

217/782-2113

CONSTRUCTION PERMIT -- PSD APPROVAL
REVISED

PERMITTEE

Ingredion Incorporated
Argo Manufacturing Facility
Attn: Rob Mead, Manager Environmental and Regulatory Affairs
6400 South Archer Avenue
Bedford Park, Illinois 60501

Application No.: 03090020 I.D. No.: 031012ABI
Applicant's Designation: BOILER 10
Initial Date Issued: June 3, 2004
Date Application for Revised Permit Received: August 1, 2014
Date Revised Permit Issued: November 5, 2014
Subject: New CFB Boiler
Location: 6400 South Archer Avenue, Bedford Park, Cook County

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of a circulating fluidized bed ("CFB") boiler (with limestone bed injection, SNCR system with aqueous ammonia or urea, lime injection, and a baghouse) to replace four existing boilers, and associated new coal, limestone, lime, ash handling systems and other ancillary operations, as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following conditions.

In conjunction with this permit, approval is given with respect to the federal regulations for Prevention of Significant Deterioration of Air Quality (PSD) for the project, as described in the application, in that the Illinois Environmental Protection Agency (IEPA) finds that the application fulfills all applicable requirements of 40 CFR 52.21 for emissions of carbon monoxide. This approval is issued pursuant to the Clean Air Act, as amended, 42 U.S.C. 7401 et seq., the federal regulations promulgated thereunder at 40 CFR 52.21 for Prevention of Significant Deterioration of Air Quality (PSD), and a delegation of Authority agreement for the administration of the PSD Program. This approval becomes effective in accordance with the provisions of 40 CFR 124.15 and may be appealed in accordance with provisions of 40 CFR 124.19. This approval is based upon the findings that follow. This approval is subject to the following conditions. This approval is also subject to the general requirement that the project be developed and operated consistent with the specifications and data included in the application and any significant departure from the terms expressed in the application, if not otherwise authorized by this permit, must receive prior written authorization from the Illinois EPA.

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FINDINGS

Findings for the Original Permit

(Corn Products International, Inc. changed its name to Ingredion in June 2012.)

- 1a. Corn Products International, Inc. ("CPI") has requested a permit to construct a CFB boiler with a nominal heat input of 1,670 million Btu per hour. The proposed CFB boiler will be equipped with limestone injection to the bed, selective noncatalytic reduction (SNCR) with aqueous ammonia or urea, dry lime injection, and a baghouse. Ancillary operations would include coal handling and storage; ash handling and storage; limestone handling and storage; cooling towers; a third steam turbine generator (nominal 24 MW capacity), and other minor ancillary operations.
- b. The boiler would be fired on coal as the primary fuel, with natural gas used as the startup fuel. The boiler would generally be designed for coal mined in Illinois. Such fuel would typically have at least 3 percent sulfur by weight and 11,000 Btu per pound higher heating value (HHV), which is equivalent to a minimum uncontrolled sulfur dioxide emission rate of 5.5 pounds per million Btu heat input. The boiler would be designed to use petroleum coke ("petcoke") as supplemental fuel. The boiler would also have the capability to use biofuels such as: corn gluten, cobs and cleanings, grain fibers or hulls, and similar materials derived from the corn wet milling process and other manufacturing operations.
2. The CFB boiler would be located at the Corn Products Argo plant on an approximately 288 acre industrial site in Bedford Park, Cook County. The site is in an area that is currently designated nonattainment for ozone and PM₁₀, and designated attainment for all other criteria pollutants.
- 3a. The proposed CFB boiler is a major modification for carbon monoxide (CO) under the PSD rules. The CFB boiler, as indicated in the application, would have potential annual emissions of sulfur dioxide (SO₂), nitrogen oxides (NO_x), and carbon monoxide (CO) that are each in excess of 100 tons per year. The CFB boiler would also have the potential to emit significant amounts of sulfuric acid mist, and fluorides. (Refer to Table I for the potential emissions of the CFB boiler.) However for every PSD regulated air pollutant except CO, the project will be accompanied by contemporaneous decreases in emissions so as to net out of PSD. (Refer to Table IV for the net change in emissions accompanying the CFB boiler project.) The decreases in emissions will be provided by the shutdown of the three existing coal-fired boilers (Boilers 1 through 3) and one existing gas-fired boiler (Boiler 4) at the source*. See Findings for Revised Permit. (Note that hydrogen fluoride (HF) is a HAP that is not treated as a fluoride under the PSD rules.)
 - * In addition, the original permit relied on a curtailment in Boiler 5.
- b. The proposed project would not be a major modification under Illinois' rules for nonattainment new source review, Major Stationary Sources

Construction and Modification (MSSCAM), 35 IAC Part 203. The project is located in an area that is designated severe nonattainment for ozone and moderate nonattainment for particulate matter less than 10 microns (PM₁₀). As indicated in the application, it would have potential annual emissions of volatile organic materials (VOM) that are in excess of 25 tons and PM₁₀ in excess of 100 tons. As the project would be located in ozone and PM₁₀ nonattainment areas, conditions of this construction permit as they relate to emissions of VOM and PM are not considered part of the PSD approval. As a result of shutdown of existing equipment and a process change that reduced VOM emissions, the net change in VOM and PM emissions are such that nonattainment new source review will not be triggered. (Also refer to Table IV.)

4. After reviewing the materials submitted by CPI, the Illinois EPA has determined that the project will (i) comply with applicable Board emission standards (ii) comply with applicable federal emission standards, (iii) utilize Best Available Control Technology (BACT) on emissions of carbon monoxide as required by PSD, (iv) utilize Maximum Achievable Control Technology (MACT) for emissions of HAP as required by Section 112 of the Clean Air Act.

The determinations of BACT for carbon monoxide emissions made by the Illinois EPA for the proposed boiler reflects an emission limit of 0.10 pound/million Btu, 24-hour block average. (See Condition 1.1.6(b))

5. The air quality analysis submitted by CPI and reviewed by the Illinois EPA shows that the proposed project will not cause violations of the ambient air quality standard for CO. The air quality analysis shows compliance with the allowable increment levels established under the PSD regulations.
6. The Illinois EPA has determined that the proposed project, as described in the application, would be designed to comply with all applicable Illinois Pollution Control Board Air Pollution Regulations; the federal Prevention of Significant Deterioration of Air Quality Regulations (PSD), 40 CFR 52.21; applicable federal New Source Performance Standards (NSPS), 40 CFR 60; and applicable federal National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR 63.
7. In conjunction with the issuance of this construction permit, the Illinois EPA is also issuing a Budget Permit for the proposed CFB boiler, to address requirements of the NO_x Trading Program. As the Budget Permit relates to the NO_x Trading Program, it is not considered part of the PSD approval.
8. A copy of the application, the project summary prepared by the Illinois EPA, a draft of this construction permit, and a draft of the Budget permit were placed in a public location near the plant site, and the public was given notice and an opportunity to examine this material, to participate in a public hearing, and to submit comments on these matters.

Finding for the Revised Permit

Ingredion (formerly Corn Products International) requested changes to the provisions of this construction permit to remove restrictions on the operation of existing natural gas-fired Boiler 5. This project would still not be a major project. The operation of Boiler 5 would continue to be limited by a previous construction permit, Permit 02020023. Accordingly, these restrictions have been removed and the evaluation of the changes in emissions of this project have been adjusted appropriately, with changes made to Condition 4.0(c) (ii) and Table IV.

1.0 UNIT SPECIFIC CONDITIONS

1.1 Group 1: CFB Boiler

1.1.1 Description

The principal unit that is the subject of this permit is a circulating fluidized bed (CFB) boiler ("Boiler #10"), to supply steam necessary to operate the Argo plant. The boiler would be fired with coal, which may be supplemented by petroleum coke, biofuels and natural gas. Natural gas would also be used as a startup fuel.

The emissions from the boiler will be controlled by the addition of limestone in the bed, a selective noncatalytic reduction (SNCR) system, lime injection and a baghouse. The feeding of limestone into the fluidized bed supports a reaction between calcium oxide and sulfur that captures much of the sulfur that would otherwise be emitted as sulfur dioxide (SO₂) from the combustion process.

In the SNCR system, dilute ammonia or urea will be injected into the boiler downstream of the bed to control emissions of nitrogen oxides (NO_x).

Lime is injected into the hot flue gases after the economizer. This will remove additional SO₂ and other acid gasses such as HCl.

A baghouse will be used to control particulate matter.

1.1.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Equipment	Description	Emission Control Equipment
Group 1	Boiler #10	Fluidized Bed Boiler, with Limestone Bed Injection; (Coal, Petcoke, Biofuel or Natural Gas Fired)	SNCR, Dry Lime Injection, and Baghouse

1.1.3 Applicability Provisions and Applicable Regulations

- a. The "affected boiler" for the purpose of these unit specific conditions is the boiler identified in Conditions 1.1.1 and 1.1.2.
- b. i. The affected boiler is an affected source for purposes of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial Commercial/Institutional Boilers and Process Heaters, 40 CFR 63, Subpart DDDDD.

- ii. A. The affected boiler, as a "large solid fuel unit," is subject to and shall comply with the following emission standards pursuant to 40 CFR 63 Subpart DDDDD:

PM	0.025 lb/million Btu
HCl	0.02 lb/million Btu
Mercury	0.000003 lb/million Btu
CO	400 ppm, dry basis @ 7% oxygen, 30-day ave.

- B. Notwithstanding the above, as provided by 40 CFR 63.7507, as an alternative to compliance with the above emission standard for hydrogen chloride (HCl), the Permittee may demonstrate eligibility for and comply with the health-based compliance alternative for HCl emissions under the procedures prescribed in 40 CFR 63, Subpart DDDDD, Appendix A.

Note: This Permit does not address the alternative emission standards under the NESHAP for Total Selected Metals or manganese, as the affected boiler must comply with a PM emission standard of 0.025 lb/million Btu pursuant to Condition 1.1.6(b).

- iii. The affected boiler and the Permittee are subject to and shall comply with applicable requirements of 40 CFR 63, Subpart A, General Provisions, as specified by 40 CFR 63.7565.
- c. The affected boiler is subject to the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subparts A and Db. The affected boiler is also subject to and will maintain compliance with the applicable provisions of 35 IAC as indicated below. The affected boiler shall comply with applicable 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:
 - i. When firing solid fuel, the following standards apply. When using natural gas as part of the startup or shutdown of the boiler in conjunction with firing of solid fuel and during incidental co-firing of natural gas with solid fuel(s) (as necessary to restore or maintain the normal operation of the boiler),

the affected boiler shall continue to be subject to these standards.

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. This standard shall apply at all times, except during periods of startup, shutdown or malfunction as provided by 40 CFR 60.2, 60.11(c) and 40 CFR 60.43b(g). Compliance with these provisions will assure compliance with 35 IAC 212.122.

B. Particulate matter emissions shall not exceed 22 ng/J per actual heat input in any one hour period (0.051 lb/million Btu), pursuant to 40 CFR 60.43b(a) (1), except during periods of startup, shutdown or malfunction as provided by 40 CFR 60.2, 60.11(c) and 40 CFR 60.43b(g).

Note: Compliance with these provisions will assure compliance with 35 IAC 212.204.

C. Nitrogen oxide emissions shall not exceed 260 ng/J (0.60 lb/million Btu*) on a 30-day rolling average, pursuant to 40 CFR 60.44b(a) (3) (ii).

* Condition 1.1.6 requires a more stringent emission rate.

D. Sulfur dioxide (SO₂) emissions shall not exceed 520 ng/J (1.2 lb/million Btu*) and either 90 percent removal of the potential SO₂ emission rate* or 0.20 lb/million Btu, on a 30-day rolling average, pursuant to 40 CFR 60.42b(a). Compliance with these provisions will assure compliance with 35 IAC 214.121.

* Condition 1.1.6 requires a more stringent emission rate.

ii. When firing natural gas as its principal fuel, the affected boiler is subject to the following standards.

A. Nitrogen oxide (NO_x) emissions shall not exceed 43 ng/J (0.10 lb/million Btu) on a 30-day rolling average, pursuant to 40 CFR 60.44b.

- B. This permit is issued based on the affected boiler not being subject to the limits of the NSPS for PM, opacity, or SO₂ when the boiler does not burn oil or solid fuel.
- iii. At all times, the Permittee shall maintain and operate the affected boiler, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions, pursuant to 40 CFR 60.11(d).
- d. 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_x) shall not exceed 0.7 lb/mmBtu in any one-hour period [35 IAC 217.121(d)]. See also condition 1.1.4(b).
 - iv. The emissions of sulfur dioxide (SO₂) shall not exceed 1.2 lb/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).
- e. Malfunction and Breakdown Provisions

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 requirements of Condition 1.1.3 (d) (i), (ii), (iii) (iv) and (v). This authorization is made pursuant to 35 IAC 201.262 and is subject to the following requirements:

- i. 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.

- ii.
 - A. 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.

 - B. Consistent with the above, if the Permittee has operated and maintained the CFB 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 system 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.

 - C. In all cases, shutdown and repair shall be accomplished within 24 hours or noon of the Illinois EPA's next business day whichever is greater, unless the Permittee obtains an extension from the Illinois EPA. The Illinois EPA may grant such extension if the Permittee demonstrates that the affected boiler could not be reasonably repaired or removed from service within the allowed time and that, based on the actions which have been taken and will be taken, the Permittee is taking reasonable steps to minimize excess emissions and will repair

the affected boiler or remove it from service as soon as practicable.

D. In no case shall shutdown of the CFB boiler system be delayed solely for the economic benefit of the Permittee.

- iii. The Permittee shall operate and maintain the affected boiler 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.
- iv. The Permittee shall fulfill applicable recordkeeping and reporting requirements of Conditions 1.1.9 and 1.1.10 with respect to malfunctions and breakdowns.
- v. 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.

Note: These provisions are subject to review and revision when the CAAPP permit for the source is revised to address the affected boiler and each time the CAAPP permit is subsequently renewed.

f. Startup Provisions

- i. The Permittee is authorized to operate the affected boiler in violation of the applicable state emission standards of Conditions 1.1.3(d) (i), (ii), (iii), (iv) and (v) during startup, pursuant to 35 IAC 201.262.
- ii. 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 an 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 coal.
 - C. Use of the baghouse as soon as coal 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.
 - 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.
- iii. The Permittee shall fulfill applicable recordkeeping requirements of Condition 1.1.9(g).

Note: These provisions are subject to review and revision when the CAAPP permit for the source is revised to address the affected boiler and each time the CAAPP Permit is subsequently renewed.

1.1.4 Non-Applicability of Regulations of Concern

- a. This boiler is not subject to the Title IV (i.e., Acid Rain) provisions of the Federal Clean Air Act since it is an industrial boiler.
- b. Compliance with the hourly NO_x limitation in condition 1.1.6(a) which is equivalent to 0.15 lb/mmBtu shall be presumed to assure compliance with the standard of 0.7 lb/mmBtu in 35 IAC 217.121(d) (Condition 1.1.3(d) (iii)).

1.1.5 Operational and Production Limits and Work Practice

- a. Coal, petroleum coke and biofuels shall be the only solid-fuels fired in the boiler. For purposes of this permit, biofuels are materials derived from the corn wet milling process and other manufacturing operations at the source that include materials such

as corn cobs, corn cleanings, corn feed, corn germ, corn gluten, spent corn germ flake and vegetable oil. Biofuels shall not include any hazardous waste.

- b. The usage of solid fuel in the boiler shall not exceed 68,000 tons/month and 640,000 tons/year.
- c. Pursuant to 40 CFR 63.7500(a)(2) and 63.7540(a), to demonstrate compliance with the PM emission limit in Condition 1.1.3(b), the Permittee shall operate and maintain the baghouse on the affected boiler to comply with one of the applicable operating limits specified in 40 CFR 63, Subpart DDDDD, Table 2, for boilers controlled by fabric filters, as further provided by 40 CFR 63.7540(a)(1) and (a)(9), if applicable.

Note: Upon initial startup of the affected boiler, the Permittee plans to comply with the operating limit for opacity, which restricts opacity to no more than 10 percent, on a one-hour block average. This limit is available for the affected boiler because it is equipped with a dry filter control system.

1.1.6 Emission Limitations

- a. i. The affected boiler is subject to the following hourly and annual limits as summarized below from Tables I and II. The annual limits address all emissions from the boiler, including emissions during startup, malfunction and breakdown, as addressed by Conditions 1.1.3 and 4.0(f). The short-term limits do not apply during periods addressed by these conditions.

CO		PM*		VOM	
(Lb/Hr)	(T/Yr)	(Lb/Hr)	(T/Yr)	(Lb/Hr)	(T/Yr)
167.0	709.6	83.5	354.8	6.7	28.4

NO _x		SO ₂		HCl	
(Lb/Hr)	(T/Yr)	(Lb/Hr)	(T/Yr)	(Lb/Hr)	(T/Yr)
250.5	1,064.3	501.0	2,128.7	- - -	141.9

H ₂ SO ₄		Lead		Total Fluorides	
(Lb/Hr)	(T/Yr)	(Lb/Hr)	(T/Yr)	(Lb/Hr)	(T/Yr)
26.7	113.5	0.13	0.57	6.3	27.0

* Filterable and condensable particulate matter.

- ii. SO₂ emissions during startup shall not exceed 501.0 lbs/hour, determined as the average of

the 36-hour period starting when coal is first fired.

- iii. The affected boiler shall comply with the above hourly limitations and the limitations below beginning 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.
- b. Emissions from the affected boiler shall not exceed the following limits for the stated averaging times. Compliance with these limits shall be determined in accordance with the NSPS or 40 CFR 63.7540 where applicable.

Pollutant	Emission Rate (Lb/mmBtu)	Averaging Time	Notes
CO	0.10	24-Hour Block	1, 2
NO _x	0.15	30-Day Rolling Average	
SO ₂	0.30	30-Day Rolling Average	
PM	0.025	3-Hour Average	3
PM ₁₀	0.05	3-Hour Average	4
VOM	0.004	3-Hour Average	2
H ₂ SO ₄	0.016	3-Hour Average	
HCl	0.02	3-Hour Average	5, 6
Mercury	0.000003	3-Hour Average	5
Lead	0.00008	3-Hour Average	
Fluorides	0.0038	3-Hour Average	

¹ Represents BACT

² Alternatively, to address reduced-load operation the Permittee may choose to comply with a lb/hour emission rate, calculated as the lb/mmBtu rate multiplied by the nominal rated heat input of the boiler.

³ Represents MACT, Emission limit addresses filterable PM.

⁴ Limit addresses both filterable and condensable particulate.

⁵ Represents MACT, with testing and compliance procedures in accordance with 40 CFR 63, Subpart DDDDD.

⁶ As an alternative to compliance with an emission rate of 0.02 lb/million Btu, the Permittee may demonstrate eligibility for and comply with the health-based compliance alternative for HCl emissions, as provided for by 40 CFR 63.7507.

- c. During the shakedown and probationary operating period of the affected boiler emissions are also addressed by Condition 4(c) (ii). The Permittee shall reduce the operation and emissions of its existing coal fired boilers as required by Condition 4(c) (ii).

1.1.7 Testing Requirements

- a. The Permittee shall perform sampling for the solid fuel used in the affected boiler in accordance with the NSPS.
- b.
 - i. The Permittee shall have emissions testing performed for the affected boiler in accordance with Condition 2.0.
 - ii.
 - A. Between 9 and 24 months after performance of the initial testing that demonstrates compliance with applicable requirements, the Permittee shall have the emissions of PM, VOM, hydrogen fluoride, sulfuric acid mist, and mercury/metals from the affected boiler retested following the procedures specified in Condition 2.0.
 - B. Emissions of hydrogen chloride (HCl) shall be re-tested by April 30, 2010, after the initial testing that demonstrates compliance with applicable requirements from the affected boiler following the procedures specified in Condition 2.0.
 - iii.
 - A. Thereafter, the Permittee shall have PM emissions from the affected boiler tested at a regular interval. This interval shall be no greater than 36 months, unless the results of two consecutive PM tests for the affected boiler demonstrates PM emissions of 0.015 lb/million Btu or less, in which case the interval between tests shall be no greater than 72 months. However, if a PM test for the affected boiler then shows PM emissions above 0.015 lb/million Btu, the maximum interval between testing shall revert to 36 months until two consecutive tests again show PM emissions of 0.015 lb/million Btu or less. For the purposes of these provisions, the two consecutive tests must be at least 24 months apart.

- B. Whenever PM testing for the affected boiler is performed as required above, testing for emissions of mercury and hydrogen chloride shall be performed as provided in Section 2.0.

1.1.8 Monitoring Requirements

a. Monitoring related to PM:

- i. For the affected boiler, pursuant to 40 CFR 60.48b and 40 CFR 63.7525(b), the Permittee shall install*, operate, calibrate and maintain continuous monitoring equipment for the measurement of opacity from the boiler.

- A. This monitoring equipment shall be operated pursuant to written or electronic 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.

- B. This monitoring equipment shall meet the performance specifications and operating requirements in 40 CFR 60, Appendix B, Performance Specification 1.

* The monitor shall be installed and operational prior to initial firing of solid fuel in the boiler, and certified promptly thereafter.

- ii. If a Performance Specification for particulate matter continuous monitoring systems is adopted by USEPA more than 6 months before the scheduled date for initial start-up of the affected boiler, the Permittee shall install and operate such a system on the boiler for the purpose of compliance assurance monitoring. The Permittee shall operate, calibrate and maintain this system in accordance with the applicable USEPA performance specification and other applicable requirements of the NSPS for monitoring systems and in a manner that is generally consistent with published USEPA guidance for use of such systems for compliance assurance monitoring, e.g., *Fabric Filter Bag Leak Detection Guidance*, EPA-454/R-98-015, September 1997. The Permittee shall also operate and maintain this monitoring system according to a site-specific monitoring plan,

which shall be submitted at least 60 days before the initial start-up of the affected boiler to the Illinois EPA for its review and approval. With this submission, the Permittee shall submit the proposed type of monitoring equipment and proposed sampling location, which shall be approved by the Illinois EPA prior to installation of equipment.

- iii. For the affected boiler controlled by a fabric filter baghouse, pursuant to 40 CFR 63.7525(f), the Permittee shall install, calibrate, maintain, and continuously operate a bag leak detection system as specified in 40 CFR 63.7525(i) (1) through (8).

b. Emissions monitoring for NO_x:

- i. For the affected boiler, pursuant to 40 CFR 60.48b the Permittee shall install, calibrate, operate and maintain a continuous emission monitoring system (CEMS) for measuring the NO_x emissions from the affected boiler. The procedures under 40 CFR 60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems. This CEMS shall be operated during all periods of operation of the affected boiler except for CEMS breakdowns and repairs. When NO_x emission data are not obtained because of CEMS breakdowns, repairs, calibration checks and zero and span adjustments, the Permittee shall obtain emission data by using standby monitoring systems, Method 7, Method 7A or other approved methods to provide emission data for a minimum of 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 in the scheduling and course of performing calibration checks, and zero and span adjustments as specified in the NSPS.

The 1-hour average NO_x emission rates measured by the CEMS shall be expressed in lb/million Btu heat input and shall be used to calculate average emission rates pursuant to the NSPS. The 1-hour averages shall be calculated using the data points required under 40 CFR 60.13(h), except as allowed under 60.48b(b) (2).

- ii. The monitor shall be installed and operational prior to initial firing of coal in the boiler, and certified promptly thereafter.

iii. The Permittee may install and operate a Part 75 CEMS pursuant to the NO_x Trading Program, 35 IAC 217, Subpart U to satisfy this requirement.

c. Emissions monitoring for SO₂:

Pursuant to 40 CFR 60.47b, for the affected boiler, the Permittee shall install*, calibrate, operate and maintain a CEMS for measuring the SO₂ concentrations from the affected boiler. The procedures to monitor and record either oxygen (O₂) or carbon dioxide (CO₂) shall be followed, pursuant to 40 CFR 60.47b. The requirements of 40 CFR 60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems. 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 pursuant to 40 CFR 60.47b(c). Data is to be obtained during calibration checks, and zero and span adjustments as specified under the NSPS.

The 1-hour average SO₂ emission rates measured by the CEMS shall be expressed in lb/million Btu heat input and shall be used to calculate average emission rates for purposes of the NSPS. The 1-hour averages shall be calculated using the data points required under 40 CFR 60.13(h). At least 2 data points must be used to calculate each 1-hour average. The 1-hour average is based on more than 30 minutes of boiler operation pursuant to 40 CFR 60.47b(d). The procedures under 40 CFR 60.13 shall be followed for installation, evaluation, and operations of the CEMS.

* The monitor shall be installed and operational prior to initial firing of solid fuel in the boiler, and certified promptly thereafter.

d. Emissions monitoring for CO:

The Permittee shall continuously monitor CO emissions according to the provisions in 40 CFR 63.7525(a) and 63.7535.

The Permittee shall calibrate, operate and maintain the CEMS in accordance with the generally applicable requirements of the NSPS for CEMS, including recordkeeping and reporting as set forth in 40 CFR 60.7(c) and (d) and 60.13. In addition, the Permittee shall demonstrate compliance with the hourly CO emission limit in Condition 1.1.6(b) as a 24-hour block average. In the operating permit for

the plant, the Illinois EPA may revise the requirements applicable to the CO CEMS, including allowing the removal of the CEMS, based on the data that has been collected, if allowed by the NESHAP.

- e. i. Fulfillment of the above criteria for 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 continuous emission monitoring system (CEMS) is inaccurately reporting excess emissions, the 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.

1.1.9 Recordkeeping Requirements

- a. The Permittee shall maintain a file that contains the following information:
 - i. The maximum rated heat input of the affected boiler.
 - ii. The current Process and Instrumentation Diagram(s) for the affected boiler.
 - iii. Records of the Permittee's established operating, maintenance and monitoring procedures for the affected boiler.
- b. The Permittee shall maintain records of the following information for NO_x and SO₂ for the affected boiler, for each boiler operating day, pursuant to the NSPS:
 - i. Calendar date.
 - ii. The average hourly emission rates (expressed in lb/million Btu heat input) measured or predicted.
 - iii. The 30-day average emission rate (lb/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 reasons for not obtaining sufficient data and a description of corrective actions taken.
 - vi. Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data.
 - vii. Identification of "F" factor used for calculations, method of determination, and type of fuel combusted.
 - viii. Identification of the times when the pollutant concentration exceeded full span of the 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.
 - x. Results of daily CEMS drift tests and quarterly accuracy assessments as required under Appendix F, Procedure 1 of 40 CFR 60.
- c. Opacity
- i. The Permittee shall collect the opacity monitoring system data pursuant to 40 CFR 60.49b(f), 40 CFR 63.7525(b) and 63.7535.
 - ii. Reduce the opacity monitoring data to 6-minute averages.
- d. The Permittee shall keep records required by the NESHAP, including:
- Records of CO emissions as required by 40 CFR 63.7555(b).
- e. The Permittee shall maintain the following operating records for the affected boiler:

- i. Total operating hours and operating hours, excluding startup and shutdown, when the affected boiler did not burn solid fuel (hours/month and hours/year).
- ii. Daily records of fuel use, prepared and maintained following the procedures of 40 CFR 60.49b(d) and 40 CFR 63.7540(a).
- 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. Amounts of limestone, lime, and ammonia or urea, used in tons/month.
- v. 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.
- f. The Permittee shall keep records of maintenance, calibration and operational activity associated with each required continuous monitoring device.
- g. 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.

- h. 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.
 - 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:
 - An explanation why continued operation of the affected boiler was necessary.
 - The preventive measures planned or taken to prevent similar malfunctions or breakdowns or reduce their frequency and severity.
 - An estimate of the magnitude of excess emissions during the occurrence.

i. Emissions

The Permittee shall keep the following records related to emissions:

- i. Any period of time including startup or malfunction/breakdown as addressed by Conditions 1.1.3(e) and (f) when emissions exceed an applicable limit.
- ii. The annual NO_x, VOM, CO, PM, SO₂, H₂SO₄, lead, mercury, hydrogen chloride, and hydrogen fluoride emissions from the affected boiler, based on continuous emissions monitoring data, fuel consumption or applicable emission factors with supporting calculations.

1.1.10 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 the following notifications and reports to the Illinois EPA:
 - i. 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.

- ii. Reports containing the information recorded under 40 CFR 60.49b(g) and 40 CFR 60.49b(j).
- iii. Reports for excess emissions, as discussed in Condition 1.1.10(c).

These reports shall be prepared and submitted in conformance with the requirements, content and schedule contained in 40 CFR 60.7. Submittal in standardized electronic format is approved by the Illinois EPA.

- b. The Permittee shall fulfill applicable reporting and notification requirements of 40 CFR 63.7545 and 63.7550 for the affected boiler.
- c. 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.
- d.
 - i. The Permittee shall submit excess emission reports for any calendar quarter during which there are excess NO_x or SO₂ emissions from the affected boiler pursuant to the NSPS. If there are no excess NO_x or SO₂ 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 1.1.3(b) and (c). These reports shall also address exceedances of the NO_x and SO₂ limits in Condition 1.1.6(a) or (b).
 - ii. 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 as outlined in Condition 4(i)(ii).
- e. The Permittee shall notify the Illinois EPA of changes in the supply of solid fuel to the boiler, including use of coal from a different mine, petroleum coke from a different source and a new type of biofuel. This notification shall describe the change in fuel supply and the composition/character of the new 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.

1.1.11 Compliance Procedures

- a. Compliance with the NO_x standards and limitations is addressed by the continuous emissions monitoring system required by Condition 1.1.8(b).
- b. Compliance with opacity and SO₂ standards and limitations are addressed by the continuous emissions monitoring system required by Conditions 1.1.8(a) and (c), respectively.
- c. For pollutants for which continuous emissions monitoring is not conducted, compliance with applicable emission standards and limitations is addressed by the work practices required by Condition 1.1.5, the emission testing required by Condition 1.1.7, and the records required by Condition 1.1.9. For purposes of calculating emissions, appropriate emission factors shall be used that are based on testing of the affected boiler or published USEPA emission factors.

1.1.12 Operational Flexibility

The Permittee is authorized to utilize activated carbon or other control techniques or operating practices as needed to control mercury emissions.

1.2 Group 2: Fuel and Other Raw Material Handling Operations

1.2.1 Description

Limestone for the bed in the boiler will be received by truck and stored in a silo before being pulverized and sent to the boiler. Various conveyor systems will transfer the limestone from operation to operation. (Fugitive emissions associated with temporary outdoor limestone storage are addressed in Section 1.4.)

Coal and supplementary solid fuel will be received by rail, crushed, and stored in bunkers before being fed to the boiler. Various conveyors will transfer the coal from operation to operation. The coal handling system also has the capability to transfer limestone received by truck to the limestone storage silo, as an alternative to the limestone handling system. (Fugitive emissions associated with outdoor coal storage are addressed in Section 1.4.)

Lime for the dry sorbent injection system on the boiler will also be handled.

Particulate matter (PM) emissions associated with these operations are controlled by various measures including the moisture content of the fuel, enclosure and baghouses.

1.2.2 List of Emission Equipment and Emission Control Equipment

Material Handled	Emission Unit(s)	Control Equipment
Limestone	Receiving Hopper and Initial Transfer	Unloading Baghouse 65A117
	Bucket Elevator	Enclosure
	Storage Silo (replacement unit)	Silo Baghouse 65A037*
	Feeders to Pulverizers (replacement units)	Enclosure
	Two Pulverizers	Enclosure
Coal	Railcar Receiving	Unloading Baghouse 65A026
	Transfer Conveyors and Fuel Crusher	Baghouses 65A027, 65A028 & 65A029
	Fuel Bunkers	Baghouses 65A017, ** 65A042, 65A043, 65A044 & 65A045
Lime	Lime Handling, Transfer and Storage	Baghouse
All	House Vacuum System	Baghouse

* Baghouse 65A037 is the original baghouse installed for the limestone storage silo, which now controls the replacement silo.

** Baghouse 65A017 is an existing baghouse that controls coal bunkers in the old boilerhouse.

1.2.3 Applicability Provisions and Emissions Standards

- a. For the purpose of these unit-specific conditions:
 - i. An "affected operation" is an emission unit that is described in Condition 1.2.1 and 1.2.2.
 - ii. The "affected limestone operations" are the affected operations that handle limestone.
- b. The affected operations that handle coal are subject to the federal New Source Performance Standards (NSPS) for Coal Preparation Plants, 40 CFR 60, Subpart Y, and related requirements in 40 CFR 60, Subpart A, General Provisions. On and after the date on which the initial performance test is completed under 40 CFR 60.8, whichever date comes first, the Permittee shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.
- c. The affected limestone operations, other than the receiving of limestone, are subject to the NSPS for Nonmetallic Mineral Processing Plants, 40 CFR 60, Subpart 000, and related requirements in 40 CFR 60, Subpart A, General Provisions.
 - i. Pursuant to 40 CFR 60.672(a) and (f), except as provided in 40 CFR 60.672(e), stack emissions from the original affected limestone operations,* other than the receiving of limestone and the limestone storage silo, shall not:
 - A. Contain particulate matter in excess of 0.05 g/dscm (0.022 g/dscf).
 - B. Exhibit greater than 7 percent opacity.

* These standards are also applicable to the stack emissions of the conveyors in the coal handling system when this system is handling limestone.
 - ii. Pursuant to 40 CFR 60.672(b), except as provided in 40 CFR 60.672(e), the opacity of fugitive emissions from affected limestone operations, other than the receiving of

limestone, shall not be greater than the following limits:

- A. 15 percent opacity for a crusher that is not equipped with a capture system and for which construction was commenced before April 22, 2008 (provided that the crusher was not modified or reconstructed after this date), or
 - B. 10 percent opacity, or
 - C. 7 percent opacity for each replacement operation or other operation for which construction, modification or reconstruction commences after April 21, 2008.
- iii. Pursuant to 40 CFR 60.672(e), if any affected limestone operation is enclosed in a building, then each such operation must comply with the applicable emission limits in 40 CFR 60.672(a) and (b) (as provided above), or the building enclosing such operation(s) must comply with the following emission limits:
- A. Fugitive emissions from openings in the building (except for vents as defined in 40 CFR 60.671) must not exceed 7 percent opacity.
 - B. The emissions from the vent(s) (as defined in 40 CFR 60.671) of the building, must meet the applicable limits for stack emissions in 40 CFR 60.672(a).
- iv. Pursuant to 40 CFR 60.672(f), stack emissions from the affected limestone storage silo shall not exhibit greater than 7 percent opacity.
- d. Affected operations shall comply with applicable emission standards for fugitive particulate matter, as follows, which generally apply to the source because it is located in the former McCook Township PM nonattainment area of Cook County.
- i. Crushers, grinding mills, screening operations, conveyor transfer points, conveyors, bagging operations, storage bins, and fine product truck and railcar loading operations shall be sprayed with water or a surfactant solution, utilize choke-feeding, or

be treated by an equivalent method of emission control. [35 IAC 212.308]

- ii. All unloading and transportation of materials collected by pollution control equipment shall be enclosed or shall utilize spraying, pelletizing, screw conveying or other equivalent methods. [35 IAC 212.307]
- iii. All fuel crushing and screening shall comply with 35 IAC 212.316(b).
- e. Each affected operation shall comply with 35 IAC 212.301, which addresses visible emissions of fugitive particulate matter, as defined by 35 IAC 211.2490, from the operations.
- f. Each affected operation shall comply with 35 IAC 212.123, which addresses the opacity of the emission of smoke or other particulate matter from the operations.
- g. Each affected operation shall comply with 35 IAC 212.324(b) and (g).
- h. The affected operations that are not engaged in transfer or storage are subject to 35 IAC 212.321(b) (1), 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).

1.2.4 Non-Applicability of Regulations of Possible Concern

- a. Affected operations engaged in transfer or storage of materials are not subject to 35 IAC 212.321 or 212.322 because of the disperse nature of the operations, as generally addressed by 35 IAC 212.323.
- b. i. The receiving of limestone is not subject to the NSPS, 40 CFR 60 Subpart OOO, because receiving of limestone is not identified in 40 CFR 60.670(a) as an affected facility potentially subject to this NSPS. In addition, 40 CFR 60.672(d) specifically provides that truck dumping into any screening operation, feed hopper, or crusher is exempt from the requirements of 40 CFR 60.672.

- ii. This permit is issued based on the stack emissions of the affected limestone storage silo only being subject to an opacity standard under the NSPS. This is because the silo is an "individual enclosed storage bin" and the associated baghouse only controls emissions from this silo and does not control emissions from other affected operations.

1.2.5 Operational Requirements

- a. The Permittee shall implement and maintain control measures for the affected operations, such as enclosure, natural surface moisture, and use of dust collection devices that minimize visible emissions of particulate matter and provide assurance of compliance with the applicable emission standards in Condition 1.2.3 and the limitations in Condition 1.2.6.

Note: Limits on the material throughput of the affected operations are not established since they are indirectly constrained by the operational limitations for the affected boiler.

1.2.6 Emission Limits

- a. The filters on affected operations shall be designed, operated and maintained to emit no more than 0.01 grain/scf.
- b. Annual emissions of particulate matter (PM) from the affected operations shall not exceed 5.78 tons/year. Compliance with this annual emission limit shall be determined from a running total of 12 months of emission data, calculated from the material throughput and appropriate emission factors. (Also refer to Condition 4.0(c)(i) and Table III of Attachment A.)

1.2.7 Testing Requirements

- a. The Permittee shall conduct initial measurements of opacity and PM emissions of affected operations that are subject to an NSPS in accordance with the applicable test methods and procedures of the NSPS. (See also Condition 2.0.)
- b. The Permittee shall conduct measurements of PM emissions from affected operations upon written request from the Illinois EPA. (See also Condition 2.0.)

1.2.8 Operational Instrumentation

- a. i. The Permittee shall install, operate and maintain systems to measure the pressure drop across the baghouses for the limestone handling system.
- ii. The Permittee shall maintain records of the measurements made by the systems and records of maintenance and operational activity associated with the systems.

1.2.9 Inspection Requirements

- a. i. The Permittee shall perform inspections on at least a monthly basis of affected operations, including associated control measures, while the affected operations are in use, to confirm compliance with the requirements of Condition 1.2.5(a).
- ii. The Permittee shall maintain records of the following for these inspections:
 - A. Date and time the inspection was performed and name(s) of inspection personnel.
 - B. Area or specific operations inspected.
 - C. The observed condition of the established control measures, for the inspected area or operations.
 - D. A description of any maintenance or repair associated with established control measures 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., recommended action has been taken, is yet to be performed or no longer appears to be required.
- b. i. As required by the NSPS, 40 CFR 60.674(c), for Baghouse 65A037, which controls the affected replacement limestone silo, the Permittee shall conduct inspections for the presence of visible emissions on at least a quarterly basis. If any visible emissions are observed, the Permittee shall initiate corrective action within 24 hours to return the baghouse to normal operation.

- ii. As required by the NSPS, 40 CFR 60.676(b)(1), the Permittee shall keep records documenting the performance of these inspections, including the results of the observation of visible emissions and a description of any corrective actions taken for this baghouse.

1.2.10 Recordkeeping Requirements

The Permittee shall keep the following records related to the affected operations:

- a. i. The Permittee shall maintain a record, which shall be kept up to date of the control measures that it is currently following for different affected operations pursuant to Condition 1.2.5(a). These control measures, as defined by the Permittee through these records, are referred to as the "established control measures" in this section of this permit.
 - ii. Accompanying this record, the Permittee shall maintain documentation for efficiencies of control measures and the emission factors that it is using to determine the emissions from affected operations.
 - iii. Copies of these records shall be submitted to the Illinois EPA in accordance with Condition 4.0(k)(iii).
- b. The Permittee shall maintain the following operating records:
 - i. The amount of coal and other solid fuels received at the source (tons/month, by type of fuel).
 - ii. The amount of limestone received at the source for use in the affected boiler (tons/month).
- c. The Permittee shall maintain records of the following for each occurrence when established control measures were not present or implemented:
 - i. The date of the incident and identification of the affected operation(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 in use, if any; other control measures or mitigation measures

that were implemented, if any; and the estimated amount of PM emitted during the incident.

- iii. The time and means by which the incident was identified, e.g., scheduled inspection or observation by operating personnel.
 - iv. The length of time after the incident was identified that the affected operation(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 description of any mitigation measures that were implemented during the incident.
 - v. The estimated total duration of the incident, i.e., the total length of time that the affected operation(s) ran without the full benefit of established control measures and the estimated amount of material handled by the unit during the incident.
 - vi. A discussion of the probable cause of the incident and any preventative measures taken.
- d. The Permittee shall keep maintenance and repair log(s) or other similar records for the emission control systems associated with affected operations. These records shall list the date and nature of maintenance and repair activities performed on the control systems.
 - e. To demonstrate compliance with Conditions 1.2.6 and 4.0(c) (i), the Permittee shall keep records of PM emissions (tons/month and tons/year), with supporting calculations. These records shall be compiled on at least a quarterly basis.
 - f. Permittee shall maintain records as required by 212.316(g) and 212.324(g).

1.2.11 Reporting Requirements

- a. i. The Permittee shall promptly notify the Illinois EPA of deviations from the requirements of this permit for affected operations in accordance with Condition 4.0(i).

- ii. For this purpose, deviations from Conditions 1.2.5, 1.2.6, 1.2.8 or 1.2.9 shall be submitted with the quarterly reports required by Condition 1.1.11. All other deviation reports shall be submitted within 30 days.
- b. For the affected operations, the Permittee shall comply with the reporting requirements at 35 IAC 212.316(g).

1.2.12 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to affected operations without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to continue to comply with applicable requirements or to properly obtain a construction permit in a timely manner for any activity for which such a permit is required pursuant to 35 IAC 201.142:

Operation of Dust Suppressant Systems
Operation of Additional Dust Collection Equipment
Storage and Handling of Activated Carbon or Other
Emission Control Agents to be Used in the CFB Boiler.

1.2.13 Compliance Procedures

- a. Compliance with the emission standards in Condition 1.2.3 is addressed by the control practices, testing, monitoring, inspection and recordkeeping required by Conditions 1.2.5, 1.2.7, 1.2.8, 1.2.9 and 1.2.10, respectively.
- b. Compliance with the emission limitations in Condition 1.2.6 shall be based on the records required by Condition 1.2.10 and the use of appropriate emissions factors.

1.3 Group 3: Fly and Bed Ash Handling

1.3.1 Description

Fly ash recovered by the baghouse on the coal-fired boiler is transferred to the fly ash storage silo. Displaced air from the fly ash storage silo is filtered through the bin vent dust filter. Stored fly ash is subsequently loaded out wet to trucks by mixing with water, or loaded out dry in a totally enclosed system, with displaced air passed through a baghouse. Bed ash is handled in similar systems.

1.3.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Equipment	Description	Emission Control Equipment
Group 3	Fly ash handling, transfer and storage units	Fly ash silo, handling and unloading	Baghouses
	Bed ash handling, transfer and storage units	Bed ash silo, handling and unloading	Baghouses

1.3.3 Applicability Provisions and Applicable Regulations

- a. An "affected unit" for the purpose of these unit specific conditions is equipment described in Conditions 1.3.1 and 1.3.2.
- b. The affected units are subject to 35 IAC 212.321(b) (1), which provides that:
 - i. 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 subsection (c) of 35 IAC 212.321.
 - ii. The affected units are subject to the limitations of 35 IAC 212.123 (except as provided by 35 IAC 212.124), 35 IAC 212.301 (except as provided by 35 IAC 212.314), 35 IAC 212.307, and 35 IAC 212.324(b) and (g) (except as provided by 35 IAC 212.324(d)). (See also Conditions 4.0(g) (i) and (ii).)

1.3.4 Non-Applicability of Regulations of Concern

None

1.3.5 Operational and Production Limits, and Work Practices

The Permittee shall maintain and repair all air pollution control equipment in a manner that assures that the emission limits and standards in 35 IAC 212.321 and 212.324 shall be met at all times. Proper maintenance shall include the following minimum requirements:

- a. Visual inspection of air pollution control equipment.
- b. Maintenance of an adequate inventory of spare parts.
- c. Expeditious repairs, unless the emission unit is shutdown.

1.3.6 Emission Limitations

- a. The filters on the affected units shall be designed and operated to emit no more than 0.01 grain/scf.
- b. Emissions of particulate matter from the affected units shall not exceed 1.4 lbs/hour and 6.16 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).

1.3.7 Testing Requirements

See Condition 2.0

1.3.8 Monitoring Requirements

None

1.3.9 Recordkeeping Requirements

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

- a. i. Records documenting inspections, maintenance, and repairs of all associated air pollution control equipment.
- ii. The Permittee shall document 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.

- b. Total amount of fly and bed ash handled, in tons/month and tons/year.
- c. Monthly and annual emissions of PM calculated in accordance with compliance procedures established in Condition 1.3.12, to be calculated on a quarterly basis.
- d. Records as required by 35 IAC 212.324(g).

1.3.10 Reporting Requirements

The Permittee shall promptly submit written notifications and reports to the Illinois EPA regarding non-compliance with the emission limitations and other deviations as outlined in Condition 4.0(i).

The report shall include an estimate of 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.

1.3.11 Operational Flexibility/Anticipated Operating Scenarios

None

1.3.12 Compliance Procedures

- a. Compliance with the particulate matter limitations in Condition 1.3.3(b) is assumed to be achieved by the proper operation and maintenance of the pollution control equipment and the work-practices inherent in operation of the affected unit.
- b. Compliance with the unit-specific emission limits of Condition 1.3.6 shall be based on the records required by Condition 1.3.9 and the use of appropriate emission factors.

1.4 Group 4: Roadways and other activities generating fugitive dust

1.4.1 Description

Fugitive dust/particulate matter emissions are generated by activities such as material handling operations, storage piles, and vehicle traffic on roadways. These activities currently occur for the existing coal-fired boilers. However, the installation of a new coal handling system, which can handle larger trains, will also result in more coal being placed in the storage pile, rather than going straight to enclosed bunkers. Those emission increases are addressed in Condition 1.4.6. In addition, there may be an increase in truck traffic associated with handling of limestone and ash.

1.4.2 List of Emission Units

Description of Emission Units	Emission Control
Vehicle Traffic on Paved and Unpaved Roads and Parking Lots	Water Suppressant Control, Sweeping
Occasional Bulk Unloading, Bag and Other Container Handling	Closed Containers
Loading coal to/from Storage Piles	Telescoping Chutes, Water Suppressant Control, & Other Dust Suppressants As Needed
Coal Pile	Water Suppressant Control & Other Dust Suppressants As Needed
Limestone Pile and Associated Material Handling	Natural Moisture Content & Water or Dust Suppressants As Needed

1.4.3 Applicable Regulations

- a. The "affected units" for the purpose of these unit-specific conditions are the operations described in Condition 1.4.1 and 1.4.2.
- b. Affected units shall comply with 35 IAC 212.301, which provides that visible emissions of fugitive particulate matter 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 as provided by 35 IAC 212.314.
- c. The affected units are subject to and the Permittee shall comply with all applicable requirements of 35 IAC 212 Subpart K, including all applicable requirements of 35 IAC 212.316.

- d. The affected units shall comply with 35 IAC 212.123, except as provided by 35 IAC 212.124.

1.4.4 Non-Applicability of Regulations of Concern

The affected units are not subject to the requirements of 35 IAC 212.321 ("the process weight rate" rule) because of the general dispersive nature of the emissions as addressed by 212.323.

1.4.5 Operational and Production Limits and Work Practices

- a. The Permittee shall follow good air pollution control practices to minimize and significantly reduce fugitive dust from roads, parking areas, storage piles, and other open areas servicing the project area. These practices shall provide for pavement on all regularly traveled entrances and exits to the boiler project area and treatment (flushing, vacuuming, sweeping and water suppressant application, etc., when necessary) of paved and unpaved roads and areas that are routinely subject to vehicle traffic in order to achieve effective control of dust (nominal 90 percent for paved roads and areas and 80 percent control for unpaved roads and areas).
- b. i. 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 Condition 1.4.5(a) to control emissions at each unit with the potential to generate significant quantities of such emissions, which program shall be kept current.

- A. This program shall include 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.), the volume and nature of expected vehicle traffic or other activity on such unit, and an identification of any roadways that are not considered regularly traveled, with justification.

- B. This program shall include a detailed description of the emissions control technique (e.g., vacuum truck, water flushing, 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 10 percent opacity; and calculated control efficiency for particulate matter emissions.

- ii. The Permittee shall submit copies of the fugitive dust control program to the Illinois EPA as follows:
 - A. A revised program addressing the operation of the new boiler and associated equipment shall be submitted within 90 days of initial start up of the boiler.
 - B. Significant amendments to the program made by the Permittee shall be submitted within 30 days of their implementation.
 - 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 emissions.
- c. The Permittee shall conduct inspections of affected units on at least a weekly basis during construction and on a monthly basis thereafter to verify that the measures identified in the operating program and other measures required to control emissions from affected units are being properly implemented.

1.4.6 Emission Limitations

Emissions of PM from the affected units shall not exceed 27.9 tons per year.

1.4.7 Testing Requirements

None

1.4.8 Monitoring Requirement

None

1.4.9 Recordkeeping Requirements

- a. The Permittee shall keep a file that contains the operating factors, if any, used to determine the amount of activity associated with the affected units or the particulate matter emissions from the affected units, with supporting documentation.
- b. The Permittee shall maintain records documenting implementation of the operating program required by Condition 1.4.5(a), including:
 - i. For each treatment of an affected unit or units, the name and location of the affected unit(s), the date and time, and the identification of the truck(s) or treatment equipment used.
 - ii. For each application of water or chemical solution by truck: application rate of water or suppressant, frequency of each application, width of each application, total quantity of water or chemical used for each application and, for each application of chemical solution, the concentration and identity of the chemical.
 - iii. For application of physical or chemical control agents: the name of the agent, application rate and frequency, and total quantity of agent and, if diluted, percent of concentration, used each day.
 - iv. A log recording incidents when control measures were not used as specified by the program, and incidents when additional control measures were used beyond what is specified in the program, including description, date, a statement of explanation, and expected duration of the such circumstances.
- c. The Permittee shall record any period during which an affected unit was not controlled as required by the program, which records shall include at least the information specified by Condition 4.0(i) and an estimate of the additional emissions of particulate matter that resulted, if any, with supporting calculations.
- d. The Permittee shall maintain records for the particulate matter emissions of the affected units based on operating data, the above records for the affected unit including data from the implementation of the operating program, and appropriate USEPA

emission estimation methodology and emission factors, with supporting calculations.

- h. The Permittee shall maintain records as required by 212.316(g).

1.4.10 Reporting Requirements

- a. The Permittee shall submit reports to the Illinois EPA when deviations occur relative to the fugitive dust control program. The report shall contain the following information: the dates any necessary control measures were not implemented as specified by the program, 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 applied based on a belief that application of such control measures would have been unreasonable given prevailing atmospheric conditions.

An annual report as required by 35 IAC 212.316(g) (1) shall be submitted to the Illinois EPA no later than 45 calendar days from the end of each calendar year.

- b. The Permittee shall promptly notify the Illinois EPA, of other noncompliance of the affected unit with the permit requirements as outlined in Condition 4.0(i). Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

1.4.11 Operational Flexibility/Anticipated Operating Scenarios

None

1.4.12 Compliance Procedures

Compliance with Condition 1.4.6 shall be based on the records required by Condition 1.4.9 and the use of appropriate emission factors.

1.5 Group 5: Cooling Towers

1.5.1 Emission Unit Description

The affected towers for the purpose of this unit-specific condition are the new mechanical draft wet cooling towers associated with this project. The cooling towers emit particulate matter because of minerals (hardness) naturally present in the water, which is emitted to the atmosphere due to water droplets that escape from the cooling towers or completely evaporate. The emissions of particulate matter are controlled by drift eliminators which collect water droplets entrained in the air exhausted from the cooling tower.

1.5.2 Control Technology Determination

None

1.5.3 Applicable Federal Emission Standards

- a. Chromium-based water treatment chemicals, as defined in 40 CFR 63.401, shall not be used in the affected towers.

1.5.4 Applicable State Emission Standards

- a. Visible emission of fugitive particulate matter from each affected tower shall comply with the provisions of 35 IAC 212.301, which provides that visible emissions of fugitive particulate matter 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 as provided by 35 IAC 212.314.
- b. Opacity from each affected tower shall comply with 35 IAC 212.316(f).

1.5.5 Applicability of Other Regulations

None

1.5.6 Operating Requirements

- a. Each affected tower shall be equipped, operated, and maintained with drift eliminators designed to limit the loss of water droplets from the unit to not more than 0.005 percent of the circulating water flow.
- b. The Permittee shall operate and maintain the affected towers, including the drift eliminators, in a manner consistent with good air pollution control practice for minimizing emissions.

- c. The Permittee shall operate and maintain the affected towers in accordance with written operating procedures, which procedures shall be kept current. These procedures shall address the practices that will be followed as good air pollution control practice and the actions that will be followed to prevent a significant contribution to icing and fogging on offsite roadways.

1.5.7 Emission Limitations

The total annual emissions of particulate matter from the affected towers shall not exceed 4.7 tons/year, as determined by appropriate engineering calculations.

1.5.8 Emission Testing

None

1.5.9 Emission Monitoring

None

1.5.10 Operational Monitoring and Measurements

- a. The Permittee shall measure the total dissolved solids content in the water being circulated in the affected towers on at least a quarterly basis. Measurements of the total dissolved solids content in the wastewater discharge associated with the affected tower may be used to satisfy this requirement if the effluent has not been diluted or otherwise treated in a manner that would significantly reduce its total dissolved solids content.
- b. Upon written request by the Illinois EPA, the Permittee shall promptly have the water circulating in the affected towers sampled and analyzed for the presence of hexavalent chromium in accordance with the procedures of 40 CFR 63.404(a) and (b).

1.5.11 Records

- a. The Permittee shall keep a file that contains:
 - i. The design loss specification for the drift eliminators installed in each affected tower.
 - ii. The supplier's recommended procedures for inspection and maintenance of the drift eliminators.

- iii. The operating factors, if any, used to determine the amount of water circulated in the affected towers or the particulate matter emissions from the affected towers, with supporting documentation.
 - iv. Copies of the Material Safety Data Sheets or other comparable information from the suppliers for the various water treatment chemicals that are added to the water circulated in the affected towers.
- b. The Permittee shall keep the following operating records for the affected towers:
- The amount of water circulated in each affected tower, gallons/month. As an alternative to direct data for water flow, these records may contain other relevant operating data for the units (e.g., water flow to the units) from which the amount of water circulated in the units may be reasonably determined.
- c. The Permittee shall keep inspection and maintenance logs for the drift eliminators installed in each affected tower.
 - d. The Permittee shall maintain records for the particulate matter emissions of the affected towers based on the above records, the measurements required by Condition 1.5.10(a), and appropriate USEPA emission estimation methodology and emission factors, with supporting calculations.
 - e. Permittee shall maintain records for the affected towers in conformance with 35 IAC 212.316(g).

1.5.12 Notifications

The Permittee shall notify the Illinois EPA of deviations from applicable requirements for an affected tower as outlined in Condition 4.0(i). These notifications shall include the information specified by Condition 4.0(i) and file reports in conformance with 212.316(g).

2.0 EMISSION TESTING

- a. i. Within 60 days after achieving the maximum production rate at which the affected units will be operated, but not later than 180 days after initial startup,* the Permittee shall have tests conducted as specified below at its expense, by an approved testing service. These emission tests shall be conducted while affected units are operating in the maximum load range and other representative operating conditions.

* For emissions testing required by an applicable NSPS, the Illinois EPA cannot grant an extension of the date by which testing must be performed, which is set by rule.

Listing of Emission Units and Pollutants to Be Tested
(Testing is to be conducted for each unit as indicated)

Unit/System	Pollutant/Parameter								
	VOM	PM/ PM ₁₀	NO _x	CO	SO ₂	HCl	Mercury/ Metals	H ₂ SO ₄	Opacity
CFB Boiler	X	X	X	X	X	X	X	X	X
Coal Conveying D System		X							X
Limestone Silo*		X							X
Lime Handling System		X							X
Fly Ash & Bed Ash Transport Systems		X							X

* Addresses the original affected limestone silo, which was originally installed as part of the limestone handling system.

Note: This permit is issued based on the affected limestone silo and limestone feeders being fully enclosed so that they do not have the potential for fugitive emissions of particulate matter. Accordingly, the Permittee need not have observations conducted by an approved testing service for the opacity of fugitive emissions from these units, as addressed by the NSPS, 40 CFR 60.675.

- iii. In addition to the emission testing required above, the Permittee shall perform emission tests as requested by the Illinois EPA for the emission units it specifies 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 solid fuel in the CFB boiler with maximum levels of supplementary fuel.

- b. i. The following methods and procedures shall be used for testing of emissions of the CFB boiler, unless another method is approved by the Illinois EPA. Refer to 40 CFR 60, Appendix A or 40 CFR 51, Appendix M for USEPA test methods.

	<u>USEPA 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 ¹	Method 7, 7E or 19 ²
Opacity	Method 9
Carbon Monoxide	Method 10
Sulfur Dioxide ¹	Method 6C and 19 ²
Metals/Mercury ⁵	Method 29 or Draft ASTM Z65907
Particulate Matter (PM) ^{3, 6}	Method 5D or another Method specified in 40 CFR 60, Part Db, where applicable
Hydrogen Chloride ⁴	Method 19 and 26
PM ₁₀ ⁶	Method 201, 201A or RMS
Condensable PM ₁₀ ⁶	Method 202
Volatile Organic Material ⁷	Method 18, 25 or 25A
Sulfuric Acid Mist (H ₂ SO ₄)	Method 8

¹ Test in accordance with 40 CFR 60, Subpart Db.

² As specified in 40 CFR 60.48b(d).

³ Initial compliance with the PM MACT limit has been demonstrated when the average emissions in units of PM per mmBtu heat input, as determined from measured PM concentrations and sections 12.2 and 12.3 of Method 19 of Appendix A averaged over the three-run performance test period, do not exceed the applicable limit.

⁴ Initial compliance has been demonstrated when (1) the average emissions in units of HCl per mmBtu heat input, as determined from measured HCl concentrations and Method 19 of Appendix A averaged over the three-run performance test period, do not exceed the applicable limit pursuant to 40 CFR 63.7540; and (2) records are prepared and maintained of the average site-specific fuel chlorine content level for each test run over the three-run performance test during which HCl emissions complied with the applicable emissions limit.

⁵ Initial compliance has been demonstrated when the average emissions in units of pound per mmBtu heat

input, as determined from measured mercury emissions concentration and sections 12.2 and 12.3 of Method 19 of Appendix A averaged over the three-run performance test period, do not exceed the emission limit; and records are prepared and maintained of the installation and calibration data and the manufacturer's certification of the bag leak detection system (as required in 40 CFR 63.7525(i)).

⁶ The Permittee may report all PM emissions measured by USEPA method 5 as PM10, in which case separate testing using USEPA Method 201 or 201A need not be performed.

⁷ 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.

ii. For an emission unit other than the CFB boiler that is subject to an NSPS standard, testing of PM emissions and opacity must be conducted in accordance with applicable methods and procedures specified by the NSPS.

iii. The following methods and procedures shall be used for testing of PM emissions and opacity of emission units that are not subject to NSPS standards, unless another method is approved by the Illinois EPA. Refer to 40 CFR 60, Appendix A for USEPA test methods.

	<u>USEPA 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
Opacity	Method 9
Particulate Matter (PM)	Method 5

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 thirty 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 tabular summary of results which includes:
 - Process rates (e.g., coal usage rate, unit input, or unit firing rate, etc.)
 - 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
 - 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, raw material analysis, sulfur content in material.)
 - 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.

3.0 TRADING PROGRAM CONDITIONS

3.1 CONDITIONS FOR THE EMISSIONS REDUCTION MARKET SYSTEM (ERMS)

a. Description of ERMS

The ERMS is a "cap and trade" market system for major stationary sources located in the Chicago ozone nonattainment area. It is designed to reduce VOM emissions from stationary sources to contribute to reasonable further progress toward attainment, as required by Section 182(c) of the CAA.

The ERMS addresses VOM emissions during a seasonal allotment period from May 1 through September 30. Participating sources must hold "allotment trading units" (ATUs) for their actual seasonal VOM emissions. Each year participating sources are issued ATUs based on allotments set in the sources' CAAPP permits. These allotments are established from historical VOM emissions or "baseline emissions" lowered to provide the emissions reductions from stationary sources required for reasonable further progress.

By December 31 of each year, the end of the reconciliation period following the seasonal allotment period, each source shall have sufficient ATUs in its transaction account to cover its actual VOM emissions during the preceding season. A transaction account's balance as of December 31 will include any valid ATU transfer agreements entered into as of December 31 of the given year, provided such agreements are promptly submitted to the Illinois EPA for entry into the transaction account database. The Illinois EPA will then retire ATUs in sources' transaction accounts in amounts equivalent to their seasonal emissions. When a source does not appear to have sufficient ATUs in its transaction account, the Illinois EPA will issue a notice to the source to begin the process for Emissions Excursion Compensation.

In addition to receiving ATUs pursuant to their allotments, participating sources may also obtain ATUs from the market, including ATUs bought from other participating sources and general participants in the ERMS that hold ATUs (35 IAC 205.630). During the reconciliation period, sources may also buy ATUs from a secondary reserve of ATUs managed by the Illinois EPA, the "Alternative Compliance Market Account" (ACMA) (35 IAC 205.710). Sources may also transfer or sell the ATUs that they hold to other participants (35 IAC 205.630).

b. Applicability

This source is considered a "participating source" for purposes of the ERMS, 35 IAC Part 205, since it is a CAAPP source with seasonal VOM emissions over 10 tons per season.

c. Obligation to Hold Allotment Trading Units (ATUs)

In accordance with 35 IAC 205.150(c)(1), at the end of the reconciliation period each year, the source shall hold ATUs in an amount not less than its VOM emissions during the preceding seasonal allotment period (May 1 through September 30), determined in accordance with applicable provisions in Section 3 of this permit or the source's CAAPP permit, not including VOM emissions from the following, or the source shall be subject to "emissions excursion compensation," pursuant to 35 IAC 205.720:

- i. VOM emissions from insignificant emission units, if any, as identified in the source's CAAPP permit, in accordance with 35 IAC 205.220.
- ii. Excess VOM emissions associated with startup, malfunction, or breakdown of an emission unit as authorized by 35 IAC 201.262, if any, in accordance with 35 IAC 205.225.
- iii. Excess VOM emissions that are a consequence of an emergency at the source as approved by the Illinois EPA, in accordance with 35 IAC 205.750.
- iv. Excess VOM emissions to the extent allowed by a Variance, Consent Order, or Compliance Schedule, in accordance with 35 IAC 205.320(e)(3).

d. Market Transactions

- i. The source shall apply to the Illinois EPA for and obtain authorization for a Transaction Account prior to conducting any market transactions, as specified at 35 IAC 205.610(a).
- ii. The source shall promptly submit to the Illinois EPA any revisions to the information submitted for its Transaction Account, pursuant to 35 IAC 205.610(b).
- iii. The source shall have at least one account officer designated for its Transaction Account, pursuant to 35 IAC 205.620(a).
- iv. Any transfer of ATUs to or from the source from another source or general participant must be authorized by a qualified Account Officer designated

by the source and approved by the Illinois EPA, in accordance with 35 IAC 205.620, and the transfer must be submitted to the Illinois EPA for entry into the Transaction Account database.

e. Emissions Excursion Compensation

Pursuant to 35 IAC 205.720, if the source fails to hold sufficient ATUs in accordance with Condition 3.1(c), it shall provide emissions excursion compensation in accordance with the following:

i. Upon receipt of an Excursion Compensation Notice issued by the Illinois EPA, the source shall purchase ATUs from the ACMA in the amount specified by the notice, as follows:

A. The purchase of ATUs shall be in an amount equivalent to 1.2 times the emissions excursion; or

B. If the source had an emissions excursion for the seasonal allotment period immediately before the period for the present emissions excursion, the source shall purchase ATUs in an amount equivalent to 1.5 times the emissions excursion.

ii. If requested in accordance with Condition 3.1(e) (iii) below or in the event that the ACMA balance is not adequate to cover the total emissions excursion amount, the Illinois EPA will deduct ATUs equivalent to the specified amount or any remaining portion thereof from the ATUs issued to the source for the next seasonal allotment period.

iii. Pursuant to 35 IAC 205.720(c), within 15 days after receipt of an Excursion Compensation Notice, the owner or operator may request that ATUs equivalent to the amount specified be deducted from the source's next seasonal allotment by the Illinois EPA, rather than purchased from the ACMA.

f. Quantification of Seasonal VOM Emissions

i. The methods and procedures specified in the CAAPP permit for the source shall be used for determining seasonal VOM emissions for purposes of the ERMS.

ii. The Permittee shall report emergency conditions at the source to the Illinois EPA, in accordance with 35 IAC 205.750, if the Permittee intends to deduct VOM emissions that are in excess of a technology-based VOM emission rate normally achieved and are

attributable to the emergency from the source's seasonal VOM emissions for purposes of the ERMS. These reports shall include the information specified by 35 IAC 205.750(a), and shall be submitted in accordance with the following:

- A. An initial emergency conditions report within two days after the time when such excess emissions occurred due to the emergency.
- B. A final emergency conditions report, if needed to supplement the initial report, within 10 days after the conclusion of the emergency.

g. Annual Account Reporting

i. For each year in which the source is operational, the Permittee shall submit, as a component of its Annual Emissions Report, seasonal VOM emissions information to the Illinois EPA for the seasonal allotment period. This report shall include the following information [35 IAC 205.300]:

- A. Actual seasonal emissions of VOM from the source.
- B. A description of the methods and practices used to determine VOM emissions, as required by this permit, including any supporting documentation and calculations.
- C. A detailed description of any monitoring methods that differ from the methods specified in this permit, as provided in 35 IAC 205.337.
- D. If the source has experienced an emergency, as provided in 35 IAC 205.750, the report shall reference the associated emergency conditions report that has been approved by the Illinois EPA.

ii. This report shall be submitted by November 30 of each year, for the preceding seasonal allotment period.

h. Allotment of ATUs to the Source

As a participating source, the source will receive allotments of ATUs from the State of Illinois as currently specified in its CAAPP permit.

i. Recordkeeping for ERMS

i. The Permittee shall maintain the following records related to actual VOM emissions of the source during the seasonal allotment period:

- A. Records of operating data and other information for each individual emission unit or group of related emission units covered by this permit, as appropriate, to determine actual VOM emissions during the seasonal allotment period.
- B. Records of the VOM emissions, in tons, during the seasonal allotment period, with supporting calculations, for each individual emission unit or group of related emission units covered by this permit.
- C. Total VOM emissions from the units covered by this permit, in tons, during each seasonal allotment period, which shall be compiled by November 30, of each year.

ii. The Permittee shall maintain copies of the above records and other appropriate documents as its Compliance Master File for purposes of the ERMS. [35 IAC 205.335 and 205.700(a)]

3.2 CONDITIONS FOR THE NO_x TRADING PROGRAM

a. Description of NO_x Trading Program

The NO_x Trading Program is a regional "cap and trade" market system for large sources of NO_x emissions in the eastern United States, including Illinois. It is designed to reduce and maintain NO_x emissions from the emission units covered by the program within a budget to help contribute to attainment and maintenance of the ozone ambient air quality standard in the multi-state region covered by the program, as required by Section 110 of the Clean Air Act. The NO_x Trading Program applies in addition to other applicable requirements for NO_x emissions and in no way relaxes these other requirements.

Emission units that are subject to the NO_x Trading Program are referred to as "budget units." Sources that have one or more budget units subject to the NO_x Trading Program are referred to as budget sources.

The NO_x Trading Program controls NO_x emissions from budget units during a seasonal control period from May 1 through September 30 of each year, when weather conditions are conducive to formation of ozone in the ambient air. (In

2004, the first year that the NO_x Trading Program is in effect, the control period will be May 31 through September 30.) By November 30 of each year, the allowance transfer deadline, each budget source must hold "NO_x allowances" for the actual NO_x emissions of its budget units during the preceding control period. The USEPA will then retire NO_x allowances in the source's accounts in amounts equivalent to its seasonal emissions. If a source does not have sufficient allowances in its accounts, USEPA would subtract allowances from the source's future allocation for the next control period and impose other penalties as appropriate. Stringent monitoring procedures developed by USEPA apply to budget units to assure that NO_x emissions are accurately determined.

The number of NO_x allowances available for budget sources is set by the overall budget for NO_x emissions established by USEPA. This budget requires a substantial reduction in NO_x emissions from historical levels as necessary to meet air quality goals. In Illinois, separate rules have been established for the budget units that are electrical generating units (EGU) and for large units at manufacturing plants and institutions (non EGU), like the boilers at this source.

Under these rules, the allocation or share of the NO_x allowances for an existing non-EGU is set in an amount established by rule [35 IAC Part 217, Appendix E]. For the first three control periods in which a new budget unit operates, a source may obtain NO_x allowances from the "new source set-aside," a portion of the overall budget reserved for new budget units.

In addition to directly receiving or purchasing NO_x allowances as described above, budget sources may transfer NO_x allowances from one of their units to another. They may also purchase allowances in the marketplace from other sources that are willing to sell some of the allowances that they have received. Each budget source must designate an account representative to handle all its allowance transactions. The USEPA, in a central national system, will maintain allowance accounts and record transfer of allowances among accounts.

The ability of sources to transfer allowances will serve to minimize the costs of reducing NO_x emissions from budget units to comply with the overall NO_x budget. In particular, the NO_x emissions of budget units that may be most economically controlled will be targeted by sources for further control of emissions. This will result in a surplus of NO_x allowances from those units that can be transferred to other units at which it is more difficult to control NO_x emissions. Experience with reduction of SO₂ emissions under the federal Acid Rain program has

shown that this type of trading program not only achieves regional emission reductions in a more cost-effective manner but also results in greater overall reductions than application of traditional emission standards to individual emission units.

The USEPA developed the plan for the NO_x Trading Program with assistance from affected states. Illinois' rules for the NO_x Trading Program are located in 35 IAC Part 217, Subpart U and have been approved by the USEPA. These rules provide for interstate trading, as mandated by Section 9.9 of the Act. Accordingly, these rules refer to and rely upon federal rules at 40 CFR Part 96, which have been developed by USEPA for certain aspects of the NO_x Trading Program, and which an individual state must follow to allow for interstate trading of NO_x allowances.

Note: This narrative description of the NO_x Trading Program is for informational purposes only and is not enforceable.

b. Applicability

The proposed new CFB boiler addressed by Condition 1.1 of this permit would be a new budget unit for purposes of Illinois' NO_x Trading Program. (In addition, a number of the Permittee's existing boilers are also budget units.) Accordingly, this source is a budget source and the Permittee is the owner or operator of a budget source and budget units. In the remainder of this section, the new CFB boiler may be addressed as a budget unit.

c. General Provisions of the NO_x Trading Program

- i. This source and the budget units at this source shall comply with all applicable requirements of Illinois' NO_x Trading Program, i.e., 35 IAC Part 217, Subpart U, and 40 CFR Part 96 (excluding 40 CFR 96.4(b) and 96.55(c), and excluding 40 CFR 96, Subparts C, E and I), pursuant to 35 IAC 217.456(a) and 217.456(f) (2).
- ii. Any provision of the NO_x Trading Program that applies to a budget source (including any provision applicable to the account representative of a budget source) shall also apply to the owner or operator of such budget sources and to the owner and operator of each budget unit at the source, pursuant to 35 IAC 217.456(f) (3).
- iii. Any provision of the NO_x Trading Program that applies to a budget unit (including any provision applicable to the account representative of a budget unit) shall also apply to the owner and operator of such budget unit. Except with regard to requirements applicable

to budget units with a common stack under 40 CFR 96, Subpart H, the owner and operator and the account representative of one budget unit shall not be liable for any violation by any other budget unit of which they are not an owner or operator or the account representative, pursuant to 35 IAC 217.456(f) (4).

d. Requirements for NO_x Allowances

- i. By November 30 of each year, the allowance transfer deadline, the account representative of each budget unit at this source shall hold allowances available for compliance deduction under 40 CFR 96.54 in the budget units compliance account or the source's overdraft account in an amount that shall not be less than the budget units total tons of NO_x emissions for the preceding control period, rounded to the nearest whole ton, as determined in accordance with 40 CFR 96, Subpart H, plus any number necessary to account for actual utilization (e.g., for testing, start-up, malfunction, and shut down under 40 CFR 96.42(e) for the control period, pursuant to 35 IAC 217.456(d) (1). For purposes of this requirement, an allowance may not be utilized for a control period in a year prior to the year for which the allowance is allocated, pursuant to 35 IAC 217.456(d) (4).
- ii. The account representative of a budget unit that has excess emissions in any control period, i.e., NO_x emissions in excess of the number of NO_x allowances held as provided above, shall surrender the allowances as required for deduction under 40 CFR 96.54(d) (1), pursuant to 35 IAC 217.456(f) (5). In addition, the owner or operator of a budget unit that has excess emissions shall pay any fine, penalty, or assessment, or comply with any other remedy imposed under 40 CFR 96.54(d) (3) and the Act, pursuant to 35 IAC 217.456(f) (6). Each ton of NO_x emitted in excess of the number of NO_x allowances held as provided above for each budget unit for each control period shall constitute a separate violation of 35 IAC Part 217 and the Act, pursuant to 35 IAC 217.456(d) (3).
- iii. An allowance allocated by the Illinois EPA or USEPA under the NO_x Trading Program is a limited authorization to emit one ton of NO_x in accordance with the NO_x Trading Program. As explained by 35 IAC 217.456(d) (5), no provision of the NO_x Trading Program, the budget permit application, the budget permit, or a retired unit exemption under 40 CFR 96.5 and no provision of law shall be construed to limit the authority of the United States or the State of Illinois to terminate or limit this authorization. As further explained by 35 IAC 217.456(d) (6), an

allowance allocated by the Illinois EPA or USEPA under the NO_x Trading Program does not constitute a property right. As provided by 35 IAC 217.456(d) (2), allowances shall be held, deducted from, or transferred among allowance accounts in accordance with 35 IAC Part 217, Subpart U, and 40 CFR 96, Subparts F and G.

e. Monitoring Requirements for Budget Unit

- i. The Permittee shall comply with the monitoring requirements of 40 CFR Part 96, Subpart H, for each budget unit, including the new CFB boiler, and the compliance of each budget unit with the emission limitation under Condition 3(d) (i) shall be determined by with the emission measurements recorded and reported in accordance with 40 CFR 96, Subpart H, pursuant to 35 IAC 217.456(c) (1), (c) (2) and (d) (3).
- ii. The account representative for the source and each budget unit at the source shall comply with those sections of the monitoring requirements of 40 CFR 96, Subpart H, applicable to an account representative, pursuant to 35 IAC 217.456(c) (1) and (d) (3).

f. Recordkeeping Requirements for Budget Unit

Unless otherwise provided below, the Permittee shall keep on site at the source each of the following documents for a period of at least 5 years from the date the document is created. This 5-year period may be extended for cause at any time prior to the end of the 5 years, in writing by the Illinois EPA or the USEPA.

- i. The account certificate of representation of the account representative for the source and each budget unit at the source and all documents that demonstrate the truth of the statements in the account certificate of representation, in accordance with 40 CFR 96.13, as provided by 35 IAC 217.456(e) (1) (A). These certificates and documents must be retained on site at the source for at least 5-years after they are superseded because of the submission of a new account certificate of representation changing the account representative.
- ii. All emissions monitoring information, in accordance with 40 CFR 96, Subpart H, (provided that to the extent that 40 CFR 96, Subpart H, provides for a 3-year period for retaining records, the 3-year period shall apply,) pursuant to 35 IAC 217.456(e) (1) (B).
- iii. Copies of all reports, compliance certifications, and other submissions and all records made or required

under the NO_x Trading Program or documents necessary to demonstrate compliance with requirements of the NO_x Trading Program, pursuant to 35 IAC 217.456(e) (1) (C).

iv. Copies of all documents used to complete a budget permit application and any other submission under the NO_x Trading Program, pursuant to 35 IAC 217.456(e) (1) (D).

g. Reporting Requirements for Budget Unit

i. The account representative for this source and each budget unit at this source shall submit to the Illinois EPA and USEPA the reports and compliance certifications required under the NO_x Trading Program, including those under 40 CFR 96, Subparts D and H and 35 IAC 217.456(e), pursuant to 35 IAC 217.456(e) (2).

ii. These submittals need only be signed by the designated representative, who may serve in place of the responsible official for this purpose as provided by the Section 39.5(1) of the Act, and submittals to the Illinois EPA need only be made to the Illinois EPA, Bureau of Air, Compliance and Enforcement Section.

h. Eligibility for NO_x Allowances from the New Source Set-Aside (NSSA)

The Permittee is eligible to obtain NO_x allowances for the budget unit identified in Condition 3(b) from the NSSA, as provided by 35 IAC 217.468, because the budget unit is a "new" budget unit.

i. Budget Permit Required by the NO_x Trading Program

i. For this budget unit, this condition of this permit, i.e., Trading Program Condition 3.2, is the Budget Permit required by the NO_x Trading Program and is intended to contain federally enforceable conditions addressing all applicable NO_x Trading Program requirements for boiler 10. This Budget Permit shall be treated as a complete and segregable portion of this permit, as provided by 35 IAC 217.458(a) (2).

ii. The Permittee and any other owner or operator of this source and each budget unit at the source shall operate the budget unit in compliance with this Budget Permit, pursuant to 35 IAC 217.456(b) (2).

iii. No provision of this Budget Permit or the associated application shall be construed as exempting or excluding the Permittee, or other owner or operator and, to the extent applicable, the account

representative of a budget source or budget unit from compliance with any other regulation or requirement promulgated under the CAA, the Act, the approved State Implementation Plan, or other federally enforceable permit, pursuant to 35 IAC 217.456(g).

- iv. Upon recordation by USEPA, under 40 CFR 96, Subparts F or G, every allocation, transfer, or deduction of an allowance to or from the budget units compliance accounts or to or from the overdraft account for the budget source is deemed to amend automatically, and become part of, this budget permit, pursuant to 35 IAC 217.456(d)(7). This automatic amendment of this budget permit shall be deemed an operation of law and will not require any further review.

Note: Pursuant to this provision, the Permittee may transfer NO_x allowances from its existing budget units to its new CFB boiler.

- v. No revision of this Budget Permit shall excuse any violation of the requirements of the NO_x Trading Program that occurs prior to the date that the revisions to this permit takes effect, pursuant to 35 IAC 217.456(f)(1).
- vi. The Permittee, or other owner or operator of the source, shall reapply for a Budget Permit for the source as required by 35 IAC Part 217, Subpart U and Section 39.5 of the Act. For purposes of the NO_x Trading Program, the application shall contain the information specified by 35 IAC 217.458(b)(1).

4.0 GENERAL CONDITIONS

a. Authorization to Commence Construction

- i. This permit shall become invalid if construction of the affected boiler is not commenced within 18 months after this permit becomes effective, if construction of the affected boiler is discontinued for a period of 18 months or more, or if construction of the affected boiler is not completed within a reasonable period of time, pursuant to 40 CFR 52.21(r)(2) and 40 CFR 63.43(g)(4). This condition supersedes Standard Condition 1.
- ii. For purposes of this provision, the definitions of "construction" and "commence" at 40 CFR 52.21 (b)(8) and (9) shall apply, which requires that a source must enter into a binding agreement for on-site construction or begin actual on-site construction. (See also the definition of "begin actual construction", 40 CFR 52.21 (b)(11)).

b. Authorization for Operation

- i. Under this permit, the CFB boiler and associated equipment may be operated for a period that ends 360 days after the boiler first fired coal 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.

Note: This revised permit extends the shakedown period for this project from 180 days to 360 days. This extension was provided to allow remedial work to be performed on the operational components of the affected boiler, including replacement of the forced draft fan, which may involve the boiler being out of service for several weeks. This extension triggers the effectiveness of the Condition 4.0(c)(ii)(A).

- ii. Upon successful completion of emission testing of the CFB 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 request to modify the sources' existing CAAPP permit to include the units covered under this permit, provided that the Permittee has properly applied for such modification in a timely fashion.

c. Overall Emission Limitations and Operational Restrictions for the Project

i. Emissions from the new CFB boiler (Boiler 10) and associated operations shall not exceed the limitations shown in Attachment A, Tables I, II and III.

ii. This permit is issued based on the reduced operation and eventual shutdown of coal-fired boilers 1, 2 and 3 and natural gas-fired boiler 4, in conjunction with the operation of the new CFB boiler as follows:

A. Extended Shakedown Period

If the Illinois EPA extends the shakedown period for the CFB boiler as provided by Condition 4.0(b), beginning at the start of any such extended shakedown period, and continuing through the end of the probationary period, the quarterly emissions of the CFB boiler and existing boilers 1, 2, 3, 4, and 5 shall not exceed 280, 815, 2.3, 66.5, and 10 tons/month for NO_x, SO₂, VOM, PM and H₂SO₄ respectively.

B. Probationary Period

Following the end of the Shakedown Period, existing coal-fired boilers shall only operate on a limited basis during a Probationary Period for the CFB boiler. For this purpose, except as needed for transfer of steam load among boilers, when the CFB boiler is not in operation, only a single coal-fired boiler may be operated. The duration of this Probationary Period shall be 18 months from the end of the Shakedown Period, unless extended by the Illinois EPA upon written request by the Permittee showing that (1) the operating record and other aspects of the CFB boiler prevent reliance on it to provide a reliable steam supply to the source and (2) the Permittee is undertaking appropriate steps to make the CFB boiler a reliable steam supply.

Note: This permit does not authorize any relaxation of requirements for existing boilers during the shakedown or probationary periods for the CFB boiler.

C. Permanent Shutdown of Existing Boilers 1 Through 4

Within 30 days of the end of the probationary period, the Permittee shall permanently shutdown the existing boilers 1, 2, 3 and 4.

d. General Requirements for the Affected Boiler As It Emits Hazardous Air Pollutants (HAPs)

As the affected boiler is a new major source of hazardous air pollutants (HAP) for purposes of Section 112(g) of the Clean Air

Act, the Permittee shall comply with all applicable requirements contained in 40 CFR Part 63, Subpart A, pursuant to 40 CFR 63.43(g)(2)(iv). In particular, the Permittee shall comply with the following applicable requirements of 40 CFR Part 63 Subpart A, related to startup, shutdown, and malfunction, as defined at 40 CFR 63.2:

- i. Pursuant to 40 CFR 63.6(e)(1)(i) the Permittee shall at all times, including periods of startup, shutdown, and malfunction as defined at 40 CFR 63.2, operate and maintain the affected boiler, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions to the levels required by the relevant standards, i.e., meet the emission standard(s) or comply with the applicable Startup, Shutdown, and Malfunction Plan (Plan), as required below. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Illinois EPA and USEPA, which may include, but is not limited to, monitoring results, review of operation and maintenance procedures (including the Plan), review of operation and maintenance records, and inspection of the unit. [40 CFR 63.6(e)(1)(i)]
- ii. The Permittee shall correct malfunctions as soon as practicable after their occurrence in accordance with the applicable Plan. To the extent that an unexpected event arises during a startup, shutdown, or malfunction, the Permittee shall comply by minimizing emissions during such a startup, shutdown, and malfunction event consistent with safety and good air pollution control practices. [40 CFR 63.6(e)(1)(ii)]
- iii. These operation and maintenance requirements, which are established pursuant to Section 112 of the Clean Air Act, are enforceable independent of applicable emissions limitations and other applicable requirements. [40 CFR 63.6(e)(1)(iii)]

e. Startup, Shutdown and Malfunction Plan 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. These Plans shall be developed to satisfy the purposes set forth in 40 CFR 63.6(e)(3)(i)(A), (B) and (C). The Permittee shall develop its initial plan prior to the initial startup of the affected boiler. [40 CFR 63.6(e)(3)(i)]

- i. During periods of startup, shutdown, and malfunction of an emission unit, the Permittee shall operate and maintain such unit, including associated air pollution control and monitoring equipment, in accordance with the procedures specified in the applicable Plan required above. [40CFR 63.6(e) (3) (ii)]
 - ii. When actions taken by the Permittee during a startup or shutdown (and the startup or shutdown causes the affected boiler to exceed any relevant emission standard or limit) or during a malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the applicable 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 applicable Plan, as required by 40 CFR 63.10(d) (5). [40 CFR 63.6(e) (3) (iii)]
 - iii. If an action taken by the Permittee during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) of an emission unit is not consistent with the procedures specified in the applicable 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)]
 - iv. The Permittee shall make changes to the Plan if required by the Illinois EPA or USEPA, as provided for by 40 CFR 63.6(e) (3) (vii), or as otherwise required by 40 CFR 63.6(e) (3) (viii). [40 CFR 63.6(e) (3) (vii) and (viii)]
 - v. These Plans are records 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 a 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)]
- f. Generally Applicable Standards and Requirements for Emissions of Particulate Matter

Particulate matter emissions from emission units associated with the affected boiler are subject to the following standards and requirements of general applicability:

- i. 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.
 - ii. 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.
 - iii. Fabric filters (baghouses) on dry material handling emission units shall comply with an emission limit of 0.01 grain per dry standard cubic foot and be operated and maintained in accordance with good air pollution practice to minimize emissions.
- g. General Requirements for Emission Units Subject to New Source Performance Standards (NSPS)

For the affected boiler and other emission units that are subject to NSPS standards:

- i. At all times, the Permittee shall maintain and operate emission units that are subject to the NSPS, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions, pursuant to 40 CFR 60.11(d).
 - ii. The Permittee shall fulfill applicable notification requirements of the NSPS, 40 CFR 60.7(a), including:
 - A. Written notification of commencement of construction, no later than 30 days after such date. [40 CFR 60.7(a) (1)]
 - B. Written notification of the actual date of initial startup, within 15 days after such date. [40 CFR 60.7(a) (3)]
- h. Notification and Reporting for the Shakedown of the Affected Boiler
- i. The Permittee shall provide the Illinois EPA 30 days advance notification prior to initial start-up of the affected boiler to allow inspection.

- ii. The Permittee shall provide to the Illinois EPA prompt notification of any event(s) that disrupts the orderly shakedown of the affected boiler.
 - iii. The Permittee shall provide to the Illinois EPA progress reports on a calendar quarter basis, commencing the first quarter after the issuance of the construction permit, terminating in the final quarter defined by condition 4(c)(ii)(B). These reports shall include the following:
 - A. Overall operating level (heat input and maximum coal usage);
 - B. Activities accomplished/significant events;
 - C. Current schedule for emission testing;
 - D. A summary of any emission measurements conducted; and
 - E. Outreach activities planned/provided for local communities or interested parties.
 - iv. The Permittee shall provide the Illinois EPA notice as to when shakedown of the affected boiler is considered complete.
- i. General Requirements for Records and Reports for Deviations
- i. 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.
 - ii. Notifications and reports for deviation from applicable emission standards, control requirements, and compliance procedures shall be submitted as follows:
 - A. 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.

- B. Notification and reports for deviations shall include the applicable information recorded under Condition 4.0(i) (i).
- C. 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.

j. Other Applicable Requirements

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.

k. Retention and Availability of Records

- i. 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.
- ii. 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.
- iii. 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.

1. Addresses for Reports and Notifications

- i. 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

- ii. 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
9511 West Harrison
Des Plaines, Illinois 60016

- iii. 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

If you have any questions on this permit, please call Bob Smet or Christopher Romaine at 217/785-1705.

Raymond E. Pilapil
Acting Manager, Permit Section
Division of Air Pollution Control

Date Signed: _____

REP:RPS:CPR:psj

cc: FOS - Region 1, Illinois EPA

ATTACHMENTS

ATTACHMENT A: EMISSION TABLES

Table I: Annual Emissions Limitations - Tons/Year

Emission Unit	NO _x	CO	VOM	PM	SO ₂	H ₂ SO ₄	Pb	HCl	Hg	HF
CFB Boiler (Group 1)	1,064.30	709.60	28.40	354.80	2,128.70	113.50	0.57	141.90	0.0213	27.0
Fuel and Material Handling (Group 2)	---	---	---	5.78	---	---	---	---	---	---
Fly and Bed Ash Handling (Group 3)	---	---	---	6.16	---	---	---	---	---	---
Fugitive Dust (Group 4)	---	---	---	27.90	---	---	---	---	---	---
New Cooling Towers (Group 5)	---	---	---	4.70	---	---	---	---	---	---
Coal Car Thawing Process (Existing)	0.24	0.20	0.01	0.01	0.02	0.01	---	---	---	---
Total	1,064.60	709.80	28.40	399.40	2,128.70	113.50	0.57	141.90	0.0213	27.0

TABLE II

Short Term Emission Limitations for CFB Boiler

Pollutant	Pound/Million Btu	Pounds/Hour ^b
CO	0.10 ^a	167.0
NO _x	0.15	250.5
SO ₂	0.30	501.0
PM ^c	0.025	43.4
PM ₁₀ ^d	0.05 ^a	83.5
VOM	0.004 ^a	6.7
H ₂ SO ₄	0.016 ^a	26.7
HCl ^e	0.02	----
Hg	0.000003	----
Lead	0.00008 ^a	----
Fluorides ^f	0.0038 ^a	6.3

Notes:

- a. Compliance with the emission rates expressed in pound/million Btu heat input shall be determined in accordance with the provisions in Condition 1.1.6(b). As an alternative to the limitation expressed in pound/million Btu, the Permittee may comply with the limitation expressed in pounds/hour.
- b. Compliance with hourly emission limits shall be based on 24-hour block averages (NO_x, CO and SO₂) and 3-hour block average (VOM, PM/PM₁₀, fluorides, lead, hydrogen chloride, and sulfuric acid mist). The above short-term emission rates do not apply during startup, shutdown or malfunction as addressed by Condition 1.1.3(d) and (e) and 4.0(f).
- c. All particulate matter (PM) measured by USEPA Method 5 shall be considered PM₁₀ 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.
- d. This PM₁₀ emission limit addresses both filterable and condensable PM₁₀.
- e. As an alternative to compliance with an emission rate of 0.02 lb/million Btu, the Permittee may demonstrate eligibility for and comply with the health-based compliance alternative for HCl emissions, as provided for by 40 CFR 63.7507.
- f. The limit for fluorides is expressed in terms of hydrogen fluorides (HF).

TABLE III

Short-Term Particulate Matter (PM) Emission Limitations for
Bulk Material Handling Operations

Emission Point for Each Material Handled	Emission Factor (gr/scf)	PM Emission Rate (Lb/Hour)
Rail Car Unloading (BH 66A026)	0.01	0.343
Coal Crusher (BH 65A027)	0.01	0.681
Coal Conveyor "D" (BH 65A029)	0.01	0.273
Coal Conveyor "E" (BH 65A029)	0.01	0.273
New Coal Bunkers* (total)	0.01	0.086
Existing Coal Bunkers (BH 65A017)	0.01	0.086
Limestone Unloading & Transport (BH 66A117)	0.01	1.538
Limestone Storage Silo (BH 65A037)	0.01	0.040
Bed Ash Transport and Silo (total)	0.01	0.379
Bed Ash Unloading	0.01	0.172
Fly Ash Silo	0.01	0.681
Fly Ash Unloading System	0.01	0.172
Lime Unloading System	0.01	0.300
House Vacuum System	0.01	0.086

* Baghouses 65A042, 65A043, 65A044 and 65A045

Table IV: Summary of Net Changes in Emissions (Tons/Year)

	NO _x	CO	SO ₂	VOM	PM	H ₂ SO ₄	Lead	HCl ¹	Hg ¹	Fluoride
Total for Proposed CFB Boiler Project	1,064.6	709.8	2,128.7	28.4	399.4	113.5	0.57	141.9	0.0213	26.96
Major Modification/Significant Levels (PSD)	40	100	40	---	---	7	0.6	NA	NA	3
Major Modification/Significant Levels (NANSR)	40	---	---	25	15	---	---	NA	NA	---
Contemporaneous Period Triggered ²	Yes	Yes	Yes	Yes	Yes	Yes	No	NA	NA	Yes
Project-Contemporaneous Emission Decreases										
Coal-Fired Boilers 1, 2 & 3 - Shutdown	-3,360.0	-76.35	-9,768.6	-9.2	-799.8	-110.5	NA	197	0.0238	-24.6
Ash Processing - Decrease	---	---	---	---	-0.0048	---	---	---	---	---
Coal Unloading - Decrease	---	---	---	---	-0.20	---	---	---	---	---
Coal Storage Pile - Decrease	---	---	---	---	-18.63	---	---	---	---	---
Coal Car Thawing (To Remain in Service)	-0.04	-0.03	-0.001	-0.002	-0.004	-0.002	---	---	---	---
Total	-3360.0	-76.38	-9,768.7	-9.2	-818.7	-110.5	---	---	---	-24.6
Other Contemporaneous Changes										
New Gas-Fired Boiler 7 - Increases	93.3	50.4	5.9	5.2	14.9	---	---	---	---	---
Prior Curtailment - Boilers 4 and 5 ³	-54.3	-16.3	-0.1	-1.1	-1.5	---	---	---	---	---
Other Projects ⁴	---	---	---	-0.8	13.2	---	---	---	---	---
Contemporaneous Net Change In Emissions										
Emission Offsets ^{5, 6}	476.2	---	---	---	---	---	---	---	---	---
Adjusted Net Change	-1,780.2	667.5	-7,634.2	22.5	-392.6	3.0	0.57	-55.1	-.0025	2.4
Major Modification/Significant Levels (PSD)	40	100	40	---	---	7	0.6	NA	NA	3
Major Modification/Significant Levels (NANSR)	40	---	---	25	15	---	---	NA	NA	---
PSD/NA NSR Review Required	No	Yes	No	No	No	No	No	NA	NA	No ⁷

Notes:

- ¹ Data on the emissions and the net change in emissions for this pollutant is provided for informational purposes only.
- ² The PSD contemporaneous period is September 1999 to September 2003; the NA NSR contemporaneous period is December 2001 to December 2005.
- ³ These decreases achieved under Permit 02020023, which were contemporaneous to this permit.
- ⁴ "Other Projects" for PM emissions include Dextrose conditioning silos, Replacement of Dex bulk loading scrubber, B44 packing, Royal T project; other projects for VOM emissions include Acidulation rebuild, add precoat vacuum pump.

Notes (continued):

- ⁵ A portion of the decrease in NO_x emissions, 198.2 tons per year, has been set aside as an emissions offset to accompany the operation of a new plant by A. Finkl, i.e., a specialty steel and forgings plant at 1355 East 93rd Street in Chicago, I.D. No. 031600GUC, Construction Permit 07060075, date issued May 23, 2008. With this adjustment, the actual NO_x emissions decrease accompanying this new CFB boiler is still significantly greater than the permitted emissions of the new boiler.
- ⁶ A portion of the decrease in NO_x emissions, 278.0 tons per year, has also been set aside as an emissions offset to accompany the operation of a new plant by Robbins Community Power, i.e., a wood-fueled power plant at 13400 South Kedzie Avenue in Robbins, I.D. No. 031270AAB, Construction Permit 07060081, date issued June 23, 2008. With this adjustment, the actual NO_x emissions decrease accompanying this new CFB boiler is still much greater than the permitted emissions of the new boiler.
- ⁷ PSD is not applicable to emissions of HF (hydrogen fluoride), pursuant to Section 112(b)(6) of the Clean Air Act, which states that PSD does not apply to HAPs as listed under Section 112. USEPA has confirmed that the fluoride compounds subject to PSD do not include HF, observing that PSD addresses "fluorides (excluding hydrogen fluoride)" (Refer to 67 FR 80186, December 31, 2003, see page 80240). However, since available data are limited largely to HF, Corn Products has conservatively chosen to address the remaining PSD requirement of "fluorides" with available data for emissions of HF.

ATTACHMENT B - 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.

July, 1985, Revised, May, 1999

IL 532-0226