at the plant are subject to the following state emission standards of general applicability:

- a. 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 overhead at a point beyond the property line of the source unless the wind speed is greater than 40.2 kilometers per hour (25 miles per hour), pursuant to 35 IAC 212.301 and 212.314.
- b. 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 the requirements of 35 IAC 212.122, pursuant to 35 IAC 212.123(a), except as allowed by 35 IAC 212.123(b) and 212.124.
- c. The Permittee shall keep records for all opacity measurements made in accordance with USEPA Method 9 for units at the plant that it conducts or that are conducted

at its behest by individuals who are qualified to make such observations. For each occasion on which such measurements are made, these records shall include the formal report for the measurements if conducted pursuant to any Condition of this permit, the identity of the observer, a description of the measurements that were made, the operating condition of the affected unit, the observed opacity, and copies of the raw data sheets for the measurements.

1.6 Ancillary equipment shall be operated and maintained in accordance with good air pollution control practice to minimize emissions.

1.7 Good Air Pollution Control Practices

The Permittee shall operate and maintain the emission units at this plant, including associated air pollution control equipment, in a manner consistent with good air pollution control practice, as follows:

- a. At all times, including periods of startup, shutdown, malfunction or breakdown, operate as practicable to minimize emissions.
- b. Conduct routine inspections and perform appropriate maintenance and repairs to facilitate proper functioning of equipment and minimize or prevent malfunctions and breakdowns.
- c. Install, calibrate and maintain required monitoring devices and instrumentation in accordance with good monitoring practices, following the manufacturer's recommended operating and maintenance procedures or such other procedures as otherwise necessary to assure reliable operation of such devices.

1.8 Records for Required Monitoring Systems and Instrumentation

The Permittee shall keep records of the data measured by required monitoring systems and instrumentation. Unless otherwise provided in a particular condition of this permit, the following requirements shall apply to such recordkeeping:

- a. For required monitoring systems, data shall be automatically recorded by a central data system, dedicated data logging system, chart recorder or other data recording device. If an electronic data logging system is used, the recorded data shall be the hourly average value of the particular parameter for each hour. During periods when the automatic recording device is out of service, data shall be recorded at least once per shift for periods when the associated emission unit(s) are in service.

- b. For required instrumentation, the measured data shall be recorded manually at least once per day, unless otherwise specified, with data and time both recorded, for periods when the associated emission unit(s) are in service, provided however that if data from an instrument is recorded automatically, the above provisions for recording of data from monitoring systems shall apply.

#### 1.9 Records of Opacity Measurements

The Permittee shall keep records for all opacity measurements made in accordance with USEPA Method 9 for emission units at the plant that it conducts or that are conducted on its behalf by individuals who are qualified to make such observations. For each occasion on which such measurements are made, these records shall include the formal report for the measurements if conducted pursuant to this permit or a request from the Illinois EPA, or otherwise the identity of the observer, a description of the measurements that were made, the operating condition of the affected operations, the observed opacity, and copies of the raw data sheets for the measurements.

#### 1.10 General Reporting Requirements

##### 1.10.1 Annual Emission Report

On an annual basis, the Permittee shall submit an Annual Emission Report to the Illinois EPA not later than May 1 of the following year each year, as required by 35 IAC Part 254. For this notwithstanding general requirements for submittal of reports, only a single copy of this report needs to be submitted to the Illinois EPA.

##### 1.10.2 Annual Compliance Certification

Until a CAAPP Permit is issued for the source, the terms and conditions of this construction permit shall be addressed in an annual compliance certification submitted by the Permittee by May 1 of each year for the prior calendar year, as if a CAAPP permit had been issued for the source.

##### 1.10.3 Deviation Reporting

The Permittee shall notify the Illinois EPA of deviations with the permit requirements of Section 1 of this permit within 30 days of the event. Reports shall include the information specified in Condition 3.1(a).

- 1.11 a. This approval to construct does not relieve the Permittee of the responsibility to comply with all Local, State and

Federal Regulations which are part of the applicable Illinois State Implementation Plan, as well as all other applicable Federal, State and Local requirements.

- b. A permit is not required from the Bureau of Land as long as the biomass utilized as fuel does not meet the definition of waste in Section 3.535 of the Illinois Environmental Protection Act. Biomass containing or consisting of waste such as the following materials: sewage sludge, manure, garbage or construction and demolition debris would require a Bureau of Land Permit and Siting.

## 2.0 UNIT-SPECIFIC CONDITIONS

### CONDITION 2.1: UNIT-SPECIFIC CONDITIONS FOR THE BIOMASS-FIRED BOILER

#### 2.1.1 Description

The affected boiler is a biomass-fired boiler that supplies process steam for operation of the ethanol plant (Waltonville Ethanol LLC). The boiler would be of fluidized bed design and be fired with wood corn bran and germ-cake, and syrup from the ethanol plant. Natural gas would be used as the auxiliary fuel only for startup and flame stabilization.

The emissions from the boiler will be controlled by overfire air low-NO<sub>x</sub> combustion, limestone injection to the bed, selective noncatalytic reduction (SNCR), spray dryer adsorber (wet scrubber) and a baghouse.

#### 2.1.2 Listing of Emission Units and Air Pollution Control Equipment

Boiler	Description	Emission Control Equipment
1	Fluidized Bed Boiler, Nominal Capacity: 500 mmBtu/hour Firing biomass (wood, corn bran, germ-cake and syrup) auxiliary natural gas burners (95.0 mmBtu/hour)	Low NO <sub>x</sub> combustion, limestone bed injection, SNCR, spray dryer absorber and baghouse

#### 2.1.3-1 Applicable Federal Emission Standards

The affected boiler is subject to the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Db and applicable provisions in 40 CFR 60, Subpart A, General Provisions. The affected boiler shall comply with applicable emission standards on and after the date on which the initial performance test is completed or is required to be completed under 40 CFR 60.8, whichever date comes first:

- a. Opacity shall not exceed 20 percent (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity pursuant to 40 CFR 60.43b(f). This standard shall apply at all times, except during periods of startup, shutdown or malfunction as provided by 40 CFR 60.2 and 60.11(c).
- b. Particulate matter (filterable) emissions shall not exceed 13 ng/J per actual heat input in any one hour period (0.030 lb/million Btu), pursuant to 40 CFR 60.43b(h)(1), except during periods of startup, shutdown or malfunction as provided by 40 CFR 60.2 and 60.11(c).
- c. Nitrogen oxide emissions shall **not** exceed 130 ng/J (0.30 lb/million Btu) heat input on a 30-day rolling average, pursuant to 40 CFR 60.44b(d).

- d. Sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed 87 ng/J (1.4 lbs/million Btu) or 95 percent removal of the potential SO<sub>2</sub> emission rate, on a 30-day rolling average, pursuant to 40 CFR 60.42b(i)(1).

#### 2.1.3-2 State Emission Standards

- a. The affected boiler is subject to the following state emission standards:
  - i. The emission of smoke or other particulate matter shall not have an opacity greater than 20 percent, except as allowed by 35 IAC 212.122(b) and 212.124. Compliance with this limit shall be determined by 6-minute averages of opacity measurements in accordance with USEPA Reference Method 9. [35 IAC 212.109 and 212.122(a)]
  - ii. The emission of carbon monoxide (CO) into the atmosphere shall not exceed 200 ppm, corrected to 50 percent excess air. [35 IAC 216.121]
  - iii. The emissions of nitrogen oxide (NO<sub>x</sub>) shall not exceed 0.7 lb/mmBtu in any one-hour period. [35 IAC 217.121(d)]
  - iv. The emissions of sulfur dioxide (SO<sub>2</sub>) shall not exceed 1.2 lbs/mmBtu in any one-hour period. (35 IAC 214.121)
  - v. The emissions of particulate matter (PM) shall not exceed 0.1 lb/mmBtu in any one-hour period. (35 IAC 212.204)
- b. Startup and Malfunction/Breakdown Provisions
  - i. The Permittee shall conduct startup of the affected boiler in accordance with the manufacturer's written instructions or other written instructions prepared by the Permittee and maintained on site that are specifically developed to minimize excess emissions from startups and that include, at a minimum, the following measures:
    - A. Review of the operational condition of the affected boiler prior to initiating startup of the boiler;
    - B. Use of natural gas burners as needed to heat the boiler prior to initiating burning of solid fuel;
    - C. Use of the baghouse as soon as solid fuel is introduced into the boiler unless special circumstances are present (e.g. new bags are installed and are not coated with dust), in which case the baghouse shall be used as soon as it can be done without risk to the integrity of the filter bags;

- D. Manage the load of the boiler until all control systems are functioning normally; and
  - E. Review of the operational parameters of an affected boiler during each startup as necessary to make appropriate adjustments to the startup to reduce or eliminate excess emissions.
- ii. In the event of a malfunction or breakdown of the affected boiler, the Permittee is authorized to continue operation of the affected boiler in violation of the applicable standards of Condition 2.1.3-2(a). This authorization is made pursuant to 35 IAC 201.262 and is subject to the following requirements:
- A. This authorization only allows such continued operation as necessary to prevent risk of injury to personnel or severe damage to equipment, provided however, that operation shall not continue solely for the economic benefit of the owner or operator of the plant. As provided by 35 IAC 201.265, this authorization does not shield the Permittee from enforcement for any such violation and shall only constitute a prima facie defense to such an enforcement action.
  - B.
    - 1. Upon occurrence of excess emissions due to malfunction or breakdown, the Permittee shall as soon as practicable, repair the affected boiler or remove the affected boiler from service, so that excess emissions cease unless shutting down the boiler would lead to a greater amount of emissions during subsequent startup than would be caused by continuing to run the boiler for a short period until repairs can be made.
    - 2. Consistent with the above, if the Permittee has operated and maintained the affected boiler and air pollution control equipment so that malfunctions are infrequent, sudden, and not caused by poor maintenance or careless operation, and in general are not preventable, the Permittee shall begin shutdown of the boiler within 2 hours unless the malfunction is expected to be repaired within 6 hours. In such case, the shutdown of the system shall be undertaken when it is apparent that the repair will not be accomplished within 6 hours.
- iii. The Permittee shall fulfill applicable recordkeeping requirements of Conditions 2.1.9(e) and (f).

- iv. Following notification to the Illinois EPA of a malfunction or breakdown that resulted in excess emissions, the Permittee shall comply with all reasonable directives of the Illinois EPA with respect to such incident, pursuant to 35 IAC 201.263.

#### 2.1.4 Non-Applicability of Regulations of Possible Concern

- a. This boiler is not subject to the provisions of Title IV of the federal Clean Air Act (Acid Rain) since the boiler is not a utility unit.
- b. This permit is issued based on the affected boiler not being subject to the limits of the NSPS for PM or opacity, when the boiler does not burn solid fuel.
- c. For the affected boiler, this permit is issued based on the state emissions standards for particulate matter and opacity at 35 IAC 212.123 and 212.204 being superseded by more stringent standards under the NSPS.

#### 2.1.5-1 Requirements for the Wood Fuel Supply

- a.
  - i. This Permit does not authorize acceptance of biomass that would qualify as acceptance of waste by the Permittee under the provisions of the Environmental Protection Act.
  - ii. This Permit does not authorize acceptance of biomass that would qualify as hazardous waste under the provisions of the Federal Resource Conservation, the Recovery Act, Environmental Protection Act, or 35 IAC Part 721, including biomass that would qualify as hazardous waste based on its composition due to materials applied to the seed.
  - iii. This Permit does not authorize the Permittee to process biomass at the plant to prepare it for use as fuel.
- b.
  - i. The Permittee shall only accept biomass from suppliers that are addressed in the records required by Condition 2.1.9(c).
  - ii. The Permittee shall only accept shipments of biomass in which:
    - A. The biomass is ready for use as fuel as delivered to the plant, without the need for further processing by the Permittee.
    - B. The biomass is clean, that is, the biomass as unloaded into the affected boiler is free of foreign matter and any contaminants that would adversely impact the environment when the Permittee uses the biomass as fuel.

- iii. The Permittee shall operate the affected boiler, including associated control equipment, and generally handle biomass in accordance with good air pollution control to minimize PM emissions.
  - iv. The Permittee shall implement practices to store and otherwise manage biomass so that accepted biomass is not degraded or otherwise damaged such that the biomass can no longer be used as fuel.
- c. The Permittee shall carry out the acceptance and handling of biomass in a manner that ensures that biomass accepted at the plant satisfies applicable legal criteria for the Permittee to accept such material, including the applicable requirements of this permit, and is handled in accordance with applicable legal requirements.
- d. i. The wood fuel for the affected boiler shall not include material that is obtained from construction and demolition debris as defined by Section 3.160 of the Environmental Protection Act or other activities involving the construction, remodeling, repair or demolition of structures and their appurtenances.
- ii. The wood fuel for the affected boiler shall qualify as clean wood as defined by 40 CFR 60.51b, i.e. untreated wood or wood products.
- iii. In no case shall wood fuel for the affected boiler be accepted that has been handled at a waste transfer station.
- e. For any wood fuel for the affected boiler that does not originate from sawmills, lumber product plants or another source of virgin wood material, the Permittee shall implement quality control and assurance procedures to ensure that such material has not been treated with any paint or wood preservative, including creosote, pentachlorophenol or copper chromium arsenate.

#### 2.1.5-2 Operational Limits and Work Practices for the Boiler

- a. i. The rated heat input capacity of the affected boiler shall not exceed 500 mmBtu/hour, total.
- ii. The rated heat input capacity of the natural gas auxiliary fuel burners of the affected boiler shall not exceed 95.0 million Btu/hour, total.
- b. i. The usage of fuel in the affected boiler shall not exceed 4,380,000 million Btu/year.

- ii. Notwithstanding the above, for each 480 million Btu or fraction thereof more than 420,480 million Btu that is fired in the gas-fired boilers at the ethanol plant, the above limit for usage of fuel in the affected boiler shall be reduced by 120 million Btu.
- c. The boiler's natural gas fired auxiliary burners shall be used to achieve and maintain the temperature in the combustion chamber of the boiler as follows:
  - i. The startup of the boiler shall be initiated with the auxiliary burners. Biomass fuel shall only be introduced when stable operating temperatures are achieved up to the full capacity of the burner.
  - ii. During shutdown of the boiler, the auxiliary burners shall be used to maintain flue gas temperature as necessary, up to the full capacity of the burner, until all solid fuel present in the boiler is burned.
  - iii. During malfunction of the boiler, the auxiliary burners shall be used to maintain normal operating flue gas temperature as necessary up to the full capacity of the burner.
- d.
  - i. The Permittee shall operate and maintain the affected boiler and associated control equipment in accordance with written operating procedures developed and maintained by the Permittee. These procedures shall reflect good air pollution control practice for the affected boiler, including use of natural gas in the affected boiler during startup and malfunction or breakdown as practicable to minimize excess emissions.
  - ii. For the affected boiler, the Permittee shall develop, implement, and maintain a written Startup, Shutdown, and Malfunction Plan (Plan) that describe, in detail, procedures for operating and maintaining the affected boiler during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process, and air pollution control and monitoring equipment used to comply with the relevant emission standards. This Plan shall be developed to satisfy the provisions of 40 CFR 63.6(e)(3)(i)(A), (B) and (C), including the following. The Permittee shall develop its initial Plan prior to the initial startup of the affected boiler.
    - A. During periods of startup, shutdown, and malfunction of the affected boiler, the Permittee shall operate and maintain such unit, including associated air pollution control and monitoring equipment, in accordance with the procedures specified in the Plan. [40 CFR 63.6(e)(3)(ii)]

- B. When actions taken by the Permittee during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the Plan, the Permittee shall keep records for that event which demonstrate that the procedures specified in the Plan were followed. In addition, the Permittee shall keep records of these events as specified in 40 CFR 63.10(b), including records of the occurrence and duration of each startup, shutdown, or malfunction of operation and each malfunction of the air pollution control and monitoring equipment. Furthermore, the Permittee shall confirm in the periodic compliance report that actions taken during periods of startup, shutdown, and malfunction were consistent with the Plan, as specified by 40 CFR 63.10(d)(5). [40 CFR 63.6(e)(3)(iii)]
- C. If an action taken by the Permittee during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) of the affected boiler is not consistent with the procedures specified in the Plan, and the emission unit exceeds a relevant emission standard, then the Permittee must record the actions taken for that event and must promptly report such actions as specified by 40 CFR 63.10(d)(5), unless otherwise specified elsewhere in this permit or when superseded in the CAAPP Permit. [40 CFR 63.6(e)(3)(iv)]
- D. The Permittee shall make changes to the Plan for the affected boiler if required by the Illinois EPA or as otherwise specified by 40 CFR 63.6(e)(3)(viii). [40 CFR 63.6(e)(3)(vii) and (viii)]
- E. This Plan is a record required by this permit, which the Permittee must retain in accordance with the general requirements for retention and availability of records. In addition, when the Permittee revises the Plan, the Permittee must also retain and make available the previous (i.e., superseded) version of the Plan for a period of at least 5 years after such revision. [40 CFR 63.6(e)(3)(v) and 40 CFR 63.10(b)(1)]

#### 2.1.6 Emission Limitations

- a. The emissions of the affected boiler shall not exceed the limits in Table II. The annual limits address all emissions from the boiler, including emissions during startup, malfunction and breakdown, as addressed by Condition 2.1.3.

- b. When the affected boiler is being used to control emissions of process units at the ethanol plant, the VOM emissions from the process units controlled by the affected boiler shall be controlled by at least 98 weight percent or to a concentration of no more than 10 ppmv, whichever is less stringent.

2.1.7-1 Testing Requirements

- a. i. Within 60 days after achieving the maximum rate at which the affected boiler will be operated, but not later than 180 days after initial startup, the Permittee shall have tests conducted for emissions of VOM, PM/PM<sub>10</sub>, NO<sub>x</sub>, CO, SO<sub>2</sub>, hydrogen chloride, metals, sulfuric acid mist, amount of VOM in the process gases from the ethanol plant entering the boiler and VOM control efficiency as specified below at its expense, by an approved testing service while the affected boiler is firing solid fuel at maximum load serves as the control device, for the combustion control system for the ethanol plant and other representative operating conditions.

Note: For emission testing required by the NSPS, an extension of the deadline for testing can only be provided by USEPA.

- ii. In addition to the emission testing required above, the Permittee shall perform emission tests as requested by the Illinois EPA within 45 days of a written request by the Illinois EPA or such later date agreed to by the Illinois EPA. The operating conditions during such testing shall be consistent with those specified by the Illinois EPA, e.g., firing of maximum percentages of specific fuel materials.
- b. The following methods and procedures shall be used for testing of emissions of the boiler, unless another method is approved by the Illinois EPA.

	<u>Method</u>
Location of Sample Points	Method 1
Gas Flow and Velocity	Method 2
Flue Gas Weight	Method 3 or 3A
Moisture Content	Method 4
Nitrogen Oxides <sup>1</sup>	Method 7, 7E or 19
Opacity	Method 9
Carbon Monoxide	Method 10
Sulfur Dioxide <sup>1</sup>	Method 6C and 19
Metals/Mercury	Method 29 or Draft ASTM Z65907
PM <sub>10</sub> (Filterable) <sup>2</sup>	Method 201, 201A
PM <sub>10</sub> (Condensable)	Method 202
Volatile Organic Material <sup>3</sup>	Method 18, 25 or 25A
Sulfuric Acid Mist (H <sub>2</sub> SO <sub>4</sub> )	Method 8
Hydrogen Chloride	Method 19 and 26

- <sup>1</sup> Test in accordance with 40 CFR 60, Subpart Db, as further specified in 40 CFR 60.48b(d).
- <sup>2</sup> The Permittee may report all PM emissions measured by USEPA method 5 as PM<sub>10</sub>, in which case separate testing using USEPA Method 201 or 201A need not be performed.
- <sup>3</sup> Permittee may exclude methane, ethane and other exempt compounds from the results of any VOM test provided that the test protocol to quantify and correct for such compounds is included in the test plan approved by the Illinois EPA.
- c. The Permittee shall submit an initial test plan to the Illinois EPA 60 days prior to the initial startup of the boiler.
- d. The Illinois EPA shall be notified prior to these tests to enable the Illinois EPA to observe these tests. Notification and test protocol for the expected date of testing shall be submitted a minimum of 30 days prior to the expected date. Notification of the actual date and expected time of testing shall be submitted a minimum of 5 working days prior to the actual date of the test. Notwithstanding 40 CFR 60.8(d), the Illinois EPA may at its discretion accept notifications with shorter advance notice provided that the Illinois EPA will not accept such notifications if it interferes with the Illinois EPA's ability to observe testing.
- e. Three copies of the Final Report for these tests shall be promptly submitted to the Illinois EPA and in no case later than 60 days after the completion of the testing, and shall include as a minimum:
- i. A summary of results which includes:
- Process rates e.g., total firing rate and usage rate, of different fuel(s).
  - Boiler operating parameters (i.e., steam produced and oxygen content in the flue gas leaving the boiler)
  - Measured emission rates of all pollutants measured
  - Emission factor, calculated using the average test results in the terms of the applicable limits, for example, in units of lbs pollutant emitted per mmBtu
  - Compliance demonstrated - Yes/No
  - Opacity and measured period of testing

- ii. Description of test methods and procedures used, including description of sampling train, analysis equipment, and test schedule.
  - iii. Detailed description of test conditions, including:
    - Pertinent process information (e.g. fuel, firing rates and results of analysis in accordance with Condition 2.1.7-2.)
    - Control equipment information, i.e., equipment condition and pressure drop, flow rates, and other operating parameters during testing.
  - iv. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration.
- f. Copies of emission test reports shall be retained for at least five years after the date that an emission test is superseded by a more recent test.

#### 2.1.7-2 Sampling and Analysis of Solid Fuel Supplies

- a. The Permittee shall sample and analyze the sulfur and heat content of representative solid fuels supplied to the affected boiler in accordance with USEPA Reference Method 19 (40 CFR 60, Appendix A, Method 19).
- b. The Permittee shall analyze samples of all representative solid fuel supplies to the affected boiler for mercury and other metals, chlorine and ash content, as follows:
  - i. Analysis shall be conducted in accordance with USEPA Reference Methods or other method approved by USEPA.
  - ii. Analysis of the fuel supply to the affected boiler shall be conducted in conjunction with performance testing of the boiler (see Condition 2.1.7-1).
  - iii. Analysis of representative samples of solid fuel shall be conducted in conjunction with acceptance of biomass from a new supplier or any alternate fuel.
  - iv. Analysis of representative samples of solid fuel shall be conducted at least every two years, if a more frequent analysis is not needed pursuant to the above requirements.

#### 2.1.8-1 Emissions and Opacity Monitoring Requirements

- a. Emissions monitoring for NO<sub>x</sub> and SO<sub>2</sub>:

- i. Pursuant to 40 CFR 60.48b and 40 CFR Part 75, for each affected boiler, the Permittee shall install, operate and maintain continuous emission monitoring systems (CEMS) for measuring NO<sub>x</sub> and SO<sub>2</sub> emissions and either oxygen (O<sub>2</sub>) or carbon dioxide (CO<sub>2</sub>) from the boiler. These CEMS shall be installed and operational prior to initial firing of fuel in a boiler, and certified promptly thereafter. The procedures under 40 CFR 60.13 shall be followed for the installation, evaluation, and operation of these CEMS.
  - ii. For purposes of determining compliance with NSPS limits, these CEMS shall be operated during all periods of operation of a boiler except for CEMS breakdowns and repairs. This CEMS shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive boiler operating days as specified by 40 CFR 60.48b(f). Data is to be obtained during calibration checks, and zero and span adjustments as specified in the NSPS.
  - iii. In addition to being used to calculate emissions for purposes of the NSPS (as provided by 40 CFR 60.13(h) and 60.48b(b)(2)) and the Acid Rain Program, the data collected by these CEMS shall also be used to determine compliance with applicable mass emission limitations for NO<sub>x</sub> and SO<sub>2</sub> established by this permit.
- b. Emissions monitoring for CO:
- i. The Permittee shall install, calibrate, operate, and maintain a CO continuous monitoring system on the affected boiler within one year after the initial emission testing required by this permit unless this testing or further testing conducted by the Permittee demonstrates that the unit normally complies by a margin of at least 5 percent with the NO<sub>x</sub> and CO emission limit in this permit or the Illinois EPA approves further time for the Permittee to achieve this level of performance.
  - ii.
    - A. This monitoring system shall be operated during all periods of operation of the affected boiler except for continuous monitoring system maintenance, breakdowns and repairs.
    - B. The Permittee shall maintain records for the continuous monitoring system, including recorded emission concentrations and records of maintenance, calibration, and operational activity associated with the system.
    - C. The Permittee shall submit quarterly monitoring reports to the Illinois EPA for this emission monitoring system in accordance with relevant

reporting requirements of the NSPS for continuous emissions monitoring systems.

- iii. The CO continuous emission monitoring may be discontinued if a parametric monitoring plan is approved by the Illinois EPA in a revised construction permit or the operating permit for the plant.
  - iv. The requirement for a CO monitoring system may be revised or waived in the operating permit for the source if the Illinois EPA determines that compliance with requirements for CO emissions is not facilitated to a significant degree by such monitoring.
- c. Opacity Monitoring:
- i. Pursuant to 40 CFR 60.48b and 40 CFR Part 75, the Permittee shall install, operate, and maintain continuous opacity monitoring systems (COMS) for each affected boiler. These COMS shall meet the performance specifications and operating requirements in Sections 3.1 through 3.8 of 40 CFR 51, Appendix P. These COMS shall be operated pursuant to formal monitoring procedures that include a quality assurance/control plan, which procedures shall reflect the manufacturer's instructions as adopted by the Permittee based on its experience. These COMS shall be installed and operational prior to initial firing of solid fuel in the boilers, and certified promptly thereafter.
  - ii. The Permittee shall collect the opacity monitoring system data pursuant to 40 CFR 60.49b(f) and reduce the opacity monitoring data to 6-minute averages.
- d.
- i. Availability of emission data from a monitoring system does not shield the Permittee from potential enforcement for failure to properly maintain and operate the system.
  - ii. If the Permittee determines that a CEMS is inaccurately reporting excess emissions, an affected boiler may continue to operate provided the Permittee records the information it is relying upon to conclude that the boiler and associated emission control systems are functioning properly and the CEMS is reporting inaccurate data, and the Permittee takes prompt action to restore the accuracy of the CEMS.

#### 2.1.8-2 Operational Instrumentation and Monitoring Requirements

- a. The Permittee shall install, operate and maintain instrumentation for each affected boiler for the following operating parameters:
  - i. Consumption of fuels (i.e., solid fuel and natural gas).

- ii. Combustion chamber temperature.
- iii. Temperature of the flue gas at the inlet to the SNCR system and reagent feed rate by the SNCR system.
- iv. Temperature at the inlet to the oxidation catalyst system.
- v. Temperature at the inlet to the absorber and slurry feed rate of the absorber.
- vi. Pressure drop across the oxidation catalyst beds.
- vii. Oxygen in the flue gas.

#### 2.1.9 Recordkeeping Requirements

- a. The Permittee shall maintain a file that contains the following information:
  - i. The rated heat input of the affected boiler, total, and for the auxiliary boilers.
  - ii. Records of the Permittee's established operating, maintenance and monitoring procedures for the affected boiler.
- b. The Permittee shall maintain the following operating records for the affected boiler:
  - i. Total operating hours;
  - ii. Daily records of fuel use, prepared and maintained following the procedures of 40 CFR 60.49b(d);
  - iii. Amount of fuel consumed, by type (tons/month and tons/year) and the annual capacity factor, determined on a 12-month rolling basis with a new annual capacity factor calculated for each month pursuant to 40 CFR 60.49b(d);
  - iv. Records for sulfur content (wt. percent) of the fuel supply to the affected boiler (as received basis). Supplier analysis of the fuel supplied to the Permittee may be used to satisfy these requirements, provided that sampling and analysis follow ASTM methods; Infeasible?
  - v. Amount of limestone used.
- c.
  - i. The Permittee shall maintain a file containing the identity and address of each supplier of biomass to the plant, accompanied by: (1) the type(s) of biomass supplied; (2) the origin of material, if other than the

supplier; (3) copies of relevant portions of the contracts, agreements or other material developed by the supplier and the Permittee identifying the technical specifications and regulatory criteria for the type(s) of biomass that are provided to the plant; (4) copies of documentation for the biomass showing applicable technical specifications are met; and (5) information and documentation as the Permittee deems appropriate to show that applicable legal criteria for acceptance of the biomass should be met.

- ii. The Permittee shall maintain records for the amount of biomass accepted (tons, by type).
  - iii. The Permittee shall maintain logs (or other similar records) for the operation and maintenance of the affected systems with biomass that address compliance with the requirements for acceptance and use of biomass, including records for: each shipment of biomass accepted at the plant; the periods when biomass is fired, with firing rate (i.e., the amounts of biomass and other fuels fired in the affected boiler, in tons, and the percentage of biomass fired, by weight); and periods when the affected boiler operates with greater than 10.0 percent non-wood fuels, on a daily average, with explanation.
- d. The Permittee shall maintain records of the following information for NO<sub>x</sub> and SO<sub>2</sub> for the affected boiler, for each boiler operating day, pursuant to the NSPS:
- i. Calendar date;
  - ii. The average hourly emission rates (expressed in lbs/million Btu heat input) measured or predicted;
  - iii. The 30-day average emission rate (lbs/million Btu heat input) calculated at the end of each boiler operating day from the measured hourly emission rates for the preceding 30 boiler operating days;
  - iv. Identification of the boiler operating days when the calculated 30-day average emission rates are in excess of an applicable standard, with the reasons for such excess emissions as well as a description of corrective actions taken;
  - v. Identification of the boiler operating days for which emission data have not been obtained, including 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 continuous monitoring system;
  - ix. Description of any modifications to the continuous monitoring system that could affect the ability of the continuous monitoring system 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 40 CFR 60.
- e. The Permittee shall install, operate, and maintain a computer data logging system meeting the following data record keeping and reporting requirements.
- i. The system shall store hourly averages of one minute data samples for the following listed parameters with the exception of percent opacity which shall be stored as six minute averages.
    - A. Carbon monoxide (ppmv).
    - B. Nitrogen oxide (ppmv).
    - C. Sulfur dioxide (ppmv).
    - D. Opacity (%).
    - E. Wood fuel feed rate (tons/hour).
    - F. Natural gas firing rate (scf/hour).
    - G. Boiler combustion temperature (°F).
    - H. Steam flow (lbs/hour).
    - I. NO<sub>x</sub> reagent injection rate (gallons/hour).
  - ii. The Data Logger shall calculate the following hourly pollutant emissions using the stack gas emission monitors, stack temperature, and stack flow, and shall store the results of those calculations.
    - A. Carbon monoxide.
    - B. Nitrogen oxides.
    - C. Sulfur Dioxide.

f. Records for Startups of the Affected Boiler

The Permittee shall maintain records for each startup of the affected boiler. These records shall contain the date and duration of each startup, and note any deviations from normal startup procedures, as set forth in the Permittee's written operating procedure.

g. Records for Continued Operation during Malfunctions and Breakdowns of the affected boiler:

i. A maintenance and repair log for the affected boiler and associated control equipment, listing each activity performed with date; and

ii. Records for each occurrence when operation of the affected boiler continued during a malfunction or breakdown that acted to increase emissions or affect emission compliance, including the following information:

A. Date and duration of malfunction or breakdown.

B. A description of the malfunction or breakdown.

C. The corrective actions used to reduce the quantity of emissions and the duration of the occurrence.

D. If excess emissions occurred:

1. An explanation why continued operation of the affected boiler was necessary;

2. The preventive measures planned or taken to prevent similar malfunctions or breakdowns or reduce their frequency and severity; and

3. An estimate of the magnitude of excess emissions during the occurrence.

h. Emissions

The Permittee shall keep the following records related to emissions:

i. Any period of time including startup or malfunction/breakdown when emissions exceed an applicable limit.

ii. The annual NO<sub>x</sub>, VOM, CO, PM, and SO<sub>2</sub>, emissions from the affected boiler, based on continuous emissions monitoring data, fuel consumption or applicable emission factors with supporting calculations.

#### 2.1.10 Reporting and Notification Requirements

- a. The Permittee shall fulfill applicable reporting requirements of the NSPS, 40 CFR 60.7 and 60.49b, for the affected boiler by sending required notifications and reports to the Illinois EPA, including the following. These reports shall be prepared and submitted in conformance with the requirements, content and schedule contained in 40 CFR 60.7:
  - i. Written notification of commencement of construction, no later than 30 days after such date [40 CFR 60.7(a)(1)].
  - ii. Notification of the date of initial startup of the affected boiler, as provided by 40 CFR 60.7. This notification shall include: (1) the design heat input of the affected boiler, and (2) the annual capacity factor at which the Permittee anticipates operating the affected boiler.
  - iii. Reports containing the information recorded under 40 CFR 60.49b(g) and 40 CFR 60.49b(j).
  - iv. Reports for excess emissions, as addressed by Condition 2.1.10(c).
- b. Except as specified below, the Permittee shall notify the Illinois EPA of deviations from the requirements of this permit. If biomass, once accepted, is found to be either unacceptable or unsuitable for use as fuel, so as to require an alternative disposition of the material, the Illinois EPA shall be notified within 15 days.
- c. Within 180 days of concluding the use of biomass in the affected boiler, as authorized by this Permit, the Permittee shall submit a summary report for this project to the Illinois EPA. This report shall include a discussion of the effects of the use of biomass on the operation of the affected boiler and the emission data gathered during the project, including emissions (micrograms per cubic meter, pounds per hour, and pounds per million Btu of fuel), with identification and description of the various modes of operation of the affected boiler.
- d. The Permittee shall immediately notify the Illinois EPA of any occurrence when the PM emissions from the affected boiler exceed the applicable emission standard or limitation or its opacity or emissions of other pollutants exceed the applicable emission standard or limitation for a period of more than two hours, other than during startup or shutdown.
- e.
  - i. A. The Permittee shall submit excess emission reports for any calendar quarter during which there are excess NO<sub>x</sub>, PM<sub>10</sub> or SO<sub>2</sub> emissions from the affected boiler pursuant to the NSPS. If there are no excess

NO<sub>x</sub> or SO<sub>2</sub> emissions during the calendar quarter, the Permittee shall submit a report stating that no excess emissions occurred during the reporting period. Excess emissions are defined as any calculated emission rate that exceeds the applicable limit in Conditions 2.1.2(b) and 2.1.6. These reports shall also address exceedances of the NO<sub>x</sub> and SO<sub>2</sub> limits in Conditions 2.1.2(b) or 2.1.6.

- B. Except for deviations by the affected boiler addressed by the above quarterly reports, the Permittee shall notify the Illinois EPA of any deviations of the affected boiler from any applicable requirement of this permit.
  - ii. The excess emission reports shall also address any other exceedance of the requirements of this permit for the affected boiler, as determined by the records required by this permit or by other means. For this purpose, the report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.
- f. The Permittee shall notify the Illinois EPA of changes in the supply of wood fuel to the boiler, including use of a new supplier. This notification shall describe the change in the wood fuel supply and the composition/character of the new wood fuel. This notification shall be submitted 30 days in advance of the change, unless the change would occur with less than 30 days advance notice to the Permittee, in which case notification shall be provided as soon as reasonably possible, but in no case later than the actual change.

#### 2.1.11 Shakedown Notification and Reporting

- a. The Permittee shall provide the Illinois EPA 30 days advance notification prior to initial start-up of the affected boiler to allow inspection.
- b. The Permittee shall provide to the Illinois EPA prompt notification of any event(s) that disrupts the orderly shakedown of the affected boiler.
- c. The Permittee shall provide to the Illinois EPA progress reports on a calendar quarter basis, commencing with the first quarter in which the biomass boiler initially commenced operation and terminating in the final quarter. These reports shall include the following:
  - i. Overall operating level (heat input and maximum biomass usage);

- ii. Activities accomplished/significant events;
  - iii. Current schedule for emission testing;
  - iv. A summary of any emission measurements conducted; and
  - v. Outreach activities planned/provided for local communities or interested parties.
- d. The Permittee shall provide the Illinois EPA notice as to when shakedown of the biomass-fired boiler is considered complete.

CONDITION 2.2: UNIT-SPECIFIC CONDITIONS FOR WOOD AND OTHER BULK MATERIAL HANDLING AND STORAGE

2.2.1 Description of Emission Units

The affected units for the purpose of these unit-specific conditions are equipment and facilities handling wood and other bulk materials, other than boiler ash that are involved with the operation of the boiler and that have the potential for particulate matter (PM) emissions. Affected units include receiving, transfer, storage, preparation (crushing, screening, etc.) and loading operations, as relevant for particular materials.

Emissions of PM from affected units must be controlled by appropriate measures given the nature of the material. In particular, units handling dry materials must be enclosed and aspirated to control equipment if it is practical to do so. For receiving and storage of biomass, for which total enclosure is not practicable, measures must be used to very effectively reduce the generation of emissions.

2.2.2 Listing of Emission Units and Air Pollution Control Equipment

Unit	Description	Control Equipment
Pebble Lime System	Receiving, Transfer System and Silo Loadout	Baghouse
Limestone System	Receiving, Transfer System and Silo	Baghouse
Storage Pile	Wood Storage	None

2.2.3 Applicable State Emission Standards

- a. The emission of smoke or other PM from affected units shall not have an opacity greater than 30 percent, except as allowed by 35 IAC 212.124. Compliance with this limit shall be determined by 6-minute averages of opacity measurements in accordance with USEPA Reference Method 9. [35 IAC 212.109 and 212.123(a)]
- b. With respect to emissions of fugitive PM, affected units shall comply with 35 IAC 212.301, which provides that emissions of fugitive PM shall not be visible from any process, including any material handling or storage activity, when looking generally toward the zenith at a point beyond the property line of the source, except when the wind speed exceeds 25 miles per hour, as provided by 35 IAC 212.314.
- c. The emissions of PM from affected units other storage piles for solid fuels and associated operations excluded by 35 IAC 212.323 (see Condition 2.2.4) shall comply with the applicable limit pursuant to 35 IAC 212.321, which rule limits emissions based on the process weight rate of emission units and allows a minimum emission rate of 0.55 lb/hour for any individual unit.

#### 2.2.4 Non-Applicability of Regulations of Possible Concern

- a. This permit is issued based on the storage piles for solid fuel and associated operations not being subject to 35 IAC 212.321 pursuant to 35 IAC 212.323, which provides that 35 IAC 212.321 shall not apply to emission units, such as stock piles, to which, because of the disperse nature of such emission units, such rules cannot reasonably be applied.
- b. This permit is issued based on the NSPS for Non-Metallic Mineral Processing Plants not applying to the handling of limestone at the plant since no crushing or screening of limestone will occur at the plant.

#### 2.2.5 Operating Requirements

- a. PM emissions from an affected unit handling lime or other similar fine material shall be controlled by:
  - i. Enclosure of the unit so as to prevent visible fugitive emissions from the affected unit.
  - ii. Aspiration to a control device designed to emit no more than 0.005 grains/dry standard cubic foot (gr/dscf), which device shall be operated in accordance with good air pollution control practice to minimize emissions.
- b. PM emissions from handling of solid fuel shall be controlled by application of water or other dust suppressants so as to minimize fugitive emissions to the extent practicable. For this purpose, there shall either:
  - i. Be no visible emissions from the affected unit, as determined in accordance with USEPA Method 22, or
  - ii. A nominal control efficiency of 80 percent shall be achieved from the uncontrolled emission rate, as follows, as determined using appropriate USEPA emission factors for particulate emissions from handling of material dry, in the absence of any control of emissions, and engineering analysis and calculations for the control measures that are actually present:
- c. PM emissions from an affected unit handling a wet material shall be controlled by maintaining the material with adequate moisture to prevent visible emissions directly from such unit during the handling, storage or load out of the material. For this purpose, wet material is a material that has sufficient moisture during normal operation to minimize the potential for direct emissions.
- d. The Permittee shall implement and maintain control measures for the affected units that minimize visible emissions of PM and

provide assurance of compliance with the applicable limits and standards in Conditions 2.2.5(a), (b) and (c).

2.2.6 Emission Limitations

Annual emissions of PM as PM<sub>10</sub> from the affected units shall not exceed 4.7 tons/year. Compliance with this limit shall be determined from a rolling total of 12 months of data, calculated from the material handled and other, operating information for affected units, and appropriate emission factors.

2.2.7 Emission Testing and Opacity Observations

The Permittee shall conduct testing for the affected units in accordance with Conditions 3.2 and 3.3.

2.2.8 Operational Instrumentation

The Permittee shall install, operate and maintain systems to measure the pressure drop across each baghouse used to control affected units, other than bin vent filters and other similar filtration devices.

2.2.9 Inspections

- a. i. The Permittee shall conduct inspections of affected units on at least a monthly basis with personnel who are not directly responsible for the day-to-day operation of these units, for the specific purpose of verifying that the measures identified in the operating program and other measures required to control emissions from affected units are being properly implemented.
- ii. These inspections shall include observation for the presence of visible emissions, performed in accordance with USEPA Method 22, from buildings in which affected units are located and from units from which the Permittee has elected to demonstrate no visible emissions.
- b. The Permittee shall perform detailed inspections of the dust collection equipment for affected units while the units are out of service, with an initial inspection performed before any maintenance and repair activities are conducted during the period the unit is out of service and a follow-up inspection performed after any such activities are completed. These inspections shall be conducted at least every 15 months.

2.2.10 Recordkeeping

- a. The Permittee shall maintain file(s), which shall be kept current, that contain:
  - i. The maximum operating capacity of each affected unit or group of related units (tons/hour).

- ii. A. For the baghouses and other filter devices associated with affected units, design specifications for each device (type of unit, maximum design exhaust flow (acfm and scfm), filter area, type of filter cleaning, performance guarantee for particulate exhaust loading in gr/scf, etc.), the manufacturer's recommended operating and maintenance procedures for the device, and design specification for the filter material in each device (type of material, surface treatment(s) applied to material, weight, performance guarantee, warranty provisions, etc.).
  - B. For each baghouse, the normal range of pressure drop across the device and the minimum and maximum safe pressure drop for the device, with supporting documentation.
- iii. For affected units that are not controlled with baghouses or other filter-type devices, a detailed description of the work practices used to control emissions of PM pursuant to Condition 2.2.5(b). These control measures are referred to as the "established control measures" in this subsection of this permit.
- iv. The designated PM emission rate, in pounds/hour and tons/year, from affected units, either individually or grouped by related units, with supporting calculations and documentation, including detailed documentation for the level of emissions control achieved through the work practices that are used to control PM emissions. For each category of affected unit, the sum of these emission rates shall not exceed the totals in Table I for the category of affected unit.
- v. A demonstration that confirms that the above established control measures are sufficient to assure compliance with the above emissions rates and, for units to which it applies, Condition 2.2.3-2(c), at the maximum process weight rate at which each affected unit can be operated (tons/hour), with supporting emission calculations and documentation for the emission factors and the efficiency of the control measures being relied upon by the Permittee. Except as addressed by Condition 2.2.10(b)(ii) or testing of PM emissions from an affected unit is conducted in accordance with Condition 2.2.7-2, this demonstration shall be developed using emission factors for uncontrolled PM emissions, efficiency of control measures, and controlled PM emissions published by USEPA.

- b. The Permittee shall keep records for the amount of bulk materials received by or loaded out from the plant by category or type of material (tons/month).
  
- c.
  - i. The Permittee shall keep inspection and maintenance log(s) or other records for the control measures associated with the affected units, including buildings and enclosures, dust suppression systems and control devices.
  
  - ii. These records shall include the following information for the inspections required by Condition 2.2.9(a):
    - A. Date and time the inspection was performed and name(s) of inspection personnel.
    - B. The observed condition of the control measures for each affected unit, including the presence of any visible emissions.
    - C. A description of any maintenance or repair associated with established control measures that are recommended as a result of the inspection and a review of outstanding recommendations for maintenance or repair from previous inspection(s), i.e., whether recommended action has been taken, is yet to be performed or no longer appears to be required.
    - D. A summary of the observed implementation or status of actual control measures, as compared to the established control measures.
  
  - iii. These records shall include the following information for the inspections required by Condition 2.2.9(b):
    - A. Date and time the inspection was performed and name(s) of inspection personnel.
    - B. The observed condition of the dust collection equipment.
    - C. A summary of the maintenance and repair that is to be or was conducted on the equipment.
    - D. A description of any maintenance or repair that is recommended as a result of the inspection and a review of outstanding recommendations for maintenance or repair from previous inspection(s), i.e., whether recommended action has been taken, is yet to be performed or no longer appears to be required.

- E. A summary of the observed condition of the equipment as related to its ability to reliably and effectively control emissions.
- d. The Permittee shall maintain records of the following for each incident when any affected unit operated without the control measures required by Condition 2.2.2 or 2.2.5(b) or (c):
    - i. The date of the incident and identification of the unit(s) that were involved.
    - ii. A description of the incident, including: the established control measures that were not present or implemented; the established control measures that were present, if any; and other control measures or mitigation measures that were implemented, if any.
    - iii. The time at and means by which the incident was identified, e.g., scheduled inspection or observation by operating personnel.
    - iv. Operational data for the incident, e.g., the measured pressure drop of a baghouse, if the pressure drop of the baghouse, as measured pursuant to Condition 2.2.8, deviated outside the levels set as good air pollution control practices.
    - v. The corrective action(s) taken and the length of time after the incident was identified that the unit(s) continued to operate before established control measures were in place or the operations were shutdown (to resume operation only after established control measures were in place) and, if this time was more than one hour, an explanation why this time was not shorter, including a detailed description of any mitigation measures that were implemented during the incident.
    - vi. The estimated total duration of the incident, i.e., the total length of time that the unit(s) ran without established control measures and the estimated amount of material processed during the incident.
    - vii. A discussion of the probable cause of the incident and any preventative measures taken.
    - viii. An estimate of any additional emissions of PM (pounds) above the PM emissions associated with normal operation that resulted from the incident, if any, with supporting calculations.
    - ix. A discussion whether any applicable emission standard, as listed in Condition 2.2.2, 2.2.3-1, or 2.2.3-2 or any applicable emission rate, as identified in the records pursuant to Condition 2.2.10(b), may have been violated

during the incident, with an estimate of the amount of any excess PM emissions (lbs) and supporting explanation.

- e. The Permittee shall maintain the following records for the emissions of the affected units:
  - i. A file containing the standard emission factors used by the Permittee to determine PM emissions from the units, with supporting documentation.
  - ii. Records of PM emissions based on operating data for the unit(s) and appropriate emission factors, with supporting documentation and calculations.
- f. The Permittee shall keep records for all opacity measurements made in accordance with USEPA Method 9 for affected units that it conducts or that are conducted at its behest by individuals who are qualified to make such observations. For each occasion on which such measurements are made, these records shall include the formal report for the measurements if conducted pursuant to Condition 2.2.7 or otherwise the identity of the observer, a description of the measurements that were made, the operating condition of the affected unit, the observed opacity, and copies of the raw data sheets for the measurements.

#### 2.2.11 Notifications

The Permittee shall notify the Illinois EPA within 30 days of deviations from applicable emission standards or operating requirements for the affected units that continue\* for more than 24 hours. These notifications shall include the information specified by Condition 3.

- \* For this purpose, time shall be measured from the start of a particular event. The absence of a deviation for a short period shall not be considered to end the event if the deviation resumes. In such circumstances, the event shall be considered to continue until corrective actions are taken so that the deviation ceases or the Permittee takes the affected unit out of service for repairs.

#### 2.2.12 Reporting Requirements

- a. The Permittee shall submit quarterly reports to the Illinois EPA for all deviations from emission standards and operating requirements set by this permit. These notifications shall include the information specified by Condition 3.0.
- b. These reports shall also address any deviations from applicable compliance procedures established by this permit for affected units.

### 2.2.13 Operational Flexibility

The Permittee is authorized, as follows, to construct and operate affected units that differ from those described in the application in certain respects without obtaining further approval by the Illinois EPA. This condition does not affect the Permittee's obligation to comply with all applicable requirements for affected units:

- a. This authorization only extends to changes that result from the detailed design of the project and any refinements to that design of the affected units that occur during construction and the initial operation of the plant.
- b. With respect to air quality impacts, these changes shall generally act to improve dispersion and reduce impacts, as emissions from individual units are lowered, units are moved apart or away from the fence line, stack heights are increased, and heights of nearby structures are reduced.
- c. The Permittee shall notify the Illinois EPA prior to proceeding with any changes. In this notification, the Permittee shall describe the proposed changes and explain why the proposed changes will act to reduce impacts, with detailed supporting documentation.
- d. Upon written request by the Illinois EPA, the Permittee shall promptly have air quality dispersion modeling performed to demonstrate that the overall effect of the changes is to reduce air quality impacts, so that impacts from affected units remain at or below those predicted by the air quality analysis accompanying the application.

CONDITION 2.3: UNIT-SPECIFIC CONDITIONS FOR ASH HANDLING

2.3.1 Description

The affected units are all fly ash and bed ash handling, transfer and storage units. Fly ash recovered by the baghouse on the boiler is transferred to the fly ash storage silo. Displaced air from the fly ash storage silo is filtered through the bin vent filter. Stored fly ash is loaded out by trucks either wet, after mixing with water, or dry in an enclosed system, with displaced air passed through a baghouse. Bed ash collected at the bed of the boiler and at other points in the boiler, is handled as a wet material.

Fabric filters (baghouses) on affected units shall be designed and maintained to comply with a PM emission rate of 0.01 grain per dry standard cubic foot and be operated and maintained in accordance with good air pollution practice to minimize emissions.

2.3.2 Listing of Emission Units and Air Pollution Control Equipment

Unit	Description	Control Equipment
Ash Handling and Loadout System	Ash Handling Transfer and Loadout	Baghouse

2.3.3 Applicable State Emission Standards

- a. The affected units are subject to 35 IAC 212.321(b), which provides that no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in 35 IAC 212.321(c).
- b. The affected units are subject to the limitations of 35 IAC 212.123, 212.301 and 212.307.

2.3.4 Non-Applicability of Regulations of Concern

None

2.3.5 Operational and Production Limits, and Work Practices

- a. PM emissions from an affected unit handling a dry material shall be controlled by:
  - i. Enclosure of the unit so as to prevent visible fugitive emissions, as defined by 40 CFR 60.671, from the affected unit.

- ii. Aspiration to a control device designed to emit no more than 0.010 grains/dry standard cubic foot (gr/dscf), which device shall be operated in accordance with good air pollution control practice to minimize emissions. For this purpose, the control device shall be a baghouse or other filtration type device unless the Permittee demonstrates and the Illinois EPA concurs that another type of control device is preferable due to considerations of operational safety.
- b. The Permittee shall maintain affected units and associated air pollution control equipment in accordance with good air pollution practice and minimize emissions.
- c. Proper maintenance shall include the following minimum requirements:
  - i. Visual inspection of air pollution control equipment on a regular basis;
  - ii. Maintenance of an adequate inventory of spare parts; and
  - iii. Expeditious repairs, unless the unit is shutdown.

#### 2.3.6 Emission Limitations

Annual emissions of PM from the affected units shall not exceed 0.9 tons/year. 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).

#### 2.3.7 Testing Requirements

The Permittee shall conduct testing for the affected units in accordance with Conditions 3.2 and 3.3.

#### 2.3.8 Instrumentation Requirements

The Permittee shall install, operate and maintain systems to measure the pressure drop across each baghouse used to control affected units, other than bin vent filters and other similar filtration devices.

#### 2.3.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for affected units:

- a. A file containing the manufacturer's specifications and recommended operation and maintenance procedures for each fabric filter, including the design level of PM emissions, in gr/scf.

- b. An operating log or other operating records that at a minimum identify any period during which an affected unit was in operation when the air pollution control equipment was not in operation or was malfunctioning so as to cause an emissions level in excess of the emissions limitation. These records shall include documentation of causes for pollution control equipment not operating or such malfunction and shall state what corrective actions were taken and what repairs were made.
- c. Records of the total amounts of fly and bed ash handled, in tons/month and tons/year.
- d. A maintenance log or other records for inspections, maintenance, and repairs of all associated air pollution control equipment.
- e. Records of monthly and annual emissions of PM with supporting calculations to be calculated on at least a quarterly basis.

#### 2.3.10 Reporting Requirements

The Permittee shall promptly submit written notification and reports to the Illinois EPA regarding non-compliance with the emission limitations and other deviations specified in Conditions 1.8.4 and 3.1.

#### 2.3.11 Notifications and Reporting Requirements

- a. The Permittee shall notify the Illinois EPA within 30 days of deviations from applicable 24 hour requirements or requirements for the affected units that continue for more than 24 hours. These notifications shall include the information specified by Condition 3.5(a).
- b. The Permittee shall submit quarterly reports to the Illinois EPA for all deviations from emission standards and operating requirements set by this permit. These notifications shall include the information specified by Condition 3.5(a).
- c. These reports shall also address any deviations from applicable compliance procedures established by this permit for affected units.

CONDITION 2.4: UNIT-SPECIFIC CONDITIONS FOR ROADWAYS AND OTHER OPEN AREAS

2.4.1 Description of Emission Units

The affected units for the purpose of these unit-specific conditions are roadways, parking areas, and other open areas associated with the operation of the biomass boiler facility, which may be sources of fugitive particulate matter due to vehicle traffic or wind blown dust. These emissions are controlled by paving and implementation of work practices to prevent the generation and emissions of particulate matter.

2.4.2 Control Measures

- a. The opacity of fugitive particulate matter emissions from affected units, except during periods of high wind speeds, shall not exceed 15 percent opacity. For this purpose, opacity and the presence of high wind speeds shall be determined in accordance with 35 IAC 212.109 and 35 IAC 212.314, respectively.
- b.
  - i. Good air pollution control practices shall be implemented to minimize dust emissions from affected units. After construction of the plant is complete, these practices shall provide for pavement on all regularly traveled roads and treatment (flushing, vacuuming, dust suppressant application, etc.) of roadways and areas that are routinely subject to vehicle traffic for very effective and effective control of dust, respectively (nominal 90 percent control for paved roads and areas and 85 percent control for unpaved roads and areas).
  - ii. For this purpose, roads that serve any office building, employee parking areas or are used on a daily basis by operating and maintenance personnel for the boiler facility in the course of their typical duties, roads that experience heavy use during regularly occurring maintenance of the plant during the course of a year, shall all be considered to be subject to regular travel and are required to be paved. Regularly traveled roads shall be considered to be subject to routine vehicle traffic except as they are used primarily for periodic maintenance and are currently inactive or as traffic has been temporarily blocked off. Other roads shall be considered to be routinely traveled if activities are occurring such that they are experiencing significant vehicle traffic.
- c. The handling of material collected from any affected unit associated with the plant by sweeping or vacuuming trucks shall be enclosed or shall utilize spraying, pelletizing, screw conveying or other equivalent methods to control PM emissions.

2.4.3-1 Applicable Federal Emission Standards

None

2.4.3-2 Applicable State Emission Standards

All affected units shall comply with 35 IAC 212.301, which provides that emissions of fugitive particulate matter shall not be visible from any process, including material handling or storage activity, or when looking generally toward the zenith at a point beyond the property line of the source, except when the wind speed is greater than 25 miles per hour, as provided by 35 IAC 212.314.

2.4.3-3 Applicability of Other Regulations

None

2.4.4 Non-Applicability of Regulations of Concern

The fugitive emissions from affected units are not used to determine PSD applicability because these emissions do not fall under the provisions of 40 CFR 52.21(b)(1)(c)(iii).

2.4.5 Operational and Production Limits and Work Practices

- a. The Permittee shall carry out control of fugitive particulate matter emissions from affected units in accordance with a written operating program describing the measures being implemented in accordance with Conditions 2.4.2 and 2.4.3 to control emissions at each unit with the potential to generate significant quantities of such emissions, which program shall be kept current.
  - i. The written operating program shall include:
    - A. Maps or diagrams indicating the location of affected units with the potential to generate significant quantities of fugitive particulate matter, with description of the unit (length, width, surface material, etc.) and volume and nature of expected vehicle traffic, or other activity on such unit, and an identification of any roadways that are not considered routinely traveled, with justification.
    - B. A detailed description of the emissions control technique(s) (e.g., vacuum truck, water spray, surfactant spray, water flushing, dust suppressant application, or sweeping) for the affected unit, including: typical application rate; type and concentration of additives; normal frequency with which measures would be implemented; circumstances, in which the measure would not be implemented, e.g., recent precipitation; triggers for additional

control, e.g., observation of 12 percent opacity;  
and calculated control efficiency for PM emissions.

- ii. The Permittee shall submit copies of the written operating program to the Illinois EPA for review as follows:
    - A. A program addressing affected units during the construction of the plant shall be submitted within 30 days of beginning actual construction of the plant.
    - B. A program addressing affected units with the operation of the affected plant shall be submitted within 90 days of initial start up of the plant.
    - C. Significant amendments to the program by the Permittee shall be submitted within 30 days of the date that the amendment is made.
  - iii. A revised operating program shall be submitted to the Illinois EPA for review within 90 days of a request from the Illinois EPA for revision to address observed deficiencies in control of fugitive particulate matter emissions.
- b. The Permittee shall conduct inspections of affected units on at least a weekly basis during construction of the plant and on a monthly basis thereafter with personnel not directly responsible for the day-to-day implementation of the fugitive dust control program, for the specific purpose of verifying that the measures identified in the operating program and other measures required to control emissions from affected units are being properly implemented.

#### 2.4.6 Emission Limitations

The emissions of PM from affected units, as PM<sub>10</sub>, shall not exceed 5.92 tons/year. Compliance with these limits shall be determined by vehicle traffic and other operating data for the plant, as it relates to the operation of the biomass boiler, information for the implementation of the operating program, appropriate emission factors, and engineering calculations:

#### 2.4.7 Opacity Observations

- a. The Permittee shall conduct performance observations, which include a series of observations of the opacity of fugitive emissions from the affected units as follows to determine the range of opacity from affected units and the change in opacity as related to the amount and nature of vehicle traffic and implementation of the operating program. For performance observations, the Permittee shall submit test plans, test

notifications and test reports, as specified by General Condition 3.0.

- i. Performance observations shall first be completed no later than 30 days after the date that initial emission testing of the affected boiler is performed, as required by Condition 2.1.7, in conjunction with the measurements of silt loading on the affected units required by Condition 2.4.8.
  - ii. Performance observations shall be repeated within 30 days in the event of changes involving affected units that would act to increase opacity (so that observations that are representative of the current circumstances of the affected units have not been conducted), including changes in the amount or type of traffic on affected units, changes in the standard operating practices for affected units, such as application of salt or traction material during cold weather, and changes in the operating program for affected units.
- b. Compliance observations shall be conducted for affected units on at least a quarterly basis to verify opacity levels and confirm the effectiveness of the operating program in controlling emissions.
  - c. Upon written request by the Illinois EPA, the Permittee shall conduct performance or compliance observations, as specified in the request. Unless another date is agreed to by the Illinois EPA, performance observations shall be completed within 30 days and compliance observations shall be completed within 5 days of the Illinois EPA's request.

#### 2.4.8 Operational Measurements

None

#### 2.4.9 Records

- a. The Permittee shall keep a file that contains:
  - i. The operating factors, if any, used to determine the amount of activity associated with the affected units or the PM emissions from the affected units, with supporting documentation.
  - ii. The designated PM emission rate, in tons/year, from each category of affected units (e.g., traffic associated with receiving of wood, with supporting calculations and documentation. The sum of these rates shall not exceed the annual limit on emissions in Condition 2.4.6.

- b. The Permittee shall maintain records documenting implementation of the operating program required by Condition 2.4.5, including:
  - i. Records for each treatment of an affected unit or units:
    - A. The identity of the affected unit(s), the date and time, and the identification of the truck(s) or treatment equipment used;
    - B. For application of dust suppressant by truck: target application rate or truck speed during application, total quantity of water or chemical used and, for application of a chemical or chemical solution, the identity of the chemical and concentration, if applicable;
    - C. For sweeping or cleaning: Identity of equipment used and identification of any deficiencies in the condition of equipment; and
    - D. For other type of treatment: A description of the action that was taken.
  - ii. Records for each incident when control measures were not implemented and each incident when additional control measures were implemented due to particular activities, including description, date, a statement of explanation, and expected duration of such circumstances.
- c. The Permittee shall record any period during which an affected unit was not properly controlled as required by this permit, which records shall include at least the information specified by Condition 3.1(a) and an estimate of the additional PM emissions that resulted, if any, with supporting calculations.
- d. The Permittee shall keep records for the measurements conducted for affected units pursuant to Condition 2.4.8, including records for the sampling and analysis activities and results.
- e. The Permittee shall maintain records for the PM emissions of the affected units to verify compliance with the limits in Condition 2.4.6, based on operating data for the affected units and other activities at the plant (the above records for the affected units include data for implementation of the operating program, and appropriate USEPA emission estimation methodology and emission factors, with supporting calculations).

#### 2.4.10 Notifications

The Permittee shall notify the Illinois EPA within 30 days of deviations from applicable requirements for affected units that are not addressed by the regular reporting required below. These

notifications shall include the information specified by Condition 3.1(a).

#### 2.4.11 Reporting

The Permittee shall submit quarterly reports to the Illinois EPA for affected units stating the following: the dates any necessary control measures were not implemented; a listing of those control measures; the reasons that the control measures were not implemented; and any corrective actions taken. This information includes, but is not limited to, those dates when controls were not implemented based on a belief that implementation of such control measures would have been unreasonable given prevailing weather conditions. This report shall be submitted to the Illinois EPA no later than 45 calendar days from the end of each calendar quarter.

### 3.0 GENERAL CONDITIONS

#### 3.1 Requirements for Records and Reports for Deviations

- a. Except as specified in a particular provision of this permit or as superseded in a subsequent CAAPP Permit, records for deviations from applicable emission standards and control requirements shall include at least the following information: the date, time and estimated duration of the event; a description of the event; the applicable requirement(s) that were not met; the manner in which the event was identified, if not readily apparent; the probable cause for deviation, if known, including a description of any equipment malfunction/breakdown associated with the event; information on the magnitude of the deviation, including actual emissions or performance in terms of the applicable standard if measured or readily estimated; confirmation that standard procedures were followed or a description of any event-specific corrective actions taken; and a description of any preventative measures taken to prevent future occurrences, if appropriate.
- b. Notifications and reports for deviation from applicable emission standards, control requirements, and compliance procedures shall be submitted as follows:
  - i. Notification and reports for deviations shall be submitted within 30 days of the deviation if not otherwise specified in a particular provision of this permit or in a subsequent CAAPP Permit.
  - ii. Notification and reports for deviations shall include the applicable information recorded under Condition 3.1(a).
  - iii. Exceedances of applicable emissions standards or limitations during periods of startup, malfunction or breakdown, or shutdown shall be considered deviations for purposes of notification and reporting, even if exceedance of the standard or limitation is otherwise provided for by applicable rule or this permit.

#### 3.2 Retention and Availability of Records

- a. Except as specified in a particular provision of this permit or as superseded in a subsequent CAAPP Permit, the Permittee shall keep all records, including written procedures and logs, required by this permit at a readily accessible location at the plant for at least five years and shall make such records available for inspection and copying upon request by the Illinois EPA and USEPA.

- b. Upon written request by the Illinois EPA 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 Illinois EPA. For this purpose, material shall be submitted to the Illinois EPA within 30 days unless additional time is provided by the Illinois EPA 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 of the requested material.
  - c. For certain records required to be kept by this permit as specifically identified in the recordkeeping provisions in each Section of this permit, which records are a basis for control practices or other recordkeeping required by this permit, the Permittee shall promptly submit a copy of the record to the Illinois EPA when the record is created or revised. For this purpose, the initial record shall be submitted within 30 days of the effectiveness of this permit. Subsequent revisions shall be submitted within 10 days of the date the Permittee begins to rely upon the record revised.
- 3.3 a. Any reports and notifications required by this permit shall be sent to the Illinois EPA at the following address unless otherwise indicated:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
Compliance Enforcement Section (#40)  
P.O. Box 19276  
Springfield, Illinois 62794-9276

- b. A copy of these reports and notifications, shall also be sent directly to the Illinois EPA's regional office at the following address:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
2009 Mall Street  
Collinsville, Illinois 62234

- c. A copy of these reports and notifications concerning emission testing and initial installation and certification of continuous emission monitoring systems shall also be sent directly to the Illinois EPA's Source Monitoring Unit at the following address:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
Source Monitoring Unit  
9511 West Harrison  
Des Plaines, Illinois 60016

ATTACHMENTS

Table I: Potential Emissions of the Biomass Boiler Facility - Tons/Year

Emission Unit(s)	NO <sub>x</sub>	CO	VOM	PM	PM <sub>10</sub> Total	SO <sub>2</sub>
Boiler	223.4	201.5	83.2	181.8	181.8	85.4
Fuel/Material Handling	---	---	---	4.7	2.4	---
Ash Handling	---	---	---	0.9	1.0	---
Subtotal	223.4	201.5	83.2	187.4	185.2	85.4
Roadways <sup>a</sup>	---	---	---	5.9	1.2	---
Total	223.4	201.5	83.2	193.3	186.4	85.4

<sup>a</sup> Fugitive emissions

TABLE II

## Emission Limitations for the Boiler

Pollutant	Pounds/Hour <sup>a, b</sup>	Tons/Year
CO	46.0	201.5
NO <sub>x</sub>	51.0	223.4
SO <sub>2</sub> <sup>c</sup>	19.5	85.4
PM <sub>10</sub> (filterable) <sup>d</sup>	44.1	181.8
PM <sub>10</sub> (Total)	44.1	181.8
VOM	19.0	83.2
Hydrogen Chloride	2.0	8.8
Acetaldehyde	0.3	1.3
Lead	0.015	0.064
HAP (total)	4.0	17.7

Notes:

- <sup>a</sup> Compliance with the emission rates expressed in pounds/million Btu heat input shall be determined in accordance with the provisions in Condition 2.1.6(b). As an alternative to the limitation expressed in pounds/million Btu, the Permittee may comply with the limitation expressed in pounds/hour.
- <sup>b</sup> Compliance with hourly emission limits shall be based on 24-hour block averages (NO<sub>x</sub>, CO and SO<sub>2</sub>) and 3-hour block average (VOM and PM/PM<sub>10</sub>).
- <sup>c</sup> Due to low sulfur content in wood, sulfuric acid mist emissions will be small.
- <sup>d</sup> All particulate matter (PM) measured by USEPA Method 5 shall be considered PM<sub>10</sub> unless PM emissions are tested by USEPA Method 201 or 201A, as specified in 35 IAC 212.108(a). These PM limits do not address condensable particulate matter.

**ATTACHMENT A - STANDARD PERMIT CONDITIONS**

STANDARD CONDITIONS FOR CONSTRUCTION/DEVELOPMENT PERMITS  
ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1/2, Section 1039) authorizes the Environmental Protection Agency to impose conditions on permits which it issues.

The following conditions are applicable unless superseded by special condition(s).

1. Unless this permit has been extended or it has been voided by a newly issued permit, this permit will expire one year from the date of issuance, unless a continuous program of construction or development on this project has started by such time.
2. The construction or development covered by this permit shall be done in compliance with applicable provisions of the Illinois Environmental Protection Act and Regulations adopted by the Illinois Pollution Control Board.
3. There shall be no deviations from the approved plans and specifications unless a written request for modification, along with plans and specifications as required, shall have been submitted to the Illinois EPA and a supplemental written permit issued.
4. The Permittee shall allow any duly authorized agent of the Illinois EPA upon the presentation of credentials, at reasonable times:
  - a. To enter the Permittee's property where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit,
  - b. To have access to and to copy any records required to be kept under the terms and conditions of this permit,
  - c. To inspect, including during any hours of operation of equipment constructed or operated under this permit, such equipment and any equipment required to be kept, used, operated, calibrated and maintained under this permit,
  - d. To obtain and remove samples of any discharge or emissions of pollutants, and
  - e. To enter and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.

5. The issuance of this permit:
  - a. Shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located,
  - b. Does not release the Permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities.
  - c. Does not release the Permittee from compliance with other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations.
  - d. Does not take into consideration or attest to the structural stability of any units or parts of the project, and
  - e. In no manner implies or suggests that the Illinois EPA (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.
- 6a. Unless a joint construction/operation permit has been issued, a permit for operation shall be obtained from the Illinois EPA before the equipment covered by this permit is placed into operation.
- b. For purposes of shakedown and testing, unless otherwise specified by a special permit condition, the equipment covered under this permit may be operated for a period not to exceed thirty (30) days.
7. The Illinois EPA may file a complaint with the Board for modification, suspension or revocation of a permit.
  - a. Upon discovery that the permit application contained misrepresentations, misinformation or false statement or that all relevant facts were not disclosed, or
  - b. Upon finding that any standard or special conditions have been violated, or
  - c. Upon any violations of the Environmental Protection Act or any regulation effective thereunder as a result of the construction or development authorized by this permit.

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