

217/782-2113

CONSTRUCTION PERMIT - PSD APPROVAL - NSPS SOURCE

PERMITTEE

EnviroPower of Illinois, LLC
Att'n: Larry Harp, Project Manager
P.O. Box 280
500 North DuQuoin Street
Benton, IL 62812

Draft

Application No.:00080042

I.D. No.:055802AAG

Applicant's Designation: EPOWR-1

Date Received: August 15, 2000

Subject: Electrical Generation Facility

Date Issued:

Location: Site of Old Ben 24 Coal Mine, Benton, Franklin County

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of 2 circulating fluidized bed (CFB) boilers, solid fuel handling and storage, ash handling and storage, limestone handling and storage, cooling towers, fuel oil storage 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

1. EnviroPower of Illinois, LLC (EnviroPower) has requested a permit for two circulating fluidized bed (CFB) boilers, each with limestone injection, a baghouse, and a selective non-catalytic NO_x reduction system; solid fuel handling and storage; ash handling and storage; limestone handling and storage; cooling towers; fuel oil storage and ancillary operations. Together the CFB boilers will have the ability to generate the steam for up to about 500 MW of electricity (nominal net

- output). The CFB boilers will be fired on coal tailings and coal as their primary fuels with natural gas and distillate oil as startup fuels.
2. The plant will be located on an approximately 900-acre site near the City of Benton in Franklin 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 5590 tons/year of sulfur dioxide (SO₂), 2808 tons/yr of nitrogen oxides (NO_x), 421.0 tons/yr of particulate matter, 6040 tons/yr of carbon monoxide (CO), 161.0 tons/yr of volatile organic materials (VOM) and 9.6 tons/yr of fluorides. The project is therefore subject to PSD review as a major new source for the above pollutants.
 4. The proposed plant is also 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 fluoride and hydrogen chloride and more than 25 tons in aggregate for a combination of HAP. Therefore, the plant may be subject to review under Section 112(g) of the Clean Air Act. The USEPA'S related determination under Section 112(n) of the Clean Air Act has been appealed and applicability of Section 112(g) is still under review.
 5. After reviewing the materials submitted by EnviroPower, 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, SO₂, PM/PM₁₀, CO, VOM and fluorides as required by the PSD rule, and (iv) utilize Maximum Achievable Control Technology (MACT) for emissions of HAP if required by 112(g) of the Clean Air Act.
 6. The CFB boilers are affected units 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, EnviroPower must hold calendar year allowances for each ton of SO₂ that is emitted.
 7. The air quality analysis submitted by EnviroPower and reviewed by the Illinois EPA shows that the proposed project will not cause violations of the ambient air quality standard for NO_x, SO₂, PM/PM₁₀, CO and ozone. 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; and applicable federal New Source Performance Standards (NSPS) 40 CFR 60.

9. A copy of the application, the plant summary and a draft of this permit were placed in the Benton 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 CFB boiler shall be operated and maintained with the following features to control emissions.
 - i. Good combustion practices
 - ii. Fluidized bed combustion with limestone injection and ash recirculation
 - iii. Selective non-catalytic reduction
 - iv. Fabric filter
 - b. The emissions from each CFB boiler shall not exceed the following limits:
 - i. PM - 0.015 lb/mmBtu
 - ii.A. SO₂ - 0.25 lb/mmBtu; and,
 - B. 8% of potential combustion concentration (92% reduction), if emissions are 0.20 lb/mmBtu heat input or greater

Compliance shall be determined on a 30 day rolling average basis as set forth in the NSPS at 40 CFR 60.43a(g), Subpart Da;

These limits shall apply on a 30 day rolling average using the compliance procedures of the NSPS, 40 CFR Part 60, Subpart Da.
 - iii. NO_x 0.125 lb/mmBtu, or such lower limit as set by the Illinois EPA following the Permittee's evaluation of NO_x emissions and the SNCR system as provided in Condition 2d..

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 - 0.27 lb/mmBtu.

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

v. VOC - 0.007 lb/mmBtu.

Compliance shall be determined by emission testing in accordance with Condition 8.

c. The Permittee shall use reasonable practices to minimize emissions during startup and shutdown of a boiler, including conducting routine startup and routine shutdown of boilers in accordance with written procedures maintained on site that are specifically developed to minimize emissions from both "cold" and "hot" startups and shutdowns, that as a minimum include the following measures:

i. Review of the operational condition of a boiler prior to initiating startup of the boiler.

ii. Use of natural gas, with fuel oil as a backup fuel, during startup to heat the boiler prior to initiating firing of coal or other solid fuel.

iii. Review of the operating parameters of the boiler during each startup as necessary to make appropriate adjustments to the startup to minimize emissions of SO₂ and other pollutants.

d. The Permittee shall evaluate NO_x emissions from the CFB boilers to determine whether a lower NO_x mission 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 boilers (see also Condition 17).

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 solid fuel 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 solid fuel storage silos, and limestone storage silos shall be controlled by enclosures.

- iv Emissions of particulate matter from the limestone and solid fuel storage piles shall be controlled by material quality and enclosure.
- b. Emission from combustion of fuel in the limestone mills shall be controlled by use of only natural gas and distillate oil as fuel and good combustion practices.
- c. 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).

Condition 2 and 3 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 if required by Section 112(g) of the Clean Air Act.

- 4ai. The two CFB boilers are subject to a New Source Performance Standard (NSPS) for Electric Utility Steam Generating Units, 40 CFR 60, Subparts A, and Da. The Illinois EPA is administering NSPS in Illinois on behalf of the USEPA under a delegation agreement.
 - ii. The emissions from each boiler shall not exceed the applicable limits pursuant to the NSPS. In particular, the NO_x emissions from the CFB 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 CFB 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. (NSPS at 40 CFR 60.42a(b), Subpart Da.);
- bi. The limestone handling and storage process (03), is subject to New Source Performance Standards (NSPS), 40 CFR 60, Subparts A and 000. The Illinois EPA is administering NSPS in Illinois on behalf of the United States EPA under a delegation agreement.
 - 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 000. (40 CFR 60.672(d))
- ci. Fuel oil storage tanks are subject to the New Source Performance Standard (NSPS) for storage vessels, 40 CFR 60, Subpart A and Kb.
 - ii. The Permittee shall maintain a permanent file, for the life of each fuel oil storage tank, of the dimensions of the tank and an analysis showing the capacity of the tank.
- d. As the Permittee will handle coal, solid fuel handling and storage are subject to the New Source Performance Standard (NSPS) for coal preparation plants, 40 CFR 60, Subpart A and Y. The Illinois EPA is administering NSPS in Illinois on behalf of the United States EPA under a delegation agreement.
 - e. 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, as required per NSPS, 40 CFR 60.11(d)
- 5a. Emissions from the CFB boilers 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 as a 3-hour average, consistent with testing and monitoring as required by Conditions 8, 9, 10 and 11.
 - b. Emissions from other emission units associated with the CFB boilers 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).
 - c. The Permittee shall comply with the following requirements with respect to opacity and visible emissions.
 - i. 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.
 - ii. 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.

6. The CFB boiler and associated air pollution controls shall be operated to minimize emissions during startup, malfunction and shutdown including:
 - a.
 - i Operation in accordance with the manufacturer's written instructions, or other written instructions developed and maintained by the Permittee; and
 - ii Review of operating parameters of the units during startup, malfunction, breakdown or shutdown as necessary to make adjustments to reduce or eliminate excess emissions.
 - b. The Permittee shall maintain the CFB boilers and associated air pollution control equipment in accordance with written procedures developed and maintained by the Permittee. These procedures shall be reviewed at least annually and enhanced if needed consistent with good air pollution control practice based on actual operating experience and performance.
 - c. Upon malfunction of the CFB boiler or any air pollution control equipment that will result in emissions in excess of the applicable limits in Condition 2, the Permittee shall, as soon as practicable, repair the affected system or remove the system from service so that excess emissions cease.
 - d. Consistent with the above, if the Permittee has maintained and operated the CFB 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 system 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 system. 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 CFB boiler be delayed solely for the economic benefit of the Permittee.
 - e. Notwithstanding the above, if the Permittee determines that the continuous emission monitoring system (CEMS) is inaccurately reporting excess emissions, the Permittee may continue operation provided the Permittee records the information it is relying upon to conclude that the CFB 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.
- 7a. The new CFB boilers 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 SO₂ reduction for a CFB 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. 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 a CFB boiler.

8a. Within 60 days after achieving the maximum production rate at which the CFB boilers and other new emission units will be operated but not later than 180 days* after initial startup, the Permittee shall have emissions measured 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 a new CFB 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 these boilers, 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.

bi. Unless otherwise specified or approved by the Illinois EPA, the following USEPA methods and procedures shall be used for testing of emissions of NO_x, CO, PM, VOM, SO₂ and opacity from the CFB boiler:

| | |
|---------------------------|---|
| Location of Sample Points | USEPA Method 1 |
| Gas Flow and Velocity | USEPA Method 2 |
| Flue Gas Weight | USEPA Method 3, or 3A |
| Moisture | USEPA Method 4 |
| Particulate Matter | USEPA 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 | USEPA Method 7, 7E or 19 as specified in 40 CFR 60.48a(d) |
| Sulfur Dioxides | USEPA Method 6 or 19 as specified in 40 CFR 60.48a(c) |
| Opacity | USEPA Method 9 |
| Carbon Monoxide | USEPA Method 10 |
| Volatile Organic Material | USEPA Method 18, 25, or 25A |

- A. The Permittee may report all PM emissions measured by USEPA Method 5 as PM₁₀, including back half condensable particulate. If the Permittee reports USEPA Method 5 PM emissions as PM₁₀, testing using USEPA method 201 or 201A need not be performed.
- B. 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 Agency.

In addition to the initial performance testing detailed above, the Permittee shall perform emission tests within 45 days of a written request by the IEPA. The IEPA 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.

- ii. The following 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:

PM - Method 5 or Method 17
 Opacity - Method 9

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

PM - 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 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 CFB 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 CFB 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.
- di. 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 IEPA Compliance Section in Springfield 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:
 - A. Fuel consumption (in tons) of the unit being tested;
 - B. Firing rate (million Btu/hr) of the unit being tested;
 - C. Turbine/Generator output rate (MWe);
 - D. Data and calculations, including copies of all raw data sheets and records of laboratory analysis, sample

calculations, and data on equipment calibration.

9. At a minimum, to confirm compliance with Condition 2(a)(i), the Permittee shall test PM emissions from each CFB boiler in accordance with Condition 8 at a regular interval that is no greater than 36 months, i.e., PM testing of each CFB 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.
- 10a.
 - i. The Permittee shall install, evaluate, operate, and maintain continuous opacity, SO₂, NO_x and CO monitoring systems and either an O₂ or CO₂ monitoring system on each CFB boilers.
 - ii. The type, location, and operating procedures for the monitoring equipment for the CFB boilers shall be approved by the Illinois EPA, prior to installation.
 - iii. The Permittee shall fulfill the requirements for monitoring in the NSPS, 40 CFR 60.13, 60.47a, and 40 CFR 60 Appendix B.
- b. In addition, when NO_x emission data are not obtained from a NO_x monitoring system because of continuous monitoring systems breakdowns, repairs, calibration checks and zero span adjustments, emission data will be obtained by using standby monitoring systems, Method 7, Method 7A, 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).
- 11a.
 - i. The Permittee shall sample and analyze the sulfur and heat content of the solid fuels supplied to the CFB boilers 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 solid fuel supplied to each of the CFB boilers.
- b. The Permittee shall install, evaluate, operate, and maintain meters to measure and record consumption of different fuels by each boiler.
- 12a.
 - i. The Permittee shall maintain a written fugitive dust control program describing the measures being implemented in accordance with Condition 3(c) 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.

13a. i. The Permittee shall maintain a record of the output of continuous monitoring systems required pursuant to Conditions 10, and 11.

- ii. The Permittee shall maintain a record of maintenance, calibration and operational activity associated with continuous monitoring equipment.

b. For each of the CFB boilers, the Permittee shall maintain records of the following items:

i. Records of SO₂ NO_x and particulate emissions, as specified by the NSPS (40 CFR 60 60.49a).

ii. The amount of fuel combusted in each 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 9(b)(ii); and

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

iv. With respect to the SO₂ reduction based limit in Condition 2(b)(ii), for each 30 day averaging period, the SO₂ emissions in lb/mmBtu and the required SO₂ emission rate as determined by applying the permissible emission fraction to the potential SO₂ emission rate of the solid fuel supply.

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

- d. The Permittee shall maintain the steam charts and daily records of steam and electricity generation from the plant.
14. All records required by this permit shall be kept at a readily accessible location at the boiler plant and be available for inspection and copying by the Illinois EPA. These records shall also be retained for three years unless otherwise specified in a particular provision of this permit.
15. 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.
- 16a. The Permittee shall fulfill applicable reporting requirements in the NSPS, 40 CFR 60.7(c), and 60.49a for the CFB boilers. 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 15a, the facility may submit electronic quarterly reports for SO₂ 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 the quarterly NSPS report or accompanying such report, the Permittee shall report to the Illinois EPA any and all opacity, SO₂, NO_x and CO measurements which exceed the respective emission limits set by Condition 2, 3, and 4. 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.
- 17a. The Permittee shall perform the evaluation of NO_x emissions from the CFB boilers required by Condition 2(c) 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 CFB 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 SNCR system
 - iii. Flue gas temperature at SNCR injection point(s)
 - iv. Bed and combustion settings, including excess oxygen
 - v. Amount and type of limestone added to the bed
 - vi. Nitrogen content of the fuel supply
 - vii. Fabric filter pressure drop, cleaning cycle and operation
 - viii. Opacity and particulate matter emissions
 - ix. Ammonia slip
 - c. The Permittee shall promptly begin this evaluation after a CFB 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 a CFB 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 a CFB 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.
18. 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

1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) 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
2009 Mall Street
Collinsville, Illinois 62234

- 19a. 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 CFB boilers is not commenced within 18 months after this permit becomes effective, if construction of these boilers is discontinued for a period of 18 months or more, or if construction of these boilers 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))
20. 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.

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

cc: Region 3
USEPA Region V

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ATTACHMENT A

Table 1

CFB Boiler Emission Limitations

| Pollutant | (Lb/mmBtu) | Total Lb/Hr | Total Tons/Year |
|----------------------|------------|-------------|-----------------|
| NO _x | 0.125 | 638 | 2792 |
| CO | 0.27 | 1377 | 6031 |
| VOM | 0.007 | 35.7 | 161 |
| SO ₂ | 0.25 | 1275 | 5590 |
| TSP/PM ₁₀ | 0.015 | 76.5 | 336 |

Note:

The permitted NO_x emission rate of 0.125 is subject to a boiler optimization program.

Compliance with short-term emission limitations (lbs./mmBtu) shall be determined in accordance with Condition 2a.

Compliance with hourly emission limits, which are total for both boiler, shall be based on 24-hour block averages (NO_x, CO and SO₂) and 3-hour block average (VOM and TSP/PM₁₀). Short-term emission rates do not apply during startup, shutdown or malfunction addressed by Condition 6.

Annual limits in tons per year (tpy) are established based on continuous operation of the boilers at the hourly emission limit.

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 Ill. Adm. Code 212.110(e).

Table II

Emission Limits for emission units other than CFB Boilers (Pounds. Per hour/Tons Per Year)

| Emission Unit | SO ₂ | NO _x | PM | CO | VOC |
|-------------------------------|-----------------|------------------|------------------|-----------------|----------------|
| Ash handling & storage | | | <u>4.4/19.2</u> | | |
| Limestone milling (dryers) | <u>1.0/4.4</u> | <u>2.8/12.5</u> | <u>12.3/53.9</u> | <u>1.6/7.4</u> | <u>0.2/0.5</u> |
| Solid fuel handling & storage | | | <u>0.8/3.3</u> | | |
| Diesel engine | <u>1.2/0.3</u> | <u>11.1/2.78</u> | <u>0.1/0.03</u> | <u>1.0/0.25</u> | <u>0.4/0.1</u> |
| Cooling towers | | | <u>1.3/5.6</u> | | |
| Fuel oil storage | | | | | <u>-/0.1</u> |
| Fugitive dust (roads, etc.) | | | <u>11.0/48.1</u> | | |

These limits are based on data presented in the construction permit application and continuous operation (8,760 hours/year).