217/782-2113

CONSTRUCTION PERMIT - PSD APPROVAL - NSPS SOURCE

PERMITTEE

Corn Belt Energy Corporation
Prairie Energy Power Plant
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Draft

Application No.:01070028 I.D. No.:107806AAC
Applicant's Designation: Date Received: July 10, 2001
Subject: Electricity Generation Facility
Date Issued:
Location: Elkhart Mine Road, Mine-Mouth Project, Elkhart, Logan County

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of a coal fired power plant with boiler, coal handling and storage, ash handling and storage, limestone handling and storage, cooling tower, and ancillary operations as described in the above referenced application and summarized in Attachment A. This Permit is granted based upon and subject to the findings and conditions that follow.

In conjunction with this permit, approval for the above activity is given with respect to the federal rules for Prevention of Significant Deterioration of Air Quality Regulations (PSD) for the above referenced equipment 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. 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 between the United States Environmental Protection Agency (USEPA) and the Illinois EPA 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 also based upon and subject to the findings and conditions that follow:

Findings

1a. Corn Belt Energy Corporation (Corn Belt) has requested a permit for a coal fired power plant with a nominal capacity of 91 MW_e. The proposed boiler would be equipped with low NO_x burners, staged combustion, and a selective catalytic reduction (SCR) system; an electrostatic precipitator and wet scrubber with limestone injection. Ancillary operation would include coal handling and storage; ash handling and storage; limestone handling and storage; and cooling towers; and ancillary operations. The project is being pursued by Corn Belt in conjunction with a clean coal combustion Grant from the United States Department of Energy.

b. The boiler will have the ability to generate the steam for nominal 91 MW of electrical output. The boiler will be fired on coal as its primary fuel with natural gas as startup fuel. The boiler would generally be designed for coal mined at the existing Elkhart mine which would nominally have 3.25 percent sulfur by weight and 10,450 Btu per pound Higher Heating Value (HHV), which is equivalent to an uncontrolled sulfur dioxide emission rate of 6.2 pounds per million Btu heat input.

2. The plant will be located on an approximately 95-acre site near Elkhart in Logan County. The site is in an area that is currently designated attainment for all criteria pollutants.

3. The proposed plant is a major source under PSD rules. The plant will have potential annual emissions of 584 tons of sulfur dioxide (SO_2), 477 tons of nitrogen oxides (NO_x), 79 tons of particulate matter, 794 tons of carbon monoxide (CO), 17.9 tons of sulfuric acid mist (H_2SO_4) and 8.0 tons/yr of volatile organic materials (VOM) as indicated in the application. The project is therefore subject to PSD review as a major new source for the above pollutants except VOM.

4. The proposed plant is a major source for emissions of hazardous air pollutants (HAP). The potential HAP emissions from the plant will be greater than 10 tons of certain individual HAP i.e. hydrogen chloride and not more than 25 tons in aggregate for a combination of HAP. Therefore, the plant is being subjected to review under Section 112(g) of the Clean Air Act.

5. After reviewing the materials submitted by Corn Belt, 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 NO_x, SO_2, PM/PM_{10}, and CO as required by PSD, and (iv) utilize Maximum Achievable Control Technology (MACT) for emissions of HAP as required by section 112(g) of the Clean Air Act.

6. The proposed boiler is an affected unit under the Acid Rain Deposition Control Program pursuant to Title IV of the Clean Air Act and are subject to certain control requirements and emissions monitoring requirements pursuant to 40 CFR Parts 72, 73 and 75. As affected units under the Acid Rain Program, Corn Belt must hold calendar year allowances for each ton of SO_2 that is emitted.

7. The air quality analysis submitted by Corn Belt and reviewed by the Illinois EPA shows that the proposed project will not cause violations of the ambient air quality standard for NO_x, SO_2, $PM/PM_{10,}$ and CO. The air quality analysis shows compliance with the allowable increment levels established under the PSD regulations.

8. The Illinois EPA has determined that the proposed plant complies 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 Section 112(g) of the Clean Air Act, and applicable federal National Emission Standards for Hazardous Air Pollutants (NESHAPs) 40 CFR 63, Subpart B.

9. A copy of the application, the plant summary and a draft of this permit were placed in the Elkhart Public Library, and the public was given notice

and an opportunity to examine this material and to submit comments and to participate in a public hearing on this matter.

The Illinois EPA is issuing approval subject to the following conditions and consistent with the specifications and data included in the application. Any departure from the conditions of this approval or terms expressed in the application must receive prior written authorization of the Illinois EPA.

Conditions

1. Standard conditions for issuance of construction permits, attached hereto and incorporated herein by reference, shall apply to this project, unless superseded by the following:

2a. The boiler shall be operated and maintained with the following features to control emissions.

i. Good combustion practices including low NO_x burners, and staged combustion, or other secondary NO_x control technology.

ii. Selective catalytic reduction (SCR).

iii. Flue gas desulfurization (FGD).

iv. Electrostatic precipitator (ESP).

b. The emissions from the boiler shall not exceed the following limits except during startup, shutdown and malfunction as addressed by Condition 2(c).

i. PM – 0.02 lb/mmBtu.

ii. A. SO_2 - 0.15 lb/mmBtu; and

B. 8% of potential combustion concentration (92% reduction), if emissions are 0.15 lb/mmBtu or greater.

These limits shall apply on a 30 day rolling average with compliance determination using the compliance procedures set forth in the NSPS, 40 CFR Part 60.43a(g).

iii. NO_x - 0.120 lb/mmBtu, or such lower limit as set by the Illinois EPA following the Permittee's evaluation of NO_x emissions and the SCR system as provided in Condition 2(d).

This limit shall apply on a 30-day rolling average using the compliance procedures of the NSPS, 40 CFR Part 60, Subpart D_a.

iv. CO - 0.20 lb/mmBtu.

Compliance shall be determined on a 30 day rolling average basis.

v. VOM – 0.002 lb/mmBtu.

Compliance shall be determined by emission testing in accordance with Condition 10.

Compliance with hourly emission limits shall be based on 24-hour block averages (NO_x, CO and SO_2) and 3-hour block average (VOM and TSP/PM_{10}).

c. The Permittee shall use reasonable practices to minimize emissions during startup and shutdown of a boiler as further addressed in Condition 7(b), including the following:

i. Use of natural gas, during startup to heat the boiler prior to initiating firing of solid fuel;

ii. Operation of the boiler and associated air pollution control equipment in accordance with written operating procedures that include startup, shutdown and malfunction plan(s); and

iii. Inspection, maintenance and repair of the boiler and associated air pollution control equipment in accordance with written maintenance procedures.

d. The Permittee shall evaluate NO_x emissions from the coal boiler to determine whether a lower NO_x emission limit (as low as 0.07 lb/mmBtu) may be reliably achieved while complying with other emission limits and without significant risk to equipment or personnel. This evaluation shall also examine whether there will be significant increase in ammonia emissions, as well as unreasonable increase in maintenance and repair needed for the boiler (see also Condition 19).

3a. i Emissions of particulate matter from the limestone handling and storage (excluding the raw limestone storage pile), ash handling shall be controlled with enclosures and bag filters designed to emit no more than 0.01 grains/dry standard cubic foot (gr/dscf).

ii. Emissions of particulate matter from coal handling (excluding storage piles) and conveying shall be controlled with enclosures and aspiration to bag filters designed to emit no more than 0.01 gr/dscf.

iii. Emissions from coal storage silos, and limestone storage silos shall be controlled by enclosures.

iv. Emissions of particulate matter from the limestone and coal storage piles shall be controlled by material quality and enclosure as practicable.

b. The Permittee shall follow good air pollution control practices to minimize nuisance fugitive dust from plant roads, parking areas, storage piles and other open areas of the plant. These practices shall provide for pavement on all regularly traveled roads and treatment (flushing, vacuuming, dust suppressant application, etc.) of paved and unpaved roads and areas that are routinely subject to vehicle traffic for very effective and effective control of dust, respectively (nominal 90 percent for paved roads and areas and 80 percent control for unpaved roads and areas).

4a. The coal boiler shall comply with one of the following requirements with respect to emissions of mercury:

i. An emission rate of 0.000004 lb/mmBtu or emissions below the detection level of established emission test methodology;

ii. A removal efficiency of 90 percent achieved without injection of activated carbon or other similar material specifically used to control emissions of mercury, comparing the emissions and the mercury contained in the fuel supply;

iii. Injection of powdered activated carbon or other similar material specifically used to control emissions of mercury in a manner that is designed to achieve the maximum practicable degree of mercury removal;

iv. Such other requirement for effective control of mercury emissions as may be established pursuant to Section 112(g) of the Clean Air Act in a revised PSD permit if the Permittee demonstrates that it cannot reasonably obtain performance guarantees or engineering confirmation for compliance with the above requirements; or

v. The requirements for control of mercury emissions established by USEPA pursuant to Section 112(d), once applicable rules are adopted by USEPA.

b. Compliance with the requirements in paragraphs (a)(i) and (ii) above shall be demonstrated by periodic testing related to mercury emissions and proper operation of the coal boiler consistent with other applicable requirements that apply to the coal boiler (e.g., requirements applicable to control of particulate matter and sulfur dioxide) as may be further developed or revised in the source's CAAPP Permit. Compliance with the requirements in paragraphs (a)(iii) and (iv) above shall be demonstrated by proper operation of the coal boiler and such other measures specified by the applicable permit. Compliance with the requirements in paragraph (a)(v) above shall apply as specified by the relevant rule.

c. This Condition shall take effect 18 months after initial startup of the coal boiler. However, as related to paragraphs (a)(i) through (iv) above, the Permittee may at any time thereafter, upon written notice to the Illinois EPA, declare an interruption in compliance for a period of 18 months if needed for detailed evaluation of mercury emissions of the coal boiler or physical changes to the coal boiler as related to control of mercury emissions. As part of its notice for this period, the Permittee shall identify the activities that it intends to perform to evaluate mercury emissions or further enhance control for mercury emissions and specify the particular practices it will use during this period as good air pollution control practice to minimize emissions of mercury.

Condition 2,3 and 4 represents the application of the Best Available Control Technology as required by Section 165 of the Clean Air Act. Compliance with these limits will also assure that Maximum Achievable Control Technology is provided for emissions of hazardous air pollutants as required by Section 112(g) of the Clean Air Act.

5a. i. The boiler is subject to a New Source Performance Standard (NSPS) for Electric Utility Steam Generating Units, 40 CFR 60, Subparts A, and Da. The Illinois EPA administers NSPS in Illinois on behalf of the USEPA under a delegation agreement.

ii. The emissions from the boiler shall not exceed the applicable limits pursuant to the NSPS. In particular, the NO_x emissions from the boiler system shall not exceed 1.6 lb/MW-hr gross energy output, based on a 30-day rolling average, pursuant to 40 CFR 60.44a(d).

iii. The particulate matter emissions from the boiler shall not exceed 20 percent opacity (6-minute average), except for one 6- minute period per hour of not more than 27 percent opacity pursuant to 40 CFR 60.42a(b).

b. i. The limestone handling and storage process is subject to the NSPS for Nonmetallic Mineral Processing Plants, 40 CFR 60, Subparts A and OOO.

ii A. Fugitive emissions of particulate matter from grinding mills, screens (except truck dumping), storage bins, and enclosed truck or railcar loading operations shall not exceed 10% opacity. (40 CFR 60.672(b) and (d))

B. Fugitive emissions of particulate matter from the crushers shall not exceed 10% opacity. (40 CFR 60.672(c))

C. Truck dumping of limestone into any screening operation, feed hopper, or crusher is exempt from the requirements of 40 CFR, Subpart OOO. (40 CFR 60.672(d))

c. As the Permittee will handle coal, coal handling and storage are subject to the NSPS for Coal Preparation Plants, 40 CFR 60, Subpart A and Y.

d. At all times, the Permittee shall maintain and operate emission units that are subject to 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).

6a. The boiler is an affected unit under the Acid Rain Deposition Control Program pursuant to Title IV of the Clean Air Act and are subject to certain control requirements and emissions monitoring requirements pursuant to 40 CFR Parts 72, 73 and 75. As affected units under the Acid Rain Program, The Permittee must also obtain an Acid Rain Permit before commencing operation.

b. The boiler would qualify as Electrical Generating Units (EGU) for purposes of 35 IAC Part 217, Subpart W, the NO_x Trading Program for Electrical Generating Units. As EGU, when this State of Illinois program becomes effective, the Permittee would have to hold NO_x allowances for the NO_x emissions of the boiler during each seasonal control period.

7a. Emissions from the boiler shall not exceed the limits in Table I. The limits in Table I are based upon the emission rates and the maximum firing rate specified in the permit application consistent with the air quality analysis submitted by the Permittee to comply with PSD. Compliance with hourly limits shall be determined with testing and monitoring as required by Conditions 10,11,12 and 13.

b. The Permittee shall operate the boiler and associated air pollution control equipment in accordance with good air pollution control practice to minimize emissions, by operating in accordance with detailed written operating procedures as it is safe to do so, which procedures at a minimum:

i. Address startup, normal operation, and shutdown and malfunction events and provide for review of relevant operating parameters of the boiler systems during startup, shutdown and malfunction as necessary to make adjustments to reduce or eliminate any excess emissions.

ii. With respect to startup, address readily foreseeable startup scenarios, including so called “hot startups” when the operation of a boiler is only temporarily interrupted and provide for appropriate operating review of the operational condition of a boiler prior to initiating startup of the boiler.

iii. With respect to malfunction, identify and address likely malfunction events with specific programs of corrective actions and provide that upon occurrence of a malfunction that will result in emissions in excess of the applicable limits in Condition 2, the Permittee shall, as soon as practicable, repair the affected equipment, reduce the operating rate of the boiler or remove the boiler from service so that excess emissions cease.

Consistent with the above, if the Permittee has maintained and operated the boiler and air pollution control equipment so that malfunctions are infrequent, sudden, not caused by poor maintenance or careless operation, and in general are not reasonably preventable, the Permittee shall begin shutdown of the boiler within 90 minutes, unless the malfunction is expected to be repaired within 120 minutes or such shutdown could threaten the stability of the regional electrical power supply. In such case, shutdown of the system shall be undertaken when it is apparent that repair will not be accomplished within 120 minutes or shutdown will not endanger the regional power system. In no case shall shutdown of the boiler be delayed solely for the economic benefit of the Permittee.

Note: If the Permittee determines that the 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 resolve the accuracy of the CEMS.

c. The Permittee shall maintain the boiler and associated air pollution control equipment in accordance with good air pollution control practice to assure proper functioning of equipment and minimize malfunctions, including maintaining the boiler in accordance with written procedures developed for

this purpose.

d. The Permittee shall review its operating and maintenance procedures as required above on a regular basis and revise them if needed consistent with good air pollution control practice based on actual operating experience and equipment performance. This review shall occur at least annually if not otherwise initiated by occurrence of a startup, shakedown, or malfunction event that is not adequately addressed the existing plans or a specific request by the Illinois EPA for such review.

8a. Emissions from other emission units associated with the facility shall not exceed the limitations in Table II. These limits are based on data presented in the construction permit application and continuous operation (8,760 hours/year).

b. The emission of smoke or other particulate matter from baghouses associated with the fuel storage, and ash storage silos shall not have an opacity greater than 30 percent, pursuant to 35 IAC 212.123(a), except as allowed by 35 IAC 201.149, 212.123(b) or 212.124. Opacity measurements taken to demonstrate compliance with these provisions shall be based on a 6-minute average.

c. Visible emission of particulate matter associated with fuel storage pile, and the associated material handling operations shall comply with the provisions of 35 IAC 212.301.

9a. The boiler and associated equipment covered by this Permit may each be operated under this construction permit for a shakedown period of 365 days* after initial startup. During this period (365 days), notwithstanding Condition 2(b)(ii), the SO_2 reduction for the boiler need only comply with the reduction requirement of the NSPS, 40 CFR Part 60, Subpart Da.

* This period of time may be extended by the Illinois EPA for up to an additional 365 days upon written request by the Permittee as needed to reasonably accommodate unforeseen difficulties in the shakedown of the plant.

b. For emission units that are subject to NSPS, the Permittee shall fulfill applicable notification and recordkeeping requirements of the NSPS, 40 CFR 60.7, 60.49a, and 60.676 including:

i. Written notification of commencement of construction, no later than 30 days after such date (40 CFR 60.7(a)(1));

ii. Written notification of anticipated date of initial startup, at least 30 days but not more than 60 days prior to such date (40 CFR 60.7(a)(2)); and

iii. Written notification of the actual date of initial startup, within 15 days after such date (40 CFR 60.7(a)(3) and 40 CFR 60.49b(a) and 40 CFR 60.676(h)(i)).

c. i. Under this permit, the boiler and associated equipment may be operated for a period that ends 180 days after the boiler first generates electricity to allow for equipment shakedown and emissions testing as required. This period may be extended by Illinois EPA upon request of the Permittee if additional time is needed to complete shakedown or perform emission testing of the boiler.

ii. Upon successful completion of emission testing of the boiler demonstrating compliance with applicable limitations, the Permittee may continue to operate the facility as allowed by Section 39.5(5) of the Environmental Protection Act.

iii. This condition supersedes Standard Condition 6.

10a. i. Within 60 days after achieving the maximum production rate at which the boiler or other new emission units will be operated but not later than 180 days* after initial startup of the unit, the Permittee shall have performance tests conducted as follows below by an approved testing service at its expense under conditions that are representative of maximum emissions.

* This period of time may be extended by the Illinois EPA for

boiler for up to an additional 365 days upon written request by the Permittee as needed to reasonably accommodate unforeseen difficulties in the startup and testing of the boiler, provided that initial performance testing required by the NSPS, 40 CFR Part 60, Subpart Da has been completed for the boiler and the test report submitted to the Illinois EPA.

ii. In addition to the initial performance testing specified above, the Permittee shall perform emission tests within 45 days of a written request by the Illinois EPA. The Illinois EPA may request these tests if, based on observations by field personnel, an emission unit or air pollution control systems are poorly maintained or operated so as to make compliance with permit limitations uncertain.

b. The following methods and procedures shall be used for emission testing:

i. For the boiler, the following USEPA methods and procedures shall be used for testing opacity and emissions of NO_x, CO, PM, VOM, SO_2, hydrogen chloride, hydrogen fluoride, sulfuric acid mist and mercury and other metals, unless otherwise specified or approved by the Illinois EPA.

Opacity	Method 9
Location of Sample Points	Method 1
Gas Flow and Velocity	Method 2
Flue Gas Weight	Method 3 or 3A
Moisture	Method 4
Particulate Matter[1]	Method 5, or Method 201, or 201A (40 CFR 51,Appendix M), or Method 19 as specified in 40 CFR 60.48a(b)
Nitrogen Oxides	Method 7, 7E or 19 as specified in 40 CFR 60.48a(d)
Sulfur Dioxides	Method 6 or 19 as specified in 40 CFR 60.48a(c)
Carbon Monoxide	Method 10
Volatile Organic Material[2]	Method 18, or 25A
Hydrogen Chloride	Method 26
Hydrogen Fluoride	Method 26
Sulfuric Acid Mist	Method 8
Metals [3, 4]	Method 29

Notes:

[1] The Permittee may report all PM emissions measured by USEPA Method 5 as PM_{10}, including back half condensable particulate. If the Permittee reports USEPA Method 5 PM emissions as PM_{10}, testing using USEPA method 201 or 201A need not be performed.

[2] The 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 any such compounds is included in the test plan approved by the Illinois EPA.

[3] For purposes of this permit, metals are defined as mercury, arsenic, beryllium, cadmium, chromium, lead, manganese, and nickel.

[4] During the initial emissions testing for metals, the Permittee shall also conduct measurements using established test methods for the principle forms of mercury present in the emissions, i.e., particle bound mercury, oxidized mercury and elemental mercury.

ii. The following USEPA methods and procedures shall be used for particulate matter and opacity measurements for the limestone handling and storage operations, as specified in 40 CFR 60.67:

Particulate Matter	Method 5 or Method 17
Opacity	Method 9

iii. The following USEPA methods and procedures shall be used for particulate matter and opacity measurements for solid fuel handling:

Particulate matter - Method 5, the sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf). Sampling shall begin no less than 30 minutes after startup and shall terminate before shutdown procedures begin (40 CFR 60.254)

Opacity - Method 9, opacity measurements shall be performed by a certified observer.

c. At least 60 days prior to the actual date of testing, a written test plan shall be submitted to the IEPA for review. This plan shall describe the specific procedures for testing and shall include at a minimum:

i. The person(s) who will be performing sampling and analysis and their experience with similar tests.

ii. The specific conditions, e.g., fuel supply, firing rate and control device operating rates, under which testing shall be performed including a discussion of why these conditions will be representative of maximum emissions and the means by which the operating parameters for the boiler system will be tracked and recorded.

iii. The specific determinations of emissions that are intended to be made, including sampling and monitoring locations. As part of this plan, the Permittee may set forth a strategy for performing emission testing in the normal load range of the boiler.

iv. The test method(s) which will be used, with the specific analysis

method if the method can be used with different analysis methods.

d. i. The Permittee shall notify the Illinois EPA prior to each of these tests to enable the Illinois EPA to observe these tests. Notification for the expected date of testing shall be submitted a minimum of 30 days* prior to the expected date, and shall be accompanied by a detailed plan describing the testing which will be performed. 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.

* 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.

ii. This notification shall also identify the parties that will be performing testing and the set or sets of operating conditions (i.e., boiler load and fuels) under which testing will be performed.

e. Three copies of the Final Reports for these tests shall be forwarded to the Illinois EPA within 30 days after the test results are compiled and finalized. The Final Report from testing shall contain a minimum:

i. A summary of results;

ii. General information;

iii. Description of test method(s), including a description of sampling points, sampling train, analysis equipment, and test schedule;

iv. Detailed description of test conditions, including for the boiler:

A. Fuel consumption (in tons) of the unit being tested;

B. Composition of fuel (Refer to Condition 13(a) and (c);

C. Firing rate (million Btu/hr) of the unit being tested;

D. Control device operating rates, e.g., SCR reagent injection rate, supplementary ash/lime injection rate, etc.; and

E. Turbine/Generator output rate (MWe).

v. Data and calculations, including copies of all raw data sheets and records of laboratory analysis, sample calculations, and data on equipment calibration.

11a. At a minimum, to confirm compliance with Condition 2(b)(i), the Permittee shall test particulate matter (PM) emissions from the boiler in accordance

with Condition 10 at a regular interval that is no greater than 36 months, i.e., PM testing of the boiler at least once every 36 months. Notwithstanding the above, if the results of two of these PM tests consecutively for a boiler demonstrate PM emissions of 0.010 lb/mmBtu or less, the maximum interval for testing of such boiler may be doubled, i.e., PM testing at least once every 72 months. Provided however, if a PM test for such a boiler then shows PM emissions above 0.010 lb/mmBtu, the maximum interval between testing shall revert to 36 months until two consecutively tests again show PM emissions of 0.010 lb/mmBtu or less.

b. Whenever PM testing for the boiler is performed as required above, testing for emissions of mercury shall also be performed in accordance with Condition 10.

12a. i. The Permittee shall install, evaluate, operate, and maintain continuous opacity, SO_2, NO_x and CO monitoring systems and either an O_2 or CO_2 monitoring system on the coal boiler.

ii. The type, location, and operating procedures for the monitoring equipment for the boiler shall be approved by the Illinois EPA, prior to installation.

iii. The Permittee shall fulfill the applicable requirements for monitoring in the NSPS, 40 CFR 60.13, 60.47a, and 40 CFR 60 Appendix B.

b. In addition, when NO_x or SO_2 emission data are not obtained from a continuous monitoring system because of system breakdowns, repairs, calibration checks and zero span adjustments, emission data will be obtained by using standby monitoring systems, emission testing using USEPA Reference Methods (Method 7 or 7A for NO_x and Method 6 for SO_2), or other approved methods as necessary to provide emission data for a minimum of 75 percent of the operating hours in a steam generating unit operating day, in at least 22 out of 30 successive steam generating unit operating days, pursuant to 40 CFR 60.47a(f) and (h).

13a. i. The Permittee shall sample and analyze the sulfur and heat content of the coal supplied to the boiler in accordance with USEPA Reference Method 19 (40 CFR 60, Appendix A, Method 19).

ii. This sampling and analysis shall include separate measurements for the sulfur and heat content of the coal supplied to the boiler.

b. The Permittee shall install, evaluate, operate, and maintain meters to measure and record consumption of coal by the boiler.

c. The Permittee shall analyze representative sample of all coal supplies and any alternate fuel supplies that are components in the solid fuel supply to

the boiler and the solid fuel supply itself for mercury and other metals and chlorine content, as follows:

i. Analysis shall be conducted in accordance with USEPA Reference Method or other method approved by USEPA.

ii. Sampling of the fuel supply to the boiler itself shall be conducted in conjunction with performance testing of the boiler.

iii. Testing of solid fuels shall also be conducted in conjunction with acceptance of coal from other than the Elkhart coal mine or an alternate fuel and on at least a biennial basis thereafter.

iv. The CAAPP permit may relax these requirements.

14a. i. The Permittee shall maintain a written fugitive dust control program describing the measures being implemented in accordance with Condition 3(b) to control fugitive dust at each area of the plant with the potential to generate significant quantities of fugitive dust. This program shall include estimated dust emissions control technique (e.g., water spray surfactant spray, water flushing, or sweeping); typical flow of water and additive concentration; normal frequency with which measures would be implemented; circumstances, e.g., recent precipitation, in which the measure would not be implemented; triggers for additional control, e.g. observation of 10 percent opacity; and calculated control efficiency.

ii. The program shall be accompanied by maps or diagrams indicating the location of areas at the plant with the potential to generate fugitive dust, with description (length, width, surface material, etc.) and volume and nature of expected traffic or other activity.

b. The Permittee shall submit a copy of this program to the Illinois EPA for review within 90 days of initial plant start up.

15a. The Permittee shall maintain the following records for the continuous monitoring systems required on the boiler required pursuant to Conditions 12 and 13(b).

i. Records of the output of the systems.

ii. Records of maintenance, calibration and operational activity associated with the monitoring systems.

b. The Permittee shall maintain the following records with respect to operation and maintenance of the boiler and associated control equipment:

i. An operating log for the boiler that at a minimum shall address:

A. Each startup of the boiler, including the nature of the startup, sequence and timing of major steps in the startup, any unusual occurrences during the startup, and any deviations from the established startup procedures, with explanation;

B. Each shutdown of the boiler including the nature and reason for the shutdown, sequence and timing of major steps in the shutdown, any unusual occurrences during the shutdown, and any deviations from the established shutdown procedures, with explanation; and

C. Each malfunction of the boiler system that significantly impairs emission performance, including the nature and duration of the event, sequence and timing of major steps in the malfunction, corrective actions taken, any deviations from the established procedures for such a malfunction, and preventative actions taken to address similar events.

ii. Inspection, maintenance and repair log(s) for the boiler system that at a minimum shall identify such activities that are performed as related to components that may effect emissions; the reason for such activities, i.e., whether planned or initiated due to a specific event or condition, and any failure to carry out the established maintenance procedures, with explanation.

iii. Copies of the steam charts and daily records of steam and electricity generation from the plant.

c. For the boiler, the Permittee shall maintain records of the following items related to fuel and emissions:

i. Records of SO_2 NO_x and PM emissions, as specified by 40 CFR 60 60.49a.

ii. The amount of fuel combusted in the boiler by type of fuel as specified in Method 19.

iii. A. The sulfur content of solid fuel, lb S/mmBtu, supplied to each boiler, as determined pursuant to Condition 13(a); and

B. The sulfur content of solid fuel supplied to the boiler on a 30-day rolling average, determined from the above data.

iv. With respect to the SO_2 reduction based limit in Condition 2(b)(ii), for each 30 day averaging period, the SO_2 emissions in lb/mmBtu and the required SO_2 emission rate as determined by applying the permissible emission fraction to the potential SO_2 emission rate of the solid fuel supply.

v. Records of the sampling and analysis of solid fuel supply to the boiler conducted in accordance with Condition 13 (c).

d. The Permittee shall keep inspection and maintenance logs for the PM filters associated with handling and storage of solid fuel and limestone.

e. The Permittee shall notify the Illinois EPA in writing at least 30 days prior to initial firing of any solid fuel other than coal or coal tailings in the boiler.

16. All records, including written procedures and logs, required by this permit shall be kept at a readily accessible location at the plant and be available for inspection and copying by the Illinois EPA. These records shall also be retained for five years unless otherwise specified in a particular provision of this permit.

17. The Permittee shall comply with applicable reporting requirements under the Acid Rain Program, with a single copy of such report sent to Illinois EPA, Division of Air Pollution Control, Compliance Section, upon request.

18a. The Permittee shall fulfill applicable reporting requirements in the NSPS, 40 CFR 60.7(c) and 60.49a, for the boiler. For this purpose, the semiannual reports shall be submitted no later than 30 days after the end of each six-month period. (40 CFR 60.49a (i))

b. In lieu of semiannual reports in Condition 18a, the Permittee may submit electronic quarterly reports for SO_2 and/or NO_x and/or opacity. The electronic reports shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner/operator, indicating whether compliance with applicable emission standards and minimum data requirements of 40 CFR 60.49a were achieved during the reporting period. (40 CFR 60.49a (j))

c. Either as part of the periodic NSPS report or accompanying such report, the Permittee shall report to the Illinois EPA any and all opacity or emission measurements, which exceed the respective requirements set by this permit. These reports shall provide for each such incident, the pollutant emission rate, the date and duration of the incident, and whether it occurred during startup, malfunction, breakdown, or shutdown. If an incident occurred during malfunction or breakdown, all corrective actions taken shall also be reported. These reports shall also specify periods during which the continuous monitoring systems were not in operation.

d. The Permittee shall report any other exceedance or violation of the requirements of this permit, not addressed above, to the Illinois EPA within 90 days of the discovery of the event. This report shall include the date and time of the incident, a description of the incident, the level of emissions on an hourly basis, and magnitude of the incident, a

description of the corrective measures taken and efforts made to prevent future occurrences.

19a. The Permittee shall perform the evaluation of NO_x emissions from the boiler required by Condition 2(d) in accordance with a plan submitted to the Illinois EPA for review and comment. The initial plan shall be submitted to the Illinois EPA for review and comment no later than 60 days after initial start-up of the boiler.

b. The plan shall provide for systematic evaluation of changes, within the normal or feasible range of operation, in the following elements as related to the monitored NO_x emissions:

i. Boiler operating load and operating settings;

ii. Operating rate and settings of the SCR system;

iii. Flue gas temperature at SCR injection point(s);

iv. Combustion settings, including excess oxygen;

v. Amount of limestone added to the FGD system;

vi. Nitrogen content of the fuel supply;

vii. ESP parameters to assure surrogate compliance parameters;

viii. Opacity, particulate matter and sulfuric acid mist emissions; and

ix. Ammonia slip.

c. The Permittee shall promptly begin this evaluation after the boiler demonstrates compliance with the applicable emission limits as shown by emission testing and monitoring. At this time, the Permittee shall submit an update to the plan that describes its findings with respect to control of NO_x emissions during the shakedown of the boiler, which highlights possible areas of concern for the evaluation.

d. i. This evaluation shall be completed and a detailed written report submitted to the Illinois EPA within two years after the initial startup of the boiler.

ii. These deadlines may be extended for an additional year if the Permittee submits an interim report demonstrating the need for additional time to effectively evaluate NO_x emissions and propose an alternative limit or limits for NO_x emissions.

e. i. More stringent emission limits for NO_x emissions (but no more stringent than 0.07 lb/million Btu) shall be set as a result of this evaluation if the Illinois EPA finds that the boiler can consistently comply with such limits. Additional parameters or factors, e.g., the nitrogen content of the fuel supply, may be included in such limits

to address particular modes of operation during which such limits may or may not be achievable.

ii. If the Permittee fails to complete the evaluation or submit the required report in a timely manner, the NO_x emission limit shall automatically revert to the lower limit identified above, i.e., 0.070 lb NO_x per mmBtu.

20. Two copies of required reports and notifications concerning equipment operation or repairs, performance testing or continuous monitoring system shall be sent to:

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

and one copy, except the Annual Emission Report required by 35 IAC 254, shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
5415 North University
Peoria, Illinois 61614

21a. This permit shall become invalid as follows, pursuant to 40 CFR 52.21 (r)(2). This condition supersedes standard Condition 1. The Illinois EPA is administering these standards in Illinois on behalf of the United States EPA under a delegation agreement.

This Permit shall become invalid if construction of the boiler is not commenced within 18 months after this permit becomes effective, if construction of this boiler is discontinued for a period of 18 months or more, or if construction of this boiler is not completed within a reasonable period of time.

b. For purposes of the above provisions, the definitions of "construction" and "commence" at 40 CFR 52.21 (b)(8) and (9) shall apply, which require that a source must enter into a binding agreement for on-site construction or begin actual on-site construction. (Also see the definition of "begin actual construction," 40 CFR 52.21 (b)(11)).

22a. This approval to construct does not relieve the Permittee of the responsibility to comply with all local, state and federal Regulations which are part of the applicable Illinois State implementation plan, as well as all other applicable federal, state and local requirements.

b. In particular, this permit does not relieve the Permittee from the responsibility to carry out practices during the construction and operation of the plant, such as application of water or dust suppressant sprays to

unpaved traffic areas, to minimize fugitive dust and prevent an air pollution nuisance from fugitive dust, as prohibited by 35 IAC 201.141.

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

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:SRS:jar

cc: Region 2
USEPA Region V

ATTACHMENT A

Table I

Coal Boiler Emission Limitations

Pollutant	(Lb/mmBtu)	(Pounds/Hour)	(Tons/Year)
NO_x	0.12	109.0	477
CO	0.20	181.0	794
VOM	0.002	2.0	8
SO_2	0.15	133.0	584
TSP/PM_{10}	0.02	18.0	79
H_2SO_4	----	4.1	17.9
Mercury			0.02

Notes:

The permitted NO_x emission limit of 0.12 lb/mmBtu is subject to an optimization program as addressed by Condition 2(d).

Compliance with the emission rates expressed in pounds per million Btu heat input (lb/mmBtu) shall be determined in accordance with the provisions in Condition 2(b).

Compliance with hourly emission limits shall be based on 24-hour block averages (NO_x, CO and SO_2) and 3-hour block average (VOM, TSP/PM_{10} and H_2SO_4). Short-term emission rates do not apply during startup, shutdown or malfunction addressed by Condition 7(b).

All particulate matter (PM) shall be considered PM-10 unless emissions are tested by an appropriate USEPA test method for measurement of PM-10, as specified in 35 IAC 212.110(e).

Table II

Emission Limitations for Emission Units other than the coal Boiler

PM Emissions (in Pounds per Hour and Tons per Year)

Emission Unit	PM (Lb/Hr)	PM (T/Yr)
Cooling Towers	0.3	1.1
Limestone Crusher	0.002	0.01
Limestone Silo	0.3	1.1
Fly Ash Silo	0.4	1.9
Coal Transfer	0.2	0.8
Total (Tons Per Year)		4.91

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