Bureau of Air
Curtis State Office Building
1000 SW Jackson, Suite. 310
Topeka, KS 66604-1366

Phone: 785-296-6281
Fax: 785-291-3953
llowry@kdheks.gov
www.kdheks.gov/bar

Kansas

Robert Moser, MD, Secretary | Department of Health & Environment | Sam Brownback, Governor

AIR EMISSIONS SOURCE CONSTRUCTION PERMIT

Source ID No.:	0550023
Effective Date:	December 30, 2011
Source Name:	Holcomb Station
SIC Code:	4911; Electric Services
NAICS Code:	221112; Fossil Fuel Electric Power Generation
Source Location:	2440 Holcomb Lane Holcomb, Kansas
Mailing Address:	P.O. Box 430 Holcomb, Kansas 67851
Contact Persons:	Mr. Paul Reynolds Manager, Generation Engineering/Environment Telephone Number: (620) 277-4522

This permit is issued pursuant to K.S.A. 65-3008 as amended.

I. Description of Activity Subject to Air Pollution Control Regulations

The Sunflower Electric Power Corporation (Sunflower) is proposing to install emission control technologies at its existing Holcomb Generating Station (Holcomb) located in Finney County, Holcomb, Kansas. Sunflower will reduce Nitrogen Oxides (NO_X) emissions on Holcomb Unit 1 (H1) through the use of a new Low NO_X combustion system comprised of low NO_X burners (LNB) and overfire air (OFA) combustion control methods.

The project will not result in any increase in fuel consumption, heat input, or steam generation. However, due to the inverse relationship between NO_X and Carbon Monoxide (CO) emissions, the new LNB/OFA equipment will result in an increase in CO emissions, and thus subject the proposed modification to the requirements of 40 CFR 52.21, Prevention of Significant Deterioration (PSD), as adopted under K.A.R. 28-19-350, as a result of being a major modification of a major stationary source for at least one regulated pollutant emitted in excess of the PSD significant emission levels. H1 is an affected source subject to Title IV of the Federal Clean Air Act, Acid Deposition Control. The proposed project does not constitute a modification or reconstruction for the purpose of determining applicability of New Source Performance Standard (NSPS) requirements. This project is subject to the provision of K.A.R. 28-19-300 (Construction permits and approvals; applicability) because the potential-to emit of CO exceeds 100 tons per year.

None of the following emissions will increase as a result of this project: particulate matter (PM), PM with a diameter less than 10 microns (PM_{10}), PM with a diameter less than 2.5 microns ($PM_{2.5}$), sulfur dioxide (SO_2), volatile organic compounds (VOC), lead, sulfuric acid mist, fluorides, hydrogen sulfide (H_2S), total reduced sulfur, and carbon dioxide equivalent (CO_2e).

The initial PSD construction permit for H1, dated May 19, 1980, contained a CO limit of 0.064 lb/mmBTU. However, Condition No. 1 of that permit indicates that "if the CO and NO_X BACT emission limits cannot be achieved simultaneously, the NO_X emission limit shall take precedence and a new CO/BACT emission limit shall be established by the EPA (or its delegated representative)..." Condition No. 1 of the permit also states: "As part of any readjustment of the CO/BACT emission limit under this permit condition, the owner/operator of Unit No. 1 must make a determination through the use of agency-approved dispersion models that emissions from Unit No. 1 will not cause or significantly contribute to a violation of the National ambient Air Quality Standards (NAAQS) for CO."

The Air Emissions Limits for this permit, as indicated in sections V.A. and V.B, were established based on the above criteria.

An ambient impact analysis using the AERSCREEN version 11126 dispersion model, as approved by the Kansas Department of Health and Environment, and a Best Available Control Technology (BACT) determination were conducted as a part of the construction permit application process.

II. Significant Applicable Air Regulations

The proposed activity is subject to Kansas Administrative Regulations (K.A.R.) relating to air pollution control. The following air quality regulations were determined to be applicable to this source:

A. K.A.R. 28-19-19 Continuous Emission Monitoring;

B. K.A.R. 28-19-30 Indirect Heating Equipment Emission General Provisions;

C. K.A.R. 28-19-31 Indirect Heating Equipment Emission Limitations;

D. K.A.R. 28-19-300 Construction permits and approvals; applicability;

E. K.A.R. 28-19-350 Prevention of significant deterioration of air quality;

F. K.A.R. 28-19-650 Emissions Opacity Limits.

III. Air Emission Unit Technical Specifications

The following equipment or equivalent is approved:

Installation of a Low NO_X combustion system comprised of low NO_X burners (LNB) and overfire air (OFA) combustion control methods.

IV. Air Emissions Estimates from the Proposed Activity

Pollutant Type	Baseline Actual (tons per year)	Projected Actual (tons per year)	Change in Emissions (tons per year)
CO	509.1	3,711.0	3,201.8
NO_X	4,687.2	2,671.9	-2,015.3
CO_2e	--	--	-5,030.3[1]

V. Air Emission Limitations

Each emission limitation established or referenced in this permit applies to the respective emission source subject to that limitation at all times, including startup, shutdown and malfunction, unless the applicability of that limitation is expressly excluded under certain conditions as to which a different limitation is applicable under a specific provision of this permit. All requirements and conditions included in or referenced in this permit must be met. The exceedance of any emission limitation established by or referenced in this permit will constitute a violation of the permit and may be subject to enforcement action.

On and after the required performance tests referenced in 40 CFR Part 60 and K.A.R. 28-19-212, the emission of each pollutant expressed as lbs/mmBtu or as lbs/MWh shall not exceed the limit referenced hereunder. Test requirements and compliance with this standard is described in the section entitled Compliance and Other Performance Testing.

Holcomb Unit 1

A. The thirty (30) day rolling average emission rate of carbon monoxide (CO) emissions shall not exceed 0.25 lb/MMBtu.

[1] Net emission change for CO_2 is based on the direct molar ratio of CO to CO_2. As no new sources of carbon are being introduced into the system, the increase in CO will lead to a corresponding decrease in CO_2. Hence baseline and project potential emissions are not relevant for this permit.

B. The 12-month rolling average emission rate of nitrogen oxide (NO_X) emissions shall not exceed 0.22 lb/MMBtu excluding periods of startup, shutdown and malfunction[2]. Compliance with the NO_X standard will begin twelve (12) months after installation, following an initial compliance test.

VI. Compliance and Other Performance Testing

A. Within 180 days after initial operation, the owner or operator shall conduct performance tests to demonstrate compliance with the applicable conditions and limitations for H1 set forth in this permit for CO and NO_X.

B. In conducting the performance testing required by this permit, the reference test methods and procedures outlined in K.A.R. 28-19-212 and 40 CFR Part 60 shall be used to demonstrate compliance with the limitation and conditions set forth in this permit. The owner or operator shall prepare and submit to the department, at least thirty (30) days in advance of the performance test, a performance test protocol. The protocol shall be prepared in accordance with ***Attachment A – Air Quality Performance Test Guidelines.***

VII. Monitoring, Recordkeeping and Reporting

A. All continuous monitoring systems required by 40 CFR Part 60 and this permit shall meet the applicable requirements of 40 CFR Part 60.13, Appendix B and Appendix F for certifying, maintaining and operating and assuring quality of the systems, and where applicable, with requirements of 40 CFR Part 75.

B. Compliance with the CO BACT limit for H1, and the NO_X emission limit once it becomes effective, shall be demonstrated with continuous emission monitoring systems (CEMS). The CEMS shall be certified, operated, maintained, and quality assured according to 40 CFR 60, Appendix B, and 40 CFR 60, Appendix F (Quality Assurance/ Quality Control).

C. Reports of excess emissions shall be submitted semi-annually in accordance with the requirements in 40 CFR 60.7(c). Additionally, a summary report, as referenced in 40 CFR 60.7(c) and defined in 40 CFR 60.7(d) should be submitted semi-annually to assure that both the CO and NO_X CEMS are properly functioning.

D. The owner or operator shall maintain records of the occurrence and duration of any startup, shut-down, or malfunction in the operation of each unit subject to 40 CFR Part 60; any malfunction of any air pollution control equipment; and all periods during which a continuous monitoring system or monitoring device is inoperative. These requirements are described in 40 CFR 60.7(b).

E. Records shall be kept on site for 2 years in accordance with 40 CFR 60.7(f).

[2] Pursuant to the May 4, 2009 Settlement Agreement between Sunflower and the State of Kansas.

VIII. Notification

The owner or operator shall submit written notifications in accordance with 40 CFR 60.7(a) including the following.

A. The date construction starts, postmarked no later than 30 days after such date.

B. The date of initial startup post marked within 15 days of such date.

C. 40 CFR 60.7(a)(4) requires that written notification be provided for any physical or operational change which may increase the emission rate of any air pollutant to which a standard applies. Such notice is to be postmarked 60 days, or as soon as practicable, before the change is commenced and is to include the following information:

1. the precise nature of the change;

2. present and proposed emission control systems;

3. the productive capacity of Unit 1 before and after the change;

4. the expected completion date.

D. The date on which demonstration of the continuous monitoring system performance commences consistent with 40 CFR 60.13(c) post marked not less than 30 days after such date.

IX. General Provisions

A. This document shall become void if the construction or modification has not commenced within 18 months of the effective date, or if the construction or modification is interrupted for a period of 18 months or longer.

B. A construction permit or approval must be issued by KDHE prior to commencing any construction or modification of equipment or processes which results in an increase of potential-to-emit equal to or greater than the thresholds specified by K.A.R 28-19-300.

C. Upon presentation of credentials and other documents as may be required by law, representatives of KDHE (including authorized contractors of KDHE) shall be allowed to:

1. enter upon the premises where a regulated facility or activity is located or conducted or where records must be kept under conditions of this document;

2. have access to and copy, at reasonable times, any records that must be kept under conditions of this document;

3. inspect at reasonable times, any facilities, equipment (including monitoring and control equipment) practices or operations regulated or required under this document; and

4. sample or monitor, at reasonable times, for the purposes of assuring compliance with this document or as otherwise authorized by the Secretary of KDHE, any substances or parameters at any location.

D. The emission unit or stationary source which is the subject of this document shall be operated in compliance with all applicable requirements of the Kansas Air Quality Act and the Federal Clean Air Act.

E. This document does not relieve the facility of the obligation to obtain other approvals, permits, licenses or documents of sanction which may be required by other federal, state or local government agencies.

Permit Writer

Larry D. Lowry, P.E.
Environmental Engineer
Air Permitting Section

12-30-11
Date Signed

LDL: sdb
Enclosure
c: SWDO
C-9635