

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

BUREAU OF AIR

DIVISION of AIR POLLUTION CONTROL

PERMIT SECTION

PROJECT SUMMARY for the
DRAFT CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT

Southwestern Electric Cooperative, Inc.
Post Office Box 549
Greenville, Illinois 62246

Illinois EPA ID Number: 051808AAK

Application Number: 01080001

Application Type: Renewal Permit

Start of Public Comment Period: June 5, 2007

Close of Public Comment Period: July 5, 2007

Permit Engineer/Technical Contact: Ross Cooper, 217/782-2113

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(This Project Summary generally describes the source and explains the draft permit. This document has been prepared pursuant to Section 39.5(8)(b) of the Illinois Environmental Protection Act, which requires "a statement that sets forth the legal and factual basis for the draft CAAPP permit conditions.")

I. INTRODUCTION

This source has applied for a renewal of the Clean Air Act Permit Program (CAAPP) operating permit. The CAAPP is the program established in Illinois for operating permits for significant stationary sources as required by Title V of the federal Clean Air Act and Section 39.5 of Illinois' Environmental Protection Act. The conditions in a CAAPP permit are enforceable by the Illinois Environmental Protection Agency (Illinois EPA), the USEPA, and the public. This document is for informational purposes only and does not shield the Permittee from enforcement actions or its responsibility to comply with applicable regulations. This document shall not constitute a defense to a violation of the Act or any rule or regulation.

A CAAPP permit contains conditions identifying the applicable state and federal air pollution control requirements that apply to a source. The permit also establishes emission limits, appropriate compliance procedures, and specific operational flexibility. The appropriate compliance procedures may include monitoring, record keeping, and reporting to show compliance with these requirements. The Permittee must carry out these procedures on an on-going basis to demonstrate that the source is operating in accordance with the requirements of the permit. Further explanations of the specific provisions of the draft CAAPP permit are contained in the attachments to this document, which also identify the various emission units at the source.

The initial CAAPP permit, in Condition 6.1.8(b)(ii)(A) applied the applicable NO_x emission rate as 0.055 lb/mmBtu, however as provided by 35 IAC 217.762(a)(2) "For budget EGUs not listed in Appendix F: The more stringent of 0.15 lb/mmBtu or the permitted NO_x emission rate, but not less than 0.055 lb/mmBtu." Pursuant to the CAAPP application the EGU is 436 mmBtu/hr and pursuant to Construction Permit 99060052 the permitted emission rate is 43 lb/hr of NO_x, therefore the permitted NO_x emission rate is: $(43 \text{ lb/hr}) / (436 \text{ mmBtu/hr}) = 0.0986$ rounded to 0.099 lb/mmBtu. The permitted NO_x emission rate, 0.099 lb/mmBtu, is now used in the renewal CAAPP permit at Condition 6.1.8(b)(ii)(A).

II. GENERAL SOURCE DESCRIPTION

a. Nature of Source

The source utilizes a natural gas combustion turbine to generate electricity. In addition, the turbine controls nitrogen oxide emissions with water injection system.

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b. Ambient Air Quality Status for the Area

The source is located in an area that is currently designated attainment or unclassifiable for the National Ambient Air Quality Standards for all criteria pollutants (carbon monoxide, lead, nitrogen dioxide, ozone, PM_{2.5}, PM₁₀, sulfur dioxide).

c. Major Source Status

1. The source requires a CAAPP permit as a major source of carbon monoxide (CO) emissions.
2. The source requires a CAAPP permit as an “affected source” for the purposes of Acid Deposition Control, Title IV of the Clean Air Act, pursuant to 40 CFR 70.3(a)(4).

d. Source Emissions

The following table lists annual emissions of criteria pollutants from this source, as reported in the Annual Emission Reports sent to the Illinois EPA.

Pollutant	Annual Emissions (tons)				
	2006	2005	2004	2003	2002
CO	0.49	5.35	0.08	0.02	5.75
NO _x	1.21	2.42	0.03	<0.01	2.60
PM	0.11	0.72	<0.01	<0.01	---
SO ₂	0.01	0.06	<0.01	<0.01	0.07
VOM	0.03	0.63	<0.01	<0.01	0.68
Formaldehyde (top HAP)	0.01	0.07	<0.01	<0.01	---

III. NEW SOURCE REVIEW/TITLE I CONDITIONS

This draft permit contains terms and conditions that address the applicability of permit programs for new and modified sources under Title I of the Clean Air Act (CAA) and regulations promulgated thereunder, including 40 CFR 52.21, Prevention of Significant Deterioration (PSD) and 35 IAC Part 203, Major Stationary Sources Construction and Modification. Any such terms and conditions are identified within the draft permit by T1, T1R, or T1N. Any conditions established in a construction permit pursuant to Title I

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and not revised or deleted in this draft permit, remain in effect pursuant to Title I provisions until such time that the Illinois EPA revises or deletes them. Where the source has requested that the Illinois EPA establish new conditions or revise such conditions in a Title I permit, those conditions are consistent with the information provided in the CAAPP application and will remain in effect pursuant to Title I provisions until such time that the Illinois EPA revises or deletes them.

This draft permit would establish newly revised Title I requirements.

IV. COMPLIANCE INFORMATION

The source has certified compliance with all applicable rules and regulations; therefore, a compliance schedule is not required for this source. In addition, the draft permit requires the source to certify its compliance status on an annual basis.

V. PROPOSED ILLINOIS EPA ACTION/REQUEST FOR COMMENTS

It is the Illinois EPA's preliminary determination that this source's permit application meets the standards for issuance of a CAAPP permit. The Illinois EPA is therefore proposing to issue a CAAPP permit, subject to the conditions proposed in the draft permit.

Comments are requested by the Illinois EPA for the draft or proposed permit, pursuant to 35 IAC Part 252 and Sections 39.5(8) and (9) of the Illinois Environmental Protection Act. A final decision on the draft or proposed permit will not be made until the public, affected states, and USEPA have had an opportunity to comment. The Illinois EPA is not required to accept recommendations that are not based on applicable requirements. If substantial public interest is shown in this matter, the Illinois EPA will consider holding a public hearing in accordance with 35 IAC Part 166.

ATTACHMENT 1: Summary of Source-Wide Requirements

The following table indicates the source-wide emissions control programs and planning requirements that are applicable to this source. These programs are addressed in Sections 5 and 6 of the draft permit.

Program/Plan	Applicable
Emissions Reduction Market System (ERMS)	No
Nitrogen Oxides (NO _x) Trading Program ¹	Yes
Acid Rain Program ²	Yes
Compliance Assurance Monitoring (CAM) Plan	No
Fugitive Particulate Matter (PM) Operating Program	No
Risk Management Plan (RMP)	No
PM ₁₀ Contingency Measure Plan	No

1. The Nitrogen Oxides (NO_x) Trading Program is a regional “cap and trade” market system for large sources of NO_x emissions in the eastern United States, including Illinois (35 IAC Part 217, Subparts U and W, and 40 CFR Part 96). It is designed to reduce and maintain NO_x emissions from the emission units covered by the program within a budget to help contribute to attainment and maintenance of the ozone ambient air quality standard in the multi-state region covered by the program. If applicable, this program is further described in Section 6.0 of the draft permit, and does not relax other requirements for NO_x emissions.

2. The overall goal of the Acid Rain Program is to achieve significant environmental and public health benefits through reductions in emissions of sulfur dioxide (SO₂) and nitrogen oxides (NO_x), the primary causes of acid rain (Title IV of the federal Clean Air Act). To achieve this goal at the lowest cost to society, the program employs both traditional and innovative, market-based approaches for controlling air pollution. In addition, the program encourages energy efficiency and pollution prevention. If applicable, this program is further described in Section 6.0 of the draft permit, and does not relax other requirements for NO_x and SO₂ emissions.

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ATTACHMENT 2: Summary of Requirements for Specific Emission Units

The following tables include information on the requirements that apply to significant emission units at this source. The requirements are found in Section 7 of the draft permit, which is further divided into subsection, i.e., Section 7.1, 7.2, etc., for the different categories of units at the source. A separate table is provided for each subsection in Section 7 of the draft permit. An explanation of acronyms and abbreviations is contained in Section 2 of the draft permit.

Table 1 (Section 7.1 of the draft permit)

Emission Unit - Natural Gas-Fired Turbine (Subject to NSPS - 40 CFR Subpart GG)	
Description	The turbine is a process emission unit used to generate electricity. The turbine is powered by natural gas.
Date Constructed	June 1999
Emission Control Equipment	NO _x emissions are controlled with a water injection system.
Applicable Rules and Requirements	
Emission Standards	<ul style="list-style-type: none"> • 35 IAC 212.123 – Opacity restrictions • 35 IAC 214.301 – Sulfur dioxide restrictions • 40 CFR 60.332(a)(1) – NSPS nitrogen oxides restriction • 40 CFR 60.333 – NSPS sulfur dioxide restriction • 35 IAC 217.706(a) - Nitrogen oxides restriction • 40 CFR 76 - Acid Rain Program
Streamlining	N/A

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Emission Unit - Natural Gas-Fired Turbine (Subject to NSPS - 40 CFR Subpart GG)	
Title I Conditions	<ul style="list-style-type: none"> The CAAPP renewal permit incorporates T1R limitations, as requested by the source, which replace existing limitations in the initial CAAPP permit. The previously established limitations were based from a calculation error made during testing of the unit in 2000. During the preparation of the renewal application, the source discovered the error and subsequently performed stack testing on March 27 and 28, 2007 to provide accurate data to correct the error. That data, using Method 19 and witnessed by IEPA representatives, shows that Southwestern Electric Cooperative can comfortably comply with the NO_x limitation established in the original Construction Permit – which is the newly revised limit as requested (20 lb/hr to 43 lb/hr with no change in annual emissions).
Non-applicability	<ul style="list-style-type: none"> 40 CFR Part 63, Subpart YYYY, Stationary Combustion Turbines: Because the affected turbines are not located at a major source of HAP emissions, pursuant to 40 CFR 63.6085. 35 IAC 212.321 or 212.322: Due to the unique nature of such units, a process weight rate can not be set so that such rules can not reasonably be applied, pursuant to 35 IAC 212.323. 35 IAC 217.141: Because the affected engines are not fuel combustion units, as defined by 35 IAC 211.2470. 35 IAC 216.121: Because the affected engines are not fuel combustion units, as defined by 35 IAC 211.2470. 40 CFR Part 64, Compliance Assurance Monitoring (CAM): Because the affected turbines are subject to a NSPS proposed after November 15, 1990, pursuant to 40 CFR 64.2(b)(1)(i).
Periodic Monitoring (other than basic regulatory requirements) 1	
Testing	<ul style="list-style-type: none"> nitrogen oxides testing upon request. Opacity testing upon request.
Emissions Monitoring	<ul style="list-style-type: none"> Opacity observations at least every six months or when the turbine is exercised. Fuel monitoring NO_x CEM
Operational Monitoring	N/A
Inspections	Periodic inspections of the turbine

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Emission Unit - Natural Gas-Fired Turbine (Subject to NSPS - 40 CFR Subpart GG)	
Recordkeeping	Numerous: fuel usage, hours of operation, sulfur contents, emissions, startup records, etc.
Other	N/A
Reporting	
Prompt Reporting	See Attachment 3.
Other Reporting	N/A
Other Information	
Footnotes	1. Periodic monitoring established as shown in the above table is based on the fact that this facility is a peaking operation with very low hours of operation over the past three years, a history of compliance, and as a small emitter.

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ATTACHMENT 3: Prompt Reporting of Deviations

Prompt reporting of deviations is critical in order to have timely notice of deviations and the opportunity to respond, if necessary. The effectiveness of the permit depends upon, among other important elements, timely and accurate reporting. The Illinois EPA, USEPA and the public rely on timely and accurate reports submitted by the permittee to measure compliance and to direct investigation and follow-up activities. Prompt reporting is evidence of a permittee's good faith in disclosing deviations and describing the steps taken to return to compliance and prevent similar incidents.

Any occurrence that results in an excursion from any emission limitation, operating condition, or work practice standard as specified in this CAAPP permit is a deviation subject to prompt reporting. Additionally, any failure to comply with any permit term or condition is a deviation of that permit term or condition and must be reported to the Illinois EPA as a permit deviation. The deviation may or may not be a violation of an emission limitation or standard. A permit deviation can exist even though other indicators of compliance suggest that no emissions violation or exceedance has occurred. Reporting permit deviations does not necessarily result in enforcement action. The Illinois EPA has the discretion to take enforcement action for permit deviations that may or may not constitute an emission limitation or standard or the like, as necessary and appropriate.

Section 39.5(7)(f)(ii) of the Illinois Environmental Protection Act, which mirrors 40 CFR 70.6(a)(3)(iii)(B), requires prompt reporting of deviations from the permit requirements. The permitting authority (in this case, Illinois EPA) has the discretion to define "prompt" in relation to the degree and type of deviation likely to occur. Furthermore, Section 39.5(7)(f)(i) of the Illinois Environmental Protection Act, which mirrors 40 CFR 70.6(a)(3)(iii)(A) requires that monitoring reports must be submitted at least every 6 months. Therefore, USEPA generally considers anything less than 6 months to be "prompt" as long as the selected time frame is justified appropriately (60 Fed. Reg. 36083, 36086 (July 13, 1995)).

The USEPA has stated that, for purposes of administrative efficiency and clarity, it is acceptable to define prompt in each individual permit. *Id.* The Illinois EPA has elected to follow this approach and defines prompt reporting on a permit by permit basis. In instances where the underlying applicable requirement contains "prompt" reporting, this frequency or a shorter frequency of reporting is the required timeframe used in this permit. Where the underlying applicable requirement fails to explicitly set forth the timeframe for reporting deviations, the Illinois EPA has developed a structured manner to determine the reporting approach used in this permit.

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The Illinois EPA generally uses a time frame of 30 days to define prompt reporting of most deviations. Also, for certain permit conditions in individual permits, the Illinois EPA may require an alternate timeframe that is less than 30 days if the permit requirement justifies a shorter reporting time period. Under certain circumstances, EPA may establish a deviation reporting period longer than 30 days, but, in no event exceeding 6 months. Where it has established a deviation reporting period other than 30 days in an individual permit (specifically Section 7.x.10), the Illinois EPA has explained the reason for the alternative timeframe. (See Attachment 2 of this Project Summary.)

The timing for certain deviation reporting may be different when a source or emission unit at a source warrants reporting to address operation, independent of the occurrence of any deviations. This is the case for a source that is required to perform continuous monitoring for the emission unit, for which quarterly or semi-annual “monitoring” reports are appropriate. Where appropriate, reporting of deviations has generally been combined in, or coordinated with these quarterly or semi-annual reports, so that the overall performance of the plant can be reviewed in a comprehensive fashion. This will allow a more effective and efficient review of the overall performance of the source by the Illinois EPA and other interested parties, as well as by the source itself.

At the same time, there are certain deviations for which quicker reporting is appropriate. These are deviations for which individual attention or concern may be warranted by the Illinois EPA, USEPA, and other interested parties. Under this scenario, emphasis has been placed primarily on deviations that could represent substantial violations of applicable emission standards or lapses in control measures at the source. For these purposes, depending on the deviation, immediate notification may be required and preceded by a follow-up report submitted within 15 days, during which time the source may further assess the deviation and prepare its detailed plan of corrective action.

In determining the timeframe for prompt reporting, the Illinois EPA assesses a variety of criteria such as:

- historical ability to remain in continued compliance,
- level of public interest in a specific pollutant and/or source,
- seriousness of the deviation and potential to cause harm,
- importance of applicable requirement to achieving environmental goals,
- designation of the area (i.e., non-attainment or attainment),
- consistency among industry type and category,
- frequency of required continuous monitoring reports (i.e., quarterly),
- type of monitoring (inspection, emissions, operational, etc.), and
- air pollution control device type and operation

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These prompt reporting decisions reflect the Illinois EPA's consideration of the possible nature of deviations by different emission units and the responses that might be required or taken for those different types of deviations. As a consequence, the conditions for different emission units may identify types of deviations which include but are not limited to: 1) Immediate (or very quick) notification; 2) Notification within 30 days as the standard; or 3) Notification with regular quarterly or semi-annual monitoring reports.

The Illinois EPA's decision to use the above stated prompt reporting approach for deviations as it pertains to establishing a shorter timeframe in certain circumstances reflects the criteria discussed as well as USEPA guidance on the topic.

- 40 CFR 71.6(a)(3)(iii)(B) specifies that certain potentially serious deviations must be reported within 24 or 48 hours, but provides for semi-annual reporting of other deviations. (Serious or severe consequences)
- FR Vol. 60, No. 134, July 13, 1995, pg. 36086 states that prompt should generally be defined as requiring reporting within two to ten days of the deviation, but longer time periods may be acceptable for a source with a low level of excess emissions. (intermediate consequences)
- Policy Statement typically referred to as the "Audit Policy" published by the USEPA defines prompt disclosure to be within 21 days of discovery. (Standard for most "pollutant limiting" related conditions)
- Responses to various States by USEPA regarding other States' definition of prompt.

As a result, the Illinois EPA's approach to prompt reporting for deviations as discussed herein is consistent with the requirements of 39.5(7)(f)(ii) of the Act as well as 40 CFR part 70 and the CAA. This reporting arrangement is designed so that the source will appropriately notify the Illinois EPA of those events that might warrant individual attention. The timing for these event-specific notifications is necessary and appropriate as it gives the source enough time to conduct a thorough investigation into the causes of an event, collecting any necessary data, and to develop preventative measures, to reduce the likelihood of similar events, all of which must be addressed in the notification for the deviation.

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