

EXHIBIT 2

REDLINED VERSION OF THE PERMIT THROUGH SECTION 8

EXHIBIT 2

217/782-2113

"RENEWAL"
CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT

PERMITTEE:

Dynegy Midwest Generation, Inc.
Attn: Rick Diericx, Senior Director, Operations Environmental Compliance
2828 North Monroe Street
Decatur, Illinois 62526

I.D. No.: 183090AAE
Application No.: 00050017

Date Received: December 17, 2007
Date Issued: March 19, 2009
Expiration Date¹: March 19, 2014

Operation of: Tilton Energy Center
Source Location: 80 West First St, Tilton, Vermilion County, 61833
Responsible Official: James R. Kipp, Plant Manager

This permit is hereby granted to the above-designated Permittee to OPERATE an electric utility, pursuant to the above referenced permit application. This permit is subject to the conditions contained herein.

If you have any questions concerning this permit, please contact John Cashman at 217/782-2113.

Edwin C. Bakowski, P.E.
Manager, Permit Section
Division of Air Pollution Control

ECB:JRC:psj

cc: Illinois EPA, FOS, Region 3
CES
Lotus Notes

¹ Except as provided in Conditions 1.5 and 8.7 of this permit.

TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	4
1.1 Source Identification	
1.2 Owner/Parent Company	
1.3 Operator	
1.4 Source Description	
1.5 Title I Conditions	
2.0 LIST OF ABBREVIATIONS AND ACRONYMS COMMONLY USED	6
3.0 CONDITIONS FOR INSIGNIFICANT ACTIVITIES	7
3.1 Identification of Insignificant Activities	
3.2 Compliance with Applicable Requirements	
3.3 Addition of Insignificant Activities	
4.0 SIGNIFICANT EMISSION UNITS AT THIS SOURCE	10
5.0 OVERALL SOURCE CONDITIONS	11
5.1 Applicability of Clean Air Act Permit Program (CAAPP)	
5.2 Area Designation	
5.3 Source-Wide Applicable Provisions and Regulations	
5.4 Source-Wide Non-Applicability of Regulations of Concern	
5.5 Source-Wide Control Requirements and Work Practices	
5.6 Source-Wide Production and Emission Limitations	
5.7 Source-Wide Testing Requirements	
5.8 Source-Wide Monitoring Requirements	
5.9 Source-Wide Recordkeeping Requirements	
5.10 Source-Wide Reporting Requirements	
5.11 Source-Wide Operational Flexibility/Anticipated Operating Scenarios	
5.12 Source-Wide Compliance Procedures	
6.0 CONDITIONS FOR EMISSIONS CONTROL PROGRAMS	18
6.1 Clean Air Interstate Rule (CAIR) Program	
6.2 Acid Rain	
7.0 UNIT SPECIFIC CONDITIONS FOR SPECIFIC EMISSION UNITS	23
7.1 Turbines (Subject to NSPS - 40 CFR Subpart GG)	
7.2 Engines (Subject to NESHAP - 40 CFR 63 Subpart ZZZZ)	
8.0 GENERAL PERMIT CONDITIONS	59
8.1 Permit Shield	
8.2 Applicability of Title IV Requirements	
8.3 Emissions Trading Programs	
8.4 Operational Flexibility/Anticipated Operating Scenarios	
8.5 Testing Procedures	
8.6 Reporting Requirements	

8.7 Title I Conditions

9.0 STANDARD PERMIT CONDITIONS

64

- 9.1 Effect of Permit
- 9.2 General Obligations of Permittee
- 9.3 Obligation to Allow Illinois EPA Surveillance
- 9.4 Obligation to Comply with Other Requirements
- 9.5 Liability
- 9.6 Recordkeeping
- 9.7 Annual Emissions Report
- 9.8 Requirements for Compliance Certification
- 9.9 Certification
- 9.10 Defense to Enforcement Actions
- 9.11 Permanent Shutdown
- 9.12 Reopening and Reissuing Permit for Cause
- 9.13 Severability Clause
- 9.14 Permit Expiration and Renewal
- 9.15 General Authority for the Terms and Conditions of this Permit

10.0 ATTACHMENTS

- | | | |
|---|---|-----|
| 1 | Example Certification by a Responsible Official | 1-1 |
| 2 | Emissions of Particulate Matter from Process Emission Units | 2-1 |
| 3 | Compliance Assurance Monitoring (CAM) Plan | 3-1 |
| 4 | Guidance | 4-1 |
| 5 | Reserved for Future Use | 5-1 |
| 6 | Acid Rain Permit | 6-1 |

1.0 INTRODUCTION

1.1 Source Identification

Tilton Energy Center
80 West First Street
Tilton, Illinois 61833
217/354-3038

I.D. No.: 183090AAE
County: Vermilion
Standard Industrial Classification: 4911, Electric, Gas & Sanitary
Services

1.2 Owner/Parent Company

Dynegy Midwest Generation, Inc.
604 Pierce Boulevard
O'Fallon, Illinois 62269

1.3 Operator

Dynegy Midwest Generation, Inc.
604 Pierce Boulevard
O'Fallon, Illinois 62269

Wendell Watson
618/206-5927

1.4 Source Description

The source operates as a peaking station, generating electric power when sufficient electric power is not available from other sources, due to planned repair and maintenance, unexpected breakdowns, or high levels of electricity demand.

Note: This narrative description is for informational purposes only and is not enforceable.

1.5 Title I Conditions

As generally identified below, this CAAPP permit contains certain conditions for emission units at this source that address the applicability of permitting programs for the construction and modification of sources, which programs were established pursuant to Title I of the Clean Air Act (CAA) and regulations thereunder. These programs include PSD and MSSCAM, and are implemented by the Illinois EPA pursuant to Sections 9, 9.1, 39(a) and 39.5(7)(a) of the Illinois Environmental Protection Act (Act). These conditions continue in effect, notwithstanding the expiration date specified on the first page of this permit, as their authority derives from Titles I and V of the CAA, as well as Titles II and X of the Act. (See also Condition 8.7.)

- a. This permit contains Title I conditions that reflect Title I requirements established in permits previously issued for

this source, which conditions are specifically designated as "T1."

2.0 LIST OF ABBREVIATIONS AND ACRONYMS COMMONLY USED

ACMA	Alternative Compliance Market Account
Act	Illinois Environmental Protection Act [415 ILCS 5/1 et seq.]
AP-42	Compilation of Air Pollutant Emission Factors, Volume 1, Stationary Point and Other Sources (and Supplements A through F), USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711
ATU	Allotment Trading Unit
BACT	Best Available Control Technology
BAT	Best Available Technology
CAA	Clean Air Act [42 U.S.C. Section 7401 et seq.]
CAAPP	Clean Air Act Permit Program
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
CO	Carbon Monoxide
ERMS	Emissions Reduction Market System
HAP	Hazardous Air Pollutant
IAC	Illinois Administrative Code
I.D. No.	Identification Number of Source, assigned by Illinois EPA
ILCS	Illinois Compiled Statutes
Illinois EPA	Illinois Environmental Protection Agency
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
MSSCAM	Major Stationary Sources Construction and Modification (35 IAC 203, New Source Review for non-attainment areas)
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO _x	Nitrogen Oxides
NSPS	New Source Performance Standards
PM	Particulate Matter
PM ₁₀	Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 microns as measured by applicable test or monitoring methods
PM _{2.5}	Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 microns as measured by applicable test or monitoring methods
PSD	Prevention of Significant Deterioration (40 CFR 52.21, New Source Review for attainment areas)
RMP	Risk Management Plan
SO ₂	Sulfur Dioxide
T1	Title I - identifies Title I conditions that have been carried over from an existing permit
T1N	Title I New - identifies Title I conditions that are being established in this permit
T1R	Title I Revised - identifies Title I conditions that have been carried over from an existing permit and subsequently revised in this permit
USEPA	United States Environmental Protection Agency
VOM	Volatile Organic Material

3.0 CONDITIONS FOR INSIGNIFICANT ACTIVITIES

3.1 Identification of Insignificant Activities

The following activities at the source constitute insignificant activities as specified in 35 IAC 201.210:

- 3.1.1 Activities determined by the Illinois EPA to be insignificant activities, pursuant to 35 IAC 201.210(a)(1) and 201.211, as follows:

None

- 3.1.2 Activities that are insignificant activities based upon maximum emissions, pursuant to 35 IAC 201.210(a)(2) or (a)(3), as follows:

Tank used for acid storage, with a total capacity of less than 1,000 gallons

Paved Roads and Parking Lots

- 3.1.3 Activities that are insignificant activities based upon their type or character, pursuant to 35 IAC 201.210(a)(4) through (18), as follows:

Storage tanks of any size containing virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

Gas turbines and stationary reciprocating internal combustion engines of between 112 kW and 1,118 kW (150 and 1,500 horsepower) power output that are emergency or standby units [35 IAC 201.210(a)(16)].

Storage tanks of any size containing exclusively soaps, detergents, surfactants, glycerin, waxes, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

Loading and unloading systems for railcars, tank trucks, or watercraft that handle only the following liquid materials, provided an organic solvent has not been mixed with such materials: soaps, detergents, surfactants, lubricating oils, waxes, glycerin, vegetable oils, greases, animal fats, sweetener, corn syrup, aqueous salt solutions, or aqueous caustic solutions [35 IAC 201.210(a)(18)].

- 3.1.4 Activities that are considered insignificant activities pursuant to 35 IAC 201.210(b). Note: These activities are not required to be individually listed.

3.2 Compliance with Applicable Requirements

Insignificant activities are subject to applicable requirements notwithstanding status as insignificant activities. In particular, in addition to regulations of general applicability, such as 35 IAC 212.301 and 212.123 (Condition 5.3.2), the Permittee shall comply with the following requirements, as applicable:

- 3.2.1 For each particulate matter process emission unit, the Permittee shall comply with the applicable particulate matter emission limit of 35 IAC 212.321 or 212.322 (see Attachment 2) and 35 IAC Part 266. For example, the particulate matter emissions from a process emission unit shall not exceed 0.55 pounds per hour if the emission unit's process weight rate is 100 pounds per hour or less, pursuant to 35 IAC 266.110.
- 3.2.2 For each organic material emission unit that uses organic material, e.g., a mixer or printing line, the Permittee shall comply with the applicable VOM emission limit of 35 IAC 215.301, which requires that organic material emissions not exceed 8.0 pounds per hour or, if no odor nuisance exists, do not qualify as photochemically reactive material as defined in 35 IAC 211.4690.
- 3.2.3 For each open burning activity, the Permittee shall comply with 35 IAC Part 237, including the requirement to obtain a permit for open burning in accordance with 35 IAC 237.201, if necessary.
- 3.2.4 For each cold cleaning degreaser, the Permittee shall comply with the applicable equipment and operating requirements of 35 IAC 215.182.
- 3.2.5 For each storage tank that has a storage capacity greater than 946 liters (250 gallons) and, if no odor nuisance exists, that stores an organic material with a vapor pressure exceeding 2.5 psia at 70°F, the Permittee shall comply with the applicable requirements of 35 IAC 215.122, which requires use of a permanent submerged loading pipe, submerged fill, or a vapor recovery system.

3.3 Addition of Insignificant Activities

- 3.3.1 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type that is identified in Condition 3.1, until the renewal application for this permit is submitted, pursuant to 35 IAC 201.212(a).
- 3.3.2 The Permittee must notify the Illinois EPA of any proposed addition of a new insignificant activity of a type addressed by 35 IAC 201.210(a) and 201.211 other than those identified in Condition 3.1, pursuant to Section 39.5(12)(b) of the Act.

- 3.3.3 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type identified in 35 IAC 201.210(b).

4.0 SIGNIFICANT EMISSION UNITS AT THIS SOURCE

Emission Unit	Description	Date Constructed	Emission Control Equipment
GT #1 (GE LM-6000)	Natural gas fired turbines each with nominal rating of 44 MW	1999	Burner Water Injection System
GT #2 (GE LM-6000)		1999	Burner Water Injection System
GT #3 (GE LM-6000)		1999	Burner Water Injection System
GT #4 (GE LM-6000)		1999	Burner Water Injection System
Diesel Generator	Emergency Diesel Generator	1999	None

5.0 OVERALL SOURCE CONDITIONS

5.1 Applicability of Clean Air Act Permit Program (CAAPP)

5.1.1 This permit is issued based on the source requiring a CAAPP permit as a major source of NO_x and CO emissions.

5.1.2 This permit is issued based on the source requiring 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).

5.2 Area Designation

This permit is issued based on the source being located in an area that, as of the date of permit issuance, is designated attainment or unclassifiable for the National Ambient Air Quality Standards for all criteria pollutants (CO, lead, NO₂, ozone, P_{M2.5}, PM₁₀, SO₂).

5.3 Source-Wide Applicable Provisions and Regulations

5.3.1 Specific emission units at this source are subject to particular regulations as set forth in Section 7 (Unit-Specific Conditions for Specific Emission Units) of this permit.

5.3.2 In addition, emission units at this source are subject to the following regulations of general applicability:

- a. No person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally overhead at a point beyond the property line of the source unless the wind speed is greater than 40.2 kilometers per hour (25 miles per hour), pursuant to 35 IAC 212.301 and 212.314.
- b. Pursuant to 35 IAC 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 IAC 212.122, except as allowed by 35 IAC 212.123(b) and 212.124.

5.3.3 Ozone Depleting Substances

The Permittee shall comply with the standards for recycling and emissions reduction of ozone depleting substances pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR Part 82:

- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.

- b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

5.3.4 Risk Management Plan (RMP)

Should this stationary source, as defined in 40 CFR 68.3, become subject to the federal regulations for Chemical Accident Prevention in 40 CFR Part 68, then the owner or operator shall submit the items below. This condition is imposed in this permit pursuant to 40 CFR 68.215(a)(2)(i) and (ii).

- a. A compliance schedule for meeting the requirements of 40 CFR Part 68 by the date provided in 40 CFR 68.10(a); or
- b. A certification statement that the source is in compliance with all requirements of 40 CFR Part 68, including the registration and submission of the RMP, as part of the annual compliance certification required by Condition 9.8.

5.3.5 Future Emission Standards

- a. Should this stationary source become subject to a new or revised regulation under 40 CFR Parts 60, 61, 62, or 63, or 35 IAC Subtitle B after the date issued of this permit, then the owner or operator shall, in accordance with the applicable regulation(s), comply with the applicable requirements by the date(s) specified and shall certify compliance with the applicable requirements of such regulation(s) as part of the annual compliance certification, as required by Condition 9.8. This permit may also have to be revised or reopened to address such new or revised regulations (see Condition 9.12.2).
- b. This permit and the terms and conditions herein do not affect the Permittee's past and/or continuing obligation with respect to statutory or regulatory requirements governing major source construction or modification under Title I of the CAA. Further, neither the issuance of this permit nor any of the terms or conditions of the permit shall alter or affect the liability of the Permittee for any violation of applicable requirements prior to or at the time of permit issuance.

5.3.6 Episode Action Plan

- a. Pursuant to 35 IAC 244.141, 244.142, and 244.143, the Permittee shall maintain at the source and have on file with the Illinois EPA a written episode action plan (plan) for reducing the levels of emissions during yellow alerts, red alerts, and emergencies, consistent with safe operating procedures. The plan shall contain the information

specified in 35 IAC 244.144 and is incorporated by reference into this permit.

- b. The Permittee shall immediately implement the appropriate steps described in this plan should an air pollution alert or emergency be declared by the Director of the Illinois EPA or his or her designated representative.
- c. If an operational change occurs at the source which invalidates the plan, a revised plan shall be submitted to the Illinois EPA for review within 30 days of the change, pursuant to 35 IAC 244.143(d). Such plans shall be further revised if disapproved by the Illinois EPA.

5.4 Source-Wide Non-Applicability of Regulations of Concern

Source-wide non-applicability of regulations of concern are not set for this source. However, there are terms for unit specific non-applicability of regulations of concern set forth in Section 7 of this permit.

5.5 Source-Wide Control Requirements and Work Practices

Source-wide control requirements and work practices are not set for this source. However, there are requirements for unit specific control requirements and work practices set forth in Section 7 of this permit.

5.6 Source-Wide Production and Emission Limitations

5.6.1 Permitted Emissions for Fees

The annual emissions from the source, not considering insignificant activities as addressed by Section 3.0 of this permit, shall not exceed the following limitations. The overall source emissions shall be determined by adding emissions from all emission units. Compliance with these limits shall be determined on a calendar year basis. These limitations (Condition 5.6.1) are set for the purpose of establishing fees and are not federally enforceable (see Section 39.5(18) of the Act).

Permitted Emissions of Regulated Pollutants

Pollutant	Tons/Year
Volatile Organic Material (VOM)	10.0
Sulfur Dioxide (SO ₂)	10.0
Particulate Matter (PM)	10.0
Nitrogen Oxides (NO _x)	197.0
HAP, not included in VOM or PM	----
Total	227.0

5.6.2 Emissions of Hazardous Air Pollutants

Pursuant to Section 39.5(7)(a) of the Act, the emissions of HAPs from the source shall be less than 10 tons/year for each individual HAP and 25 tons/year for all HAPs combined. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total). This condition is being imposed so that the source is not a major source of HAP emissions. The Permittee shall fulfill the applicable testing, recordkeeping, and reporting requirements of Conditions 5.7.2, 5.9.2, and 5.10.2.

5.6.3 Other Source-Wide Production and Emission Limitations

Other source-wide emission limitations are not set for this source pursuant to the federal rules for PSD, state rules for MSSCAM, or Section 502(b)(10) of the CAA. However, there may be unit specific emission limitations set forth in Section 7 of this permit pursuant to these rules.

5.7 Source-Wide Testing Requirements

5.7.1 Pursuant to 35 IAC 201.282 and Section 4(b) of the Act, every emission source or air pollution control equipment shall be subject to the following testing requirements for the purpose of determining the nature and quantities of specified air contaminant emissions and for the purpose of determining ground level and ambient air concentrations of such air contaminants:

- a. Testing by Owner or Operator: The Illinois EPA may require the owner or operator of the emission source or air pollution control equipment to conduct such tests in accordance with procedures adopted by the Illinois EPA, at such reasonable times as may be specified by the Illinois EPA and at the expense of the owner or operator of the emission source or air pollution control equipment. All such tests shall be made by or under the direction of a person qualified by training and/or experience in the field of air pollution testing. The Illinois EPA shall have the right to observe all aspects of such tests [35 IAC 201.282(a)].
- b. Testing by the Illinois EPA: The Illinois EPA shall have the right to conduct such tests at any time at its own expense. Upon request of the Illinois EPA, the owner or operator of the emission source or air pollution control equipment shall provide, without charge to the Illinois EPA, necessary holes in stacks or ducts and other safe and proper testing facilities, including scaffolding, but excluding instruments and sensing devices, as may be necessary [35 IAC 201.282(b)].
- c. Any such tests are also subject to the Testing Procedures of Condition 8.5 set forth in the General Permit Conditions of Section 8.

5.7.2 HAP Testing to Verify Minor Source Status

Pursuant to Condition 5.7.1 and to verify compliance with the requirements of Condition 5.6.2, that is that this source is not a major source of HAPs, the following testing requirements are established:

- a. If in the previous calendar year, emissions of HAPs exceeded 80% of major source threshold for individual or total HAPs (greater than 8 tons of a single HAP or greater than 20 tons of total HAPs), then testing for HAPs shall be conducted as follows:
 - i. Testing shall be conducted using methods that would be acceptable under the federal National Emissions Standards for Hazardous Air Pollutants for Stationary Combustion Turbines, 40 CFR 63 Subpart YYYYY. Specifically, the testing procedures detailed at 40 CFR 63.6120 of the performance tests section shall be used. For multiple turbines, the source owner or operator shall test largest turbine which makes the largest contributions to individual and total HAP emissions.
- b. The calculation as to whether the 80% of major source threshold was exceeded shall be based on records and procedures in Condition 5.9.2 and shall be completed by January 31 for the previous calendar year. If testing is required it shall be completed by September 30.
- c. Any such tests are also subject to the Testing Procedures of Condition 8.5 set forth in the General Permit Conditions of Section 8.

5.8 Source-Wide Monitoring Requirements

Source-wide monitoring requirements are not set for this source. However, there are provisions for unit specific monitoring set forth in Section 7 of this permit.

5.9 Source-Wide Recordkeeping Requirements

5.9.1 Annual Emission Records

The Permittee shall maintain records of total annual emissions on a calendar year basis for the emission units covered by Section 7 (Unit Specific Conditions for Specific Emission Units) of this permit to demonstrate compliance with Condition 5.6.1, pursuant to Section 39.5(7)(b) of the Act.

5.9.2 Records for HAP Emissions

- a. The Permittee shall maintain records of individual and combined HAP emissions on a monthly and annual basis for the emission units covered by Section 7 (Unit Specific Conditions for Specific Emission Units) of this permit to

demonstrate compliance with Condition 5.6.2, pursuant to Section 39.5(7)(b) of the Act.

- b. If testing is required by Condition 5.7.2, the Permittee shall keep records of the testing, including the test date, conditions, methodologies, calculations, test results, and any discrepancies between the test results and formulation specifications of Condition 5.9.2(c) below.
- c. The Permittee shall keep a record of the applicability determination for 40 CFR 63, Subpart YYYY, National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines, at the source for a period of five years after the determination. This determination shall include a detailed analysis that demonstrates why the Permittee believes the source is not subject to 40 CFR 63, Subpart YYYY.

5.9.3 Retention and Availability of Records

- a. All records and logs required by this permit shall be retained for at least five years from the date of entry (unless a longer retention period is specified by the particular recordkeeping provision herein), shall be kept at a location at the source that is readily accessible to the Illinois EPA or USEPA, and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request.
- b. The Permittee shall retrieve and print, on paper during normal source office hours, any records retained in an electronic format (e.g., computer) in response to an Illinois EPA or USEPA request for records during the course of a source inspection.

5.10 Source-Wide Reporting Requirements

5.10.1 General Source-Wide Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the source with the permit requirements within 30 days, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken. There are also reporting requirements for unit specific emission units set forth in Section 7 of this permit.

5.10.2 Annual Emissions Report

The annual emissions report required pursuant to Condition 9.7 shall contain emissions information for the previous calendar year.

5.11 Source-Wide Operational Flexibility/Anticipated Operating Scenarios

Source-wide operational flexibility is not set for this source.

5.12 Source-Wide Compliance Procedures

5.12.1 Procedures for Calculating Emissions

Except as provided in Condition 9.1.3, compliance with the source-wide emission limits specified in Condition 5.6 shall be addressed by the recordkeeping and reporting requirements of Conditions 5.9 and 5.10, and compliance procedures in Section 7 (Unit Specific Conditions for Specific Emission Units) of this permit.

6.0 CONDITIONS FOR EMISSIONS CONTROL PROGRAMS

6.1 Clean Air Interstate Rule (CAIR) Program

6.1.1 Applicability

This source is an affected source for purposes of the Clean Air Interstate Rule ("CAIR") Program and the following emission units at the source are affected CAIR units:

Turbines GT #1 - #4

Note: Under Section 110 of the Clean Air Act (CAA), the USEPA adopted the Clean Air Interstate Rule or CAIR, 40 CFR Part 96, to reduce and permanently cap emissions of sulfur dioxide (SO₂), and nitrogen oxides (NO_x) from electric power plants that significantly contribute to fine particulate and ozone in the ambient air in the Eastern United States. To implement CAIR in Illinois, the Illinois EPA adopted 35 IAC Part 225 Subparts A, C, D and E. For purposes of this permit, these requirements are referred to as CAIR provisions.

6.1.2 Applicable CAIR Requirements for SO₂ Emissions

The owners and operators of this source shall not violate applicable CAIR provisions, in 35 IAC Part 225, Subpart C. SO₂ emissions from the affected CAIR units shall not exceed the equivalent number of allowances that the source lawfully holds under these CAIR provisions.

Note: CAIR affected sources must hold CAIR SO₂ allowances to account for the emissions from the affected CAIR units. Each CAIR SO₂ allowance is a limited authorization to emit during the respective CAIR SO₂ annual period or subsequent period. The possession of SO₂ allowances does not authorize exceedances of applicable emission standards or violations of ambient air quality standards.

6.1.3 Applicable CAIR Requirements for NO_x Emissions

The owners and operators of this source shall not violate applicable CAIR provisions, in 35 IAC Part 225, Subpart D. NO_x emissions from the affected CAIR units shall not exceed the equivalent number of allowances that the source lawfully holds under these CAIR provisions.

Note: CAIR affected sources must hold CAIR NO_x allowances to account for the emissions from the affected CAIR units. Each CAIR NO_x allowance is a limited authorization to emit during the respective CAIR NO_x annual period or subsequent period. The possession of NO_x allowances does not authorize exceedances of applicable emission standards or violations of ambient air quality standards.

6.1.4 Applicable CAIR Requirements for NO_x Ozone Season Emissions

The owners and operators of this source shall not violate applicable CAIR provisions, in 35 IAC Part 225, Subpart E. Seasonal NO_x emissions from the affected CAIR units shall not exceed the equivalent number of allowances that the source lawfully holds under these CAIR provisions.

Note: CAIR affected sources must hold CAIR NO_x ozone season allowances to account for the emissions from the affected CAIR units. Each CAIR NO_x ozone season allowance is a limited authorization to emit during the respective CAIR NO_x ozone season or subsequent season. The possession of NO_x allowances does not authorize exceedances of applicable emission standards or violations of ambient air quality standards.

6.1.5 Monitoring, Recordkeeping and Reporting

The owners and operators of the source and, to the extent applicable, their designated representative, shall comply with applicable requirements for monitoring, recordkeeping and reporting specified by 35 IAC Part 225 Subparts C, D and E.

Note: As further addressed by Section 7 of this permit, the following emission determination methods are currently being used for the affected CAIR units.

6.1.6 CAIR Permit

The owners and operators of the source shall comply with the terms and conditions of the source's CAIR permit (attached).

Note: This source is subject to a CAIR permit, which was issued pursuant to 35 IAC Part 225.320, 225.420 and 225.520. CAIR sources must be operated in compliance with their CAIR permits. This source's CAIR permit is incorporated into this CAAPP permit with a copy of the current CAIR permit included as an attachment to this permit. Revisions and modifications to the CAIR permit are governed by Section 39.5 of the Act. Accordingly, revision or renewal of the CAIR permit may be handled separately from this CAAPP permit and a copy of the new CAIR permit may be included in this permit by Administrative Amendment.

6.1.7 Coordination with other Requirements

- a. This permit does not contain any conditions that are intended to interfere with or modify the requirements of 35 IAC Part 225 C, D, and E, 40 CFR Part 96; or Title IV of the CAA. In particular, this permit does not restrict the flexibility of the owners and operators of this source to comply with CAIR provisions, including the ability to obtain CAIR NO_x allowances from Illinois' Clean Air Set Aside (CASA) for qualifying projects.

- b. Where another applicable requirement of the CAA is more stringent than an applicable requirement of 35 IAC Part 225, Subparts C, D, or E; 40 CFR Part 96; or Title IV of the CAA, all requirements are incorporated into this permit and are enforceable and the owners and operators of the source shall comply with both requirements.

6.2 Acid Rain

6.2.1 Applicability

Under Title IV of the CAA, Acid Deposition Control, this source is an affected source and the following emission units at the source are affected units for acid deposition:

Turbines GT #1 - #4

Note: Title IV of the CAA, and other laws and regulations promulgated thereunder, establish requirements for affected sources related to control of emissions of pollutants that contribute to acid rain. For purposes of this permit, these requirements are referred to as Title IV provisions.

6.2.2 Applicable Emission Requirements

The owners and operators of the source shall not violate applicable Title IV provisions. SO₂ emissions of the affected units shall not exceed any allowances that the source lawfully holds under Title IV provisions [Section 39.5(7)(g) and (17)(l) of the Act].

Note: Affected sources must hold SO₂ allowances to account for the SO₂ emissions from affected units at the source that are subject to Title IV provisions. Each allowance is a limited authorization to emit up to one ton of SO₂ emissions during or after a specified calendar year. The possession of allowances does not authorize exceedances of applicable emission standards or violations of ambient air quality standards.

6.2.3 Monitoring, Recordkeeping and Reporting

~~The owners and operators of the source and, to the extent applicable, their designated representative, shall comply with applicable requirements for monitoring, recordkeeping and reporting specified by Title IV provisions, including 40 CFR Part 75 [Section 39.5(7)(b) and 17(m) of the Act].~~

6.2.4 Acid Rain Permit

The owners and operators of the source shall comply with the terms and conditions of the source's Acid Rain permit [Section (17)(l) of the Act].

Note: The source is subject to an Acid Rain permit, which was issued pursuant to Title IV provisions, including Section 39.5(17) of the Act. Affected sources must be operated in compliance with their Acid Rain permits. This source's Acid Rain permit is incorporated by reference into this permit and a copy of the current Acid Rain permit is included as Attachment 6 of this permit. Revisions and modifications of this Acid Rain permit, including administrative amendments and automatic amendments (pursuant to Sections 408(b) and 403(d) of the CAA or regulations thereunder) are governed by Title IV provisions, as

provided by Section 39.5(13)(e) of the Act. Accordingly, revision or renewal of the Acid Rain permit may be handled separately from this CAAPP permit and a copy of the new Acid Rain permit may be included in this permit by administrative amendment.

6.2.5 Coordination with Other Requirements

- a. This permit does not contain any conditions that are intended to interfere with or modify the requirements of Title IV provisions. In particular, this permit does not restrict the flexibility under Title IV provisions of the owners and operators of this source to amend their Acid Rain compliance plan [Section 39.5(17)(h) of the Act].
- b. Where another applicable requirement of the CAA is more stringent than an applicable requirement of Title IV provisions, both requirements are incorporated into this permit and are enforceable and the owners and operators of the source shall comply with both requirements [Section 39.5(7)(h) of the Act].

7.0 UNIT SPECIFIC CONDITIONS FOR SPECIFIC EMISSION UNITS

7.1 Turbines (Subject to NSPS - 40 CFR Subpart GG)

7.1.1 Description

The turbines are process emission units used to provide electricity during peak power demands or in emergency. The turbines were built in 1999 pursuant to Construction Permit 98110018 and fired with natural gas only. NO_x emissions are controlled with a burner water injection system. In addition to actual operation to generate electricity, each turbine may be periodically "exercised" to confirm that it will operate when needed to generate electricity.

Note: This narrative description is for informational purposes only and is not enforceable.

7.1.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
GT #1 (GE LM-6000)	Natural gas fired turbines each with nominal rating of 44 MW	1999	Burner Water Injection System
GT #2 (GE LM-6000)		1999	Burner Water Injection System
GT #3 (GE LM-6000)		1999	Burner Water Injection System
GT #4 (GE LM-6000)		1999	Burner Water Injection System

7.1.3 Applicable Provisions and Regulations

- a. The "affected turbines" for the purpose of these unit-specific conditions, are turbines described in Conditions 7.1.1 and 7.1.2.
- b. Pursuant to 35 IAC 212.123,
 - i. No person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit.
 - ii. The emission of smoke or other particulate matter from any such emission unit may have an opacity greater than 30 percent but not greater than 60 percent for a period or periods aggregating 8 minutes in any 60 minute period provided that such opaque emissions permitted during any 60 minute period shall occur from only one such emission unit located within

a 1000 ft radius from the center point of any other such emission unit owned or operated by such person, and provided further that such opaque emissions permitted from each such emission unit shall be limited to 3 times in any 24 hour period.

- c. Pursuant to 35 IAC 214.301, no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission source to exceed 2000 ppm.
- d. The affected turbine is subject to the NSPS for Stationary Gas Turbines, 40 CFR 60 Subparts A and GG, because the heat input at peak load is equal to or greater than 10.7 gigajoules per hour (10 mmBtu/hr), based on the lower heating value of the fuel fired and the affected turbine commenced construction, modification, or reconstruction after October 3, 1977. The Illinois EPA administers the NSPS for subject sources in Illinois pursuant to a delegation agreement with the USEPA.

i. Standard for Nitrogen Oxides:

Pursuant to 40 CFR 60.332(b), electric utility stationary gas turbines with a heat input at peak load greater than 107.2 gigajoules per hour (100 million Btu/hour) based on the lower heating value of the fuel fired shall comply with the provisions of 40 CFR 60.332(a)(1). Pursuant to 40 CFR 60.332(a)(1), no owner or operator of an affected turbine shall cause to be discharged into the atmosphere from such gas turbine, any gases which contain nitrogen oxides in excess of:

$$STD = 0.0075 \frac{(14.4)}{Y} + F$$

Where:

STD = Allowable NO_x emissions (percent by volume at 15 percent oxygen and on a dry basis).

Y = Manufacturer's rated heat rate at manufacturer's rated load (kilojoules per watt hour) or, actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt hour.

F = NO_x emission allowance for fuel-bound nitrogen calculated from the nitrogen content of the fuel as follows:

Fuel-bound nitrogen (percent by weight)	F (NO _x percent by volume)
$N < 0.015$	0
$0.015 < N \leq 0.1$	0.04 (N)
$0.1 < N \leq 0.25$	$0.04 + 0.0067 (N - 0.1)$
$N > 0.25$	0.005

Where:

N = The nitrogen content of the fuel (percent by weight) determined in accordance with Condition 7.1.8(b).

ii. Standard for Sulfur Dioxide:

Pursuant to 40 CFR 60.333, on and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, every owner or operator subject to the provision of 40 CFR 60 Subpart GG shall comply with one or the other of the following conditions:

No owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any stationary gas turbine any gases which contain sulfur dioxide in excess of 0.015 percent by volume at 15 percent oxygen and on a dry basis, pursuant to 40 CFR 60.333(a).

No owner or operator subject to the provisions of this subpart shall burn in any stationary gas turbine any fuel which contains total sulfur in excess of 0.8 percent by weight (8000 ppmw), pursuant to 40 CFR 60.333(b).

- e. i. No owner or operator shall cause or allow the emissions of NO_x into the atmosphere from the affected turbine to exceed 0.25 lbs/mmBtu of actual heat input during each ozone control period from May 1 through September 30, based on a ozone control period average, for that unit [35 IAC 217.706(a)].
- ii. Notwithstanding the above emission limitation of 35 IAC 217.706(a), the affected turbine subject to a more stringent NO_x emission limitation pursuant to any State or federal statute, including the Act, the Clean Air Act, or any regulations promulgated thereunder, shall comply with both the requirements of 35 IAC 217 Subpart V and that more stringent emission limitation [35 IAC 217.706(b)].

f. Startup Provisions

Subject to the following terms and conditions, the Permittee is authorized to operate the affected turbines in violation of the applicable standards in Condition 7.1.3(b) during startup. This authorization is provided pursuant to 35 IAC 201.149, 201.161 and 201.262, as the Permittee has applied for such authorization in its application, generally describing the efforts that will be used "...to minimize startup emissions, duration of individual starts, and frequency of startups".

- i. This authorization does not relieve the Permittee from the continuing obligation to demonstrate that all reasonable efforts are made to minimize startup emissions, duration of individual startups and frequency of startups.
- ii. The Permittee shall conduct startup of the each affected turbine(s) in accordance with written procedures prepared by the Permittee and maintained at the facility, in the control room for the each affected turbine(s), that are specifically developed to minimize emissions from startups and that include, at a minimum, the following measures:
 - A. The Permittee shall conduct startup of an affected turbine in accordance with the manufacturer's written instructions or other written instructions prepared by the source owner or operator and maintained on site.
 - B. The Permittee shall take the following measures to minimize emissions resulting from startups, the duration of startups, and minimize the frequency of startups:
 - I. Operating in accordance with the manufacturer's written operating and startup procedures, including a pre-check of the unit, or other written procedures developed and maintained by the source owner or operator so as to minimize the duration of startups and the emissions associated with startups. These procedures should allow for review of operating parameters of the unit during startup, or shutdown as necessary to make adjustments to reduce or eliminate excess emissions.
 - II. Maintaining units in accordance with written procedures developed and maintained by the source owner or operator so as to minimize the duration of startups and the frequency of

startups. These maintenance practices shall include maintenance activities before the unit is started up, when the unit is in operation, and when the unit is shut down.

III. The procedures described above shall be reviewed at least annually to make necessary adjustments and shall be made available to the Illinois EPA upon request.

- iv. The Permittee shall fulfill applicable recordkeeping and reporting requirements of Condition 7.1.9(m) and 7.1.10(e).
- v. As provided by 35 IAC 201.265, an authorization in a permit for excess emissions during startup does not shield a Permittee from enforcement for any violation of applicable emission standard(s) that occurs during startup and only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.

g. Malfunction and Breakdown Provisions

Subject to the following terms and conditions, the Permittee is authorized to continue operation of an affected turbine in violation of the applicable standards in Condition 7.1.3(b) and the hourly emission limits in Condition 7.1.6 in the event of a malfunction or breakdown of the affected turbines. This authorization is provided pursuant to 35 IAC 201.149, 201.161 and 201.262, as the Permittee has applied for such authorization in its application, generally explaining why such continued operation would be required to provide essential service or to prevent risk of injury to personnel or severe damage to equipment, and describing the measures that will be taken to minimize emissions from any malfunctions and breakdowns. This authorization supersedes the general prohibition in Condition 9.2.3 against continued operation in such circumstances.

- i. This authorization only allows such continued operation as necessary to provide essential service or prevent risk of injury to personnel or severe damage to equipment and does not extend to continued operation solely for the economic benefit of the Permittee.
- ii. Upon occurrence of excess emissions due to malfunction or breakdown, the Permittee shall as soon as practical repair the turbine, remove the affected turbine from service, or undertake other action so that excess emissions cease.

- iii. The Permittee shall fulfill the applicable recordkeeping and reporting requirements of Conditions 7.1.9(n) and 7.1.10(f). For these purposes, time shall be measured from the start of a particular incident. The absence of excess emissions for a short period shall not be considered to end the incident if excess emissions resume. In such circumstances, the incident shall be considered to continue until corrective actions are taken so that excess emissions cease or the Permittee takes the affected turbines out of service.
- iv. Following notification to the Illinois EPA of a malfunction or breakdown with excess emissions, the Permittee shall comply with all reasonable directives of the Illinois EPA with respect to such incident, pursuant to 35 IAC 201.263.
- v. This authorization does not relieve the Permittee from the continuing obligation to minimize excess emissions during malfunction or breakdown. As provided by 35 IAC 201.265, an authorization in a permit for continued operation with excess emissions during malfunction and breakdown does not shield the Permittee from enforcement for any such violation and only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.

7.1.4 Non-Applicability of Regulations of Concern

- a. The affected turbines are not subject to the New Source Performance Standards (NSPS) for Stationary Combustion Turbines, 40 CFR Part 60, Subpart KKKK, because the affected turbines did not commence construction, modification, or reconstruction after February 18, 2005 pursuant to 40 CFR 60.4305(a), and are therefore subject to 40 CFR Part 60, Subpart GG for Stationary Gas Turbines.

Note: To qualify for this non-applicability, the Permittee has certified that the turbines have not been modified or reconstructed after February 18, 2005.

- b. The affected turbines are not subject to the National Emissions Standards for Hazardous Air Pollutants for Stationary Combustion Turbines, 40 CFR Part 63, Subpart 29 YYYY, because the affected turbines are not located at a major source of HAP emissions, pursuant to 40 CFR 63.6085.
- c. The affected turbines are not subject to 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.

- d. The affected turbines are not subject to 35 IAC 217.141 or 35 IAC 216.121 because the affected turbines are not fuel combustion units, as defined by 35 IAC 211.2470.
- e. The affected turbines are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources:
 - i. For NO_x and SO₂, because:
 - A. The affected turbines are subject to a NSPS proposed after November 15, 1990, pursuant to 40 CFR 64.2(b)(1)(i).
 - B. The affected turbines are subject to Acid Rain Program requirements, pursuant to 40 CFR 64.2(b)(1)(iii).
 - C. The affected turbines are subject to an emission limitation or standard for which this CAAPP permit specifies a continuous compliance determination method, pursuant to 40 CFR 64.2(b)(1)(vi).
 - ii. For PM, VOM, and CO because the affected turbines do not use an add-on control device to achieve compliance with an emission limitation or standard.

7.1.5 Control Requirements and Work Practices

- a.
 - i. At all times, including periods of startup, shutdown, and malfunction, the source owner or operator shall, to the extent practicable, maintain and operate any affected turbine in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Illinois EPA or the USEPA which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source [40 CFR 60.11(d)].
 - ii. The source owner or operator shall operate the affected turbines in accordance with written operating procedures that shall include at a minimum the following measures:
 - A. Review of operating parameters of the unit during startup or shutdown as necessary for the proper operation of the affected turbine with appropriate adjustments to reduce emissions.
 - B. Implementation of inspection and repair procedures for a affected turbine prior to attempting startup following repeated trips.

- iii. The source owner or operator shall maintain the affected turbines in accordance with written procedures that shall include at a minimum the following measures:
 - A. Unless specified on a more frequent basis by manufacturer's written instructions, an inspection of emissions-related components shall be completed quarterly. Inspections shall be conducted in accordance with manufacturer's written instructions.
 - B. Repair and routine replacement of emissions-related components.
- iv. The above procedures may incorporate the manufacturer's written instruction for operation and maintenance of the affected turbines and associated control systems. The source owner or operator shall review these procedures at least every two years and shall revise or enhance them if necessary to be consistent with good air pollution control practice based on the actual operating experience and performance of the source.
- b. Each affected turbine shall be equipped, operated, and maintained with water injection system in the combustors.
- c.
 - i. Natural gas shall only be the fuel fired in each affected turbine [T1].
 - ii. Combined total usage of natural gas for all affected turbines (GT #1, #2, #3, and #4) shall not be more than 4,250 million ft³ per year. Compliance with this limit shall be determined from a running total of 12 months of data [T1].
- d. The nature of the opacity and operation of the affected turbines shall be observed by operating personnel for the turbines or a member of the Permittee's environmental staff on a regular basis to assure that the affected turbines are operating properly. These observations shall be made on at least on a semi-annual basis.

7.1.6 Production and Emission Limitations

In addition to Condition 5.3.2 and the source-wide emission limitations in Condition 5.6, the affected turbines are subject to the following:

- a. Hourly emissions from each affected turbine shall not exceed the following limits, except during startup for NO_x and CO (as addressed by Condition 7.1.6(b)(ii)) and when ice fog is deemed a traffic hazard by the Permittee [T1]:

Nitrogen Oxides (Lb/Hr)	Carbon Monoxide (Lb/Hr)	Particulate Matter/PM ₁₀ (Lb/Hr)	Sulfur Dioxide (Lb/Hr)	Volatile Organic Material (Lb/Hr)
50	63	1.0	1.0	1.5

- b. i. The annual emissions from the facility shall not exceed the following limitations, including emissions during startup, malfunction, breakdown, and shutdown. Compliance with the annual limitations shall be determined from a running total of 12 months of data.

<u>Pollutant</u>	<u>Emissions (Tons/Yr)</u>
NO _x	197
CO	192
PM ₁₀	10
SO ₂	10
VOM	10

- ii. For purpose of determining compliance with the above limits, emissions of NO_x and CO during an hour that includes a startup shall be assumed to 20 percent higher than the limits in Condition 7.1.6(a), e.g., 60 lb/hr rather than 50 lb/hr NO_x, unless an alternative determination of startup emissions is approved by the Illinois EPA in a subsequent permit.
- iii. The above hourly and annual limits were originally established in Construction Permit 98110018 pursuant to 40 CFR 52.21, the federal rules for Prevention of Significant Deterioration of Air Quality (PSD). These limits ensure that the construction and operation of the affected turbines do not constitute a new major source pursuant to PSD [T1R].

Note: Condition 7.1.6(b) originally established in construction Permit 98110018, has been revised to include emissions during startup, malfunction, breakdown, and shutdown into the total annual emissions limited from this facility.

7.1.7 Testing Requirements

- a. The nitrogen oxides (NO_x) emissions, and the oxygen (O₂) concentration and opacity of exhaust shall be measured for the affected turbines at the source owner or operator's expense by an independent testing service approved by the Illinois EPA as follows to determine compliance with applicable emission limits:
- i. Within 120 days after a written request from the Illinois EPA, for such pollutants listed above as specified by the request.

- ii. Any extension to these time periods that may be provided at its discretion by the Illinois EPA shall not alter the source owner or operator's obligation to perform emission testing for purposes of the NSPS in a timely manner as specified by 40 CFR 60.8.
- b. The following methods and procedures shall be used for testing of emissions:
 - i. The USEPA Reference Test Methods shall be used including the following:

Opacity	USEPA Method 9
Nitrogen Oxides	USEPA Method 20
 - ii. A. Pursuant to 40 CFR 60.335(b), the owner or operator shall determine compliance with the applicable nitrogen oxides emission limitation in 40 CFR 60.332 and shall meet the performance test requirements of 40 CFR 60.8 as follows:

For each run of the performance test, the mean nitrogen oxides emission concentration (NO_{x_o}) corrected to 15 percent O_2 shall be corrected to ISO standard conditions using the following equation. Notwithstanding this requirement, use of the ISO correction equation is optional for: Lean premix stationary combustion turbines; units used in association with heat recovery steam generators (HRSG) equipped with duct burners; and units equipped with add-on emission control devices, pursuant to 40 CFR 60.335(b)(1):

$$\text{NO}_x = (\text{NO}_{x_o}) (P_r/P_o)^{0.5} e^{19(H_o - 0.00633) / (288^\circ\text{K}/T_a) 1.53}$$

Where:

NO_x = emission concentration of NO_x at 15 percent O_2 and ISO standard ambient conditions, ppm by volume, dry basis

NO_{x_o} = mean observed NO_x concentration, ppm by volume, dry basis, at 15 percent O_2

P_r = reference combustor inlet absolute pressure at 101.3 kilopascals ambient pressure, mm Hg

P_o = observed combustor inlet absolute pressure at test, mm Hg

H_o = observed humidity of ambient air, g H_2O /g air

e = transcendental constant, 2.718

T_a = ambient temperature, °K

The 3-run performance test required by 40 CFR 60.8 must be performed within ± 5 percent at 30, 50, 75, and 90-to-100 percent of peak load or at four evenly-spaced load points in the normal operating range of the gas turbine, including the minimum point in the operating range and 90-to-100 percent of peak load, or at the highest achievable load point if 90-to-100 percent of peak load cannot be physically achieved in practice. If the turbine combusts both oil and gas as primary or backup fuels, separate performance testing is required for each fuel. Notwithstanding these requirements, performance testing is not required for any emergency fuel (as defined in 40 CFR 60.331), pursuant to 40 CFR 60.335(b)(2).

If water or steam injection is used to control NO_x with no additional post-combustion NO_x control and the owner or operator chooses to monitor the steam or water to fuel ratio in accordance with 40 CFR 60.334(a), then that monitoring system must be operated concurrently with each EPA Method 20, ASTM D6522-00 (incorporated by reference, see 40 CFR 60.17), or EPA Method 7E run and shall be used to determine the fuel consumption and the steam or water to fuel ratio necessary to comply with the applicable 40 CFR 60.332 NO_x emission limit, pursuant to 40 CFR 60.335(b)(4).

If the owner or operator elects to install a CEMS, the performance evaluation of the CEMS may either be conducted separately (as described in 40 CFR 60.335(b)(7)) or as part of the initial performance test of the affected unit, pursuant to 40 CFR 60.335(b)(6).

Pursuant to 40 CFR 60.335(b)(7), if the owner or operator elects to install and certify a NO_x CEMS under 40 CFR 60.334(e), then the initial performance test required under 40 CFR 60.8 may be done in the following alternative manner:

Perform a minimum of 9 reference method runs, with a minimum time per run of 21 minutes, at a single load level, between 90 and 100 percent of peak (or the highest physically achievable) load, pursuant to 40 CFR 60.335(b)(7)(i).

Use the test data both to demonstrate compliance with the applicable NO_x emission

limit under 40 CFR 60.332 and to provide the required reference method data for the RATA of the CEMS described under 40 CFR 60.334(b), pursuant to 40 CFR 60.335(b)(7)(ii).

The requirement to test at three additional load levels is waived, pursuant to 40 CFR 60.335(b)(7)(iii).

If the owner or operator elects under 40 CFR 60.335(f) to monitor combustion parameters or parameters indicative of proper operation of NO_x emission controls, the appropriate parameters shall be continuously monitored and recorded during each run of the initial performance test, to establish acceptable operating ranges, for purposes of the parameter monitoring plan for the affected unit, as specified in 40 CFR 60.334(g), pursuant to 40 CFR 60.335(b)(8).

Pursuant to 40 CFR 60.335(b)(10), if the owner or operator is required under 40 CFR 60.334(i)(1) or (3) to periodically determine the sulfur content of the fuel combusted in the turbine, a minimum of three fuel samples shall be collected during the performance test. Analyze the samples for the total sulfur content of the fuel using:

For gaseous fuels, ASTM D1072-80, 90 (Reapproved 1994); D3246-81, 92, 96; D4468-85 (Reapproved 2000); or D6667-01 (all of which are incorporated by reference, see 40 CFR 60.17). The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the prior approval of the Administrator, pursuant to 40 CFR 60.335(b)(10)(ii).

The fuel analyses required under 40 CFR 60.335(b)(9) and (b)(10) may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency, pursuant to 40 CFR 60.335(b)(11).

- B. Pursuant to 40 CFR 60.335(c), the owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

Instead of using the equation in 40 CFR 60.335(b)(1), manufacturers may develop ambient

condition correction factors to adjust the nitrogen oxides emission level measured by the performance test as provided in 40 CFR 60.8 to ISO standard day conditions, pursuant to 40 CFR 60.335(c)(1).

- c. At least 60 days prior to the actual date of testing, a written test plan shall be submitted to the Illinois EPA for review. This plan shall describe the specific procedures for testing and shall include as 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 turbine will be tracked and recorded.
 - iii. The specific determinations of emissions that are intended to be made, including sampling and monitoring locations; the test method(s) that will be used, with the specific analysis method, if the method can be used with different analysis methods. The source owner or operator may also propose a plan for testing across the normal operating range of the affected turbines.
- d. The Illinois EPA shall be notified prior to these tests to enable the Illinois EPA to observe these tests. Notification of the expected date of testing shall be submitted a minimum of thirty (30) days prior to the expected date. Notification of the actual date and expected time of testing shall be submitted a minimum of five (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 the testing.
- e. The Final Report for these tests shall be submitted to the Illinois EPA within 60 days after the date of the tests. The Final Report shall include as a minimum:
 - i. A summary of results.
 - ii. General information.
 - iii. Description of test method(s), including description of sampling points, sampling train, analysis equipment and test schedule.
 - iv. Detailed description of test conditions, including:

- A. Fuel consumption (standard ft³)
- B. Firing rate (million Btu/hr).
- C. Turbine/Generator output rate (MW).
- v. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration.
- f.
 - i. Upon written request by the Illinois EPA, the source owner or operator shall have the opacity of the exhaust from the affected turbine(s) tested during representative operating conditions as determined by a qualified observer in accordance with USEPA Test Method 9, as further specified below, pursuant to Section 39.5(7)(d) of the Act.
 - ii. Such testing shall be conducted for specific turbine(s) within 90 calendar days of the request, or on the date turbine(s) next operates, or on the date agreed upon by the Illinois EPA, whichever is later.
 - iii. The duration of opacity observations for each test shall be at least 30 minutes (five 6-minute averages) unless the average opacities for the first 12 minutes of observations (two six-minute averages) are both less than 10.0 percent.
 - iv. The source owner or operator shall notify the Illinois EPA at least 7 days in advance of the date and time of these tests, in order to allow the Illinois EPA to witness testing. This notification shall include the name and employer of the qualified observer(s).
 - v. The source owner or operator shall promptly notify the Illinois EPA of any changes in the time or date for testing.
 - vi. The source owner or operator shall provide a copy of its observer's readings to the Illinois EPA at the time of testing, if Illinois EPA personnel are present.
 - vii. The source owner or operator shall submit a written report for this testing within 30 days of the date of testing. This report shall include:
 - A. Date and time of testing.
 - B. Name and employer of qualified observer.
 - C. Copy of current certification.

- D. Description of observation conditions.
- E. Description of turbine operating conditions.
- F. Raw data.
- G. Opacity determinations.
- H. Conclusions.

7.1.8 Monitoring Requirements

- a.
 - i. If an affected turbine is routinely operated or exercised to confirm that the turbine will operate when needed, the operation and opacity of the affected turbine shall be formally observed by operating personnel for the affected turbine or a member of source owner or operator's environmental staff on a regular basis to assure that the affected turbine is operating properly, which observations shall be made at least every six months.
 - ii. If an affected turbine is not routinely operated or exercised, i.e., the time interval between operation of an affected turbine is typically greater than six months, the operation and opacity of the affected turbine shall be formally observed as provided above each time the source owner or operator carries out a scheduled exercise of the affected turbine.
 - iii. The source owner or operator shall also conduct formal observations of operation and opacity of an affected turbine upon written request by the Illinois EPA. With the agreement of the Illinois EPA, the source owner or operator may schedule these observations to take place during periods when it would otherwise be operating the affected turbine.

Note: The formal observation required above is not intended to be a USEPA Test Method 9 opacity test, nor does the observation require a USEPA Test Method 9 certified observer. It is intended to be performed by personnel familiar with the operation of the affected turbine who would be able to make a determination based from the observed opacity as to whether or not the affected turbine was running properly, and subsequently initiate a corrective action if necessary.

- b. The affected turbine shall comply with the applicable monitoring requirements of 40 CFR 60.334(h), below. Monitoring of fuel nitrogen content shall not be required while the facility does not claim an allowance for fuel-bound nitrogen. Monitoring for sulfur content in fuel is not required while natural gas is the only fuel fired in the affected turbine and the requirements of 40 CFR 60.334(h)3(i) or (ii) are met.

Pursuant to 40 CFR 60.334(h), the owner or operator of any stationary gas turbine subject to the provisions of this subpart:

Shall monitor the total sulfur content of the fuel being fired in the turbine, except as provided in 40 CFR 60.334(h)(3). The sulfur content of the fuel must be determined using total sulfur methods described in 40 CFR 60.335(b)(10). Alternatively, if the total sulfur content of the gaseous fuel during the most recent performance test was less than 0.4 weight percent (4000 ppmw), ASTM D4084-82, 94, D5504-01, D6228-98, or Gas Processors Association Standard 2377-86 (all of which are incorporated by reference-see 40 CFR 60.17), which measure the major sulfur compounds may be used, pursuant to 40 CFR 60.334(h)(1); and

Shall monitor the nitrogen content of the fuel combusted in the turbine, if the owner or operator claims an allowance for fuel bound nitrogen (i.e., if an F-value greater than zero is being or will be used by the owner or operator to calculate STD in 40 CFR 60.332). The nitrogen content of the fuel shall be determined using methods described in 40 CFR 60.335(b)(9) or an approved alternative, pursuant to 40 CFR 60.334(h)(2).

Pursuant to 40 CFR 60.334(h)(3), notwithstanding the provisions of 40 CFR 60.334(h)(1), the owner or operator may elect not to monitor the total sulfur content of the gaseous fuel combusted in the turbine, if the gaseous fuel is demonstrated to meet the definition of natural gas in 40 CFR 60.331(u), regardless of whether an existing custom schedule approved by the administrator for subpart GG requires such monitoring. The owner or operator shall use one of the following sources of information to make the required demonstration:

The gas quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, specifying that the maximum total sulfur content of the fuel is 20.0 grains/100 scf or less, pursuant to 40 CFR 60.334(3)(i); or

Representative fuel sampling data which show that the sulfur content of the gaseous fuel does not exceed 20 grains/100 scf. At a minimum, the amount of fuel sampling data specified in section 2.3.1.4 or 2.3.2.4 of appendix D to part 75 of this chapter is required, pursuant to 40 CFR 60.334(h)(3)(ii).

- c. Should the operation of the affected turbine exceed the limitations of 7.1.6(b)(i) relating to the definition of a gas-fired peaking unit in 40 CFR 75, the source owner or operator shall install the appropriate Continuous Monitoring System(s) on the affected turbine by December 31 of the following calendar year, as defined in 40 CFR 75, in

order to remain in compliance with the provisions of the Acid Rain Program.

- d. i. The owner or operator of an affected turbine subject to 35 IAC 217 Subpart V (Condition 7.1.3(e)) shall install, calibrate, maintain and operate continuous emissions monitoring systems (CEMS) for NO_x that meet the requirements of 40 CFR 75, Subpart B [35 IAC 217.710(a)].
- ii. Notwithstanding 35 IAC 217.710(a) above, the owner or operator of a gas-fired peaking unit or oil-fired peaking unit as defined in 40 CFR 72.2 may determine NO_x emissions in accordance with the emissions estimation protocol of 40 CFR 75, Subpart E [35 IAC 217.710(b)].
- iii. Notwithstanding 35 IAC 217.710(a) above, the owner or operator of a combustion turbine that operates less than 350 hour per ozone control period may determine the heat input and NO_x emissions of the turbine as follows [35 IAC 217.710(c)]:
 - A. Heat input shall be determined from the metered fuel usage to the turbine or the calculated heat input determined as the product of the turbine's maximum hourly heat input and hours of operation as recorded by operating instrumentation on the turbine [35 IAC 217.710(c)(1)].
 - B. NO_x emissions shall be determined as the product of the heat input, as determined above, and the appropriate default NO_x emission factors below [35 IAC 217.710(c)(2)]:
 - 0.7 lbs/mmBtu - Natural gas
 - 1.2 lbs/mmBtu - Fuel oil
- e. i. The affected turbine shall be equipped, operated, and maintained with a continuous monitoring system to monitor and record the fuel consumption being fired.
- ii. ~~The affected turbine shall be equipped, operated, and maintained with a continuous monitoring system to monitor and record the ratio of water to fuel being fired, pursuant to 40 CFR 60.334(a).~~

7.1.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the source owner or operator shall maintain records of the following items for the affected turbine(s) to demonstrate compliance with Conditions 5.6.1, 7.1.3, 7.1.5, and 7.1.6, pursuant to Section 39.5(7)(b) of the Act:

- a. The owner or operator of an affected turbine subject to the requirements of 35 IAC 217 Subpart V (Condition 7.1.3(e)) shall:
 - i. Comply with the recordkeeping and reporting requirements of 40 CFR 75 applicable to NO_x emissions during the ozone control period, including, but not limited to, 40 CFR 75.54(b) and (d) [35 IAC 217.712(a)].
 - ii. Notwithstanding 35 IAC 217.712(a) above, the owner or operator of a combustion turbine for which heat input and NO_x emissions are determined pursuant to 35 IAC 217.710(c) (Condition 7.1.8(d)(iii)) shall comply with the following recordkeeping and reporting requirements [35 IAC 217.712(b)]:
 - A. Maintain records of the heat input and NO_x emissions of the turbine as determined in accordance with 35 IAC 217.710(c), and records of metered fuel use or operating hours used to determine heat input [35 IAC 217.712(b)(1)].
- b. The source owner or operator shall maintain records of the following items:
 - i. A.
 - The three year rolling average annual capacity factor and the highest annual capacity factor in any one of the three averaging years to determine the status of the affected turbine as a "gas-fired peaking unit" as detailed in Condition 7.1.6(b)(i).
 - B. A record documenting whether the capacity factors exceeded the limitations of Condition 7.1.6(b)(i) and whether Acid Rain Program Continuous Monitoring System(s) will be required.
 - ii. The sulfur content of the natural gas used to fire the turbines as determined in accordance with Condition 7.1.8(b).
 - iii. A copy of the Final Report(s) for emission testing conducted pursuant to Condition 7.1.7.
 - iv. Copies of opacity determinations taken for the source by qualified observer(s) using USEPA Method 9.
 - v. Records documenting its periodic review of its operating procedures as required by Condition 7.1.5(a).
 - vi. Information for the formal observations of opacity conducted pursuant to Condition 7.1.8(a). For each occasion on which observations are made, these

records shall include the date, time, identity of the observer, a description of the various observations that were made, whether or not the affected engine was running properly, and whether or not corrective action is necessary and was subsequently initiated.

- c. A maintenance and repair log for the affected turbine, listing each activity performed with date.
- d. ~~The sulfur content of the fuels fired in the affected turbine.~~
- e. Fuel consumption for the affected turbine, scf/month and scf/year.
- f. ~~Ratio of water to fuel being fired in the affected turbine.~~
- g. Operating hours for the affected turbine, hr/month and hr/year.
- h. Heat content of the fuel being fired in the affected turbine.
- i. Emissions of each pollutant from the affected turbine, including emissions from startups, with supporting calculations including documentation on the validity of the emission factors used, ton/month and ton/year.
- j. The source owner or operator shall maintain records that identify:
 - i. Any periods during which a continuous monitoring system was not operational, with explanation.
 - ii. ~~Any 1-hour period during which the average water to fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined by test to be necessary to comply with requirements for NO_x emissions, with the average water-to-fuel ratio, average fuel consumption, ambient conditions and turbine load.~~
 - iii. Any period when the affected turbine was in operation during which ice fog was deemed to be a traffic hazard, the ambient conditions existing during the periods, the date and time the water injection system was deactivated, and the date and time the system was reactivated.
 - iv. Any day in which emission and/or opacity exceeded an applicable standard or limit.
- k. The source owner or operator shall keep records of good operating practices for each turbine.

1. The source owner or operator shall maintain the following records related to each shutdown of the turbines:
 - i. The following information for each shutdown of a turbine:
 - A. Date and time of shutdown.
 - B. A description of the shutdown, if written operating procedures are not followed during the shutdown or significant problems occur during the shutdown, including detailed explanation.
 - ii. The following information for the turbines when above normal opacity has been observed by source personnel:
 - A. Name of observer, position and reason for being at site.
 - B. Date and duration of above normal opacity, including affected turbine, start time and time normal operation was achieved.
 - C. If normal operation was not achieved within 30 minutes, an explanation why startup could not be achieved within this time.
 - D. A detailed description of the startup, including reason for operation.
 - E. An explanation why established startup procedures could not be performed, if not performed.
 - F. The nature of opacity following the end of startup or 30 minutes of operation, whichever occurs first, and duration of operation until achievement of normal opacity or shutdown.
 - G. Whether an exceedance of Condition 7.1.3(b), i.e., 30 percent opacity, may have occurred during startup, with explanation if qualified observer was on site.
 - m. Records for Startup

The Permittee shall maintain the following records, pursuant to Section 39.5(7)(b) of the Act, for each affected turbine subject to Condition 7.1.3(b), which at a minimum shall include:

 - i. The following information for each startup of the affected turbine(s):

- A. Date and duration of the startup, i.e., start time and time normal operation achieved.
 - B. If normal operation was not achieved within 30, an explanation why startup could not be achieved within this time.
 - C. A detailed description of the startup, including reason for operation and whether the procedures 7.1.3(f) were performed.
 - D. An explanation why the procedures of 7.1.3(f) and other established startup procedures could not be performed, if not performed.
 - E. Whether exceedance of Condition 5.3.2 and 7.1.3(b) may have occurred during startup. If an exceedance may have occurred, an explanation of the nature of opacity, i.e., severity and duration, during the startup and the nature of opacity at the conclusion of startup.
 - F. Whether operating personnel for the turbines or air environmental staff are on site during startup.
- ii. A maintenance and repair log for each affected turbine, listing each activity performed with date.
- n. Records for Malfunctions and Breakdowns
- The Permittee shall maintain records, pursuant to 35 IAC 201.263, of continued operation of an affected turbine subject to Condition 7.1.3(g) during malfunctions and breakdown, which as a minimum, shall include:
- i. Date and duration of malfunction or breakdown.
 - ii. A detailed explanation of the malfunction or breakdown.
 - iii. An explanation why the affected turbine continued to operate in accordance with Condition 7.1.3(g).
 - iv. The measures used to reduce the quantity of emissions and the duration of the event.
 - v. The steps taken to prevent similar malfunctions or breakdowns or reduce their frequency and severity.
 - vi. The amount of release above typical emissions during malfunction/breakdown.

7.1.10 Reporting Requirements

a. Reporting of Deviations

The source owner or operator shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the affected turbine with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- i. Emissions from the affected turbine in excess of the limits specified in Conditions 7.1.3 and 7.1.6 within 30 days of such occurrence.
 - ii. Operation of the affected turbine in excess of the limits specified in Conditions 7.1.5 and 7.1.6 within 30 days of such occurrence.
- b. In conjunction with the Annual Emission Report required by 35 IAC Part 254, the source owner or operator shall provide the operating hours for each affected turbine, the total number of startups, the total fuel consumption during the preceding calendar year, and the records necessary from Condition 7.1.9(b)(i) which demonstrate the Acid Rain Program status of the affected turbine as a "gas-fired peaking unit."
- c.
- i. Pursuant to 40 CFR 60.7(c) and 40 CFR 60.334(j), a report shall be submitted on a semi-annual basis, postmarked by the 30th day following the end of each six-month period. ~~This report shall contain information on any one-hour period when the average water to fuel ratio falls below the ratio needed to show compliance. For such periods, the report shall include the actual water to fuel ratio, average fuel consumption, ambient conditions and turbine load.~~
 - ii. Pursuant to 40 CFR 60.7(c) and 40 CFR 60.334(j), a report shall be submitted on a semi-annual basis. This report shall contain information on excess emissions and monitoring system downtime reports in accordance with 40 CFR 60.7(c) and 40 CFR 60.334(j).
- d.
- i. Annually report the heat input and NO_x emissions of the turbine as determined in accordance with 35 IAC 217.710(c) ~~(Condition 7.1.8(c)(iii))~~, for each ozone control period, by November 30 of each year [35 IAC 217.712(b)(2)].
 - ii. Pursuant to 35 IAC 217.712(c) and (d), no later than November 30 of each year, the source owner or operator shall submit a report to the Illinois EPA that demonstrates that the affected turbine has complied with Condition 7.1.3(e). These reports shall be accompanied by a certification statement

signed by a responsible official for the source owner or operator as specified by 35 IAC 217.712(c).

e. Reporting of Startups

The source owner or operator shall submit semi-annual startup reports to the Illinois EPA pursuant to Sections 39.5(7)(a) and (f) of the Act. These reports shall be submitted along with the semi-annual reports required by Condition 7.1.10(f)(ii) and shall include the following information for startups of the affected turbine during the reporting period:

- i. A list of the startups of the affected turbine, including the date, duration and description of each startup, accompanied by a copy of the records pursuant to Condition 7.1.9(i) for each startup for which such records were required.
- ii. If there have been no startups of an affected turbine during the reporting period, this shall be stated in the report.

f. Reporting of Malfunctions and Breakdowns

The Permittee shall provide the following notification and reports to the Illinois EPA, Air Compliance Unit and Regional Field Office, pursuant to 35 IAC 201.263, concerning continued operation of an affected turbine subject to Condition 7.1.3(g) during malfunction or breakdown:

- i.
 - A. The Permittee shall notify the Illinois EPA's regional office by telephone as soon as possible during normal working hours, but no later than three (3) days, upon the occurrence of noncompliance due to malfunction or breakdown.
 - B. Upon achievement of compliance, the Permittee shall give a written follow-up notice within 15 days to the Illinois EPA, Air Compliance Unit and Regional Field Office, providing a detailed explanation of the event, an explanation why continued operation of the affected turbines was necessary, the length of time during which operation continued under such conditions, the measures taken by the Permittee to minimize and correct deficiencies with chronology, and when the repairs were completed or when the affected turbine was taken out of service.
 - C. If compliance is not achieved within 5 working days of the occurrence, the Permittee shall submit interim status reports to the Illinois EPA, Air Compliance Unit and Regional Field

Office, within 5 days of the occurrence and every 14 days thereafter, until compliance is achieved. These interim reports shall provide a brief explanation of the nature of the malfunction or breakdown, corrective actions accomplished to date, actions anticipated to occur with schedule, and the expected date on which repairs will be complete or the affected turbine will be taken out of service.

ii. In accordance with the due dates in Condition 8.6.1, the Permittee shall submit semi-annual malfunction and breakdown reports to the Illinois EPA pursuant to Sections 39.5(7)(a) and (f) of the Act. These reports may be submitted along with other semi-annual reports and shall include the following information for malfunctions and breakdowns of the affected turbine during the reporting period:

- A. A listing of malfunctions and breakdowns, in chronological order, that includes:
 - I. The date, time, and duration of each incident.
 - II. The identity of the affected operation(s) involved in the incident.
- B. Dates of the notices and reports of Conditions 7.1.10(f)(i).
- C. Any supplement information the Permittee wishes to provide to the notices and reports of Conditions 7.1.10(f)(i).
- D. The aggregate duration of all incidents during the reporting period.
- E. If there have been no such incidents during the reporting period, this shall be stated in the report.

7.1.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected turbines.

7.1.12 Compliance Procedures

- a. Compliance with the PM emission limitations of Conditions 7.1.3(b) is addressed by the requirements of Condition 7.1.5, and the records required in Condition 7.1.9, and the reports required in Condition 7.1.10.
- b. Compliance with the SO₂ emission limitations of Conditions 7.1.3(c) is addressed by the requirements of Condition

7.1.5, and the records required in Condition 7.1.9, and the reports required in Condition 7.1.10.

- c. i. Compliance with the NO_x emission limitations of Conditions 7.1.3(d)(i) is addressed by the requirements of Condition 7.1.5, the testing requirements of 7.1.7, the monitoring requirements of 7.1.8, and the records required in Condition 7.1.9, and the reports required in Condition 7.1.10(a).
- ii. Compliance with the SO₂ emission limitations of Conditions 7.1.3(d)(ii) is addressed by the requirements of Condition 7.1.5, the records required in Condition 7.1.9, and the reports required in Condition 7.1.10(a).
- d. i. Compliance with the NO_x emission limitations of Conditions 7.1.3(e) is addressed by the requirements of Condition 7.1.5, the testing requirements of 7.1.7, the monitoring requirements of 7.1.8, the records required in Condition 7.1.9, and the reports required in Condition 7.1.10(a).
- ii. Notwithstanding 35 IAC 217.710(a), Condition 7.1.8(d), the owner or operator of a gas-fired peaking unit or oil-fired peaking unit as defined in 40 CFR 72.2 may determine NO_x emissions in accordance with the emissions estimation protocol of 40 CFR 75, Subpart E [35 IAC 217.710(b)].
- iii. Notwithstanding 35 IAC 217.710(a), Condition 7.1.8(d), the owner or operator of a combustion turbine that operates less than 350 hour per ozone control period may determine the heat input and NO_x emissions of the turbine as follows [35 IAC 217.710(c)]:
 - A. Heat input shall be determined from the metered fuel usage to the turbine or the calculated heat input determined as the product of the turbine's maximum hourly heat input and hours of operation as recorded by operating instrumentation on the turbine [35 IAC 217.710(c)(1)].
 - B. NO_x emissions shall be determined as the product of the heat input, as determined above, and the appropriate default NO_x emission factors below [35 IAC 217.710(c)(2)]:
 - 0.7 lbs/mmBtu - Natural gas
 - 1.2 lbs/mmBtu - Fuel oil
- e. i. Compliance with the fuel limits in Condition 7.1.5 is addressed by the records and reports required in Conditions 7.1.9 and 7.1.10.

- ii. Compliance with the emission limits in Conditions 5.6 and 7.1.6 is addressed by the records and reports required in Conditions 7.1.9 and 7.1.10, the continuous NO_x monitoring requirements in Condition 7.1.8, or from emission factors developed from the most recent approved stack test in accordance with Condition 7.1.7 (NO_x), standard emission factors (CO, VOM and PM/PM₁₀) and analysis of fuel sulfur content or standard factors (SO₂).

7.2 Engines (Subject to NESHAP - 40 CFR 63 Subpart ZZZZ)

7.2.1 Description

The diesel engine is a process emission unit used to provide backup power generation.

Note: This narrative description is for informational purposes only and is not enforceable.

7.2.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Diesel Generator	Emergency Diesel Generator	1999	None

7.2.3 Applicable Provisions and Regulations

- a. The "affected diesel engines" for the purpose of these unit-specific conditions, are diesel engines described in Conditions 7.2.1 and 7.2.2.
- b. Pursuant to 35 IAC 212.123,
 - i. No person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit.
 - ii. The emission of smoke or other particulate matter from any such emission unit may have an opacity greater than 30 percent but not greater than 60 percent for a period or periods aggregating 8 minutes in any 60 minute period provided that such opaque emissions permitted during any 60 minute period shall occur from only one such emission unit located within a 1000 ft radius from the center point of any other such emission unit owned or operated by such person, and provided further that such opaque emissions permitted from each such emission unit shall be limited to 3 times in any 24 hour period.
- c. i. Pursuant to 35 IAC 214.301, no person shall cause or allow the emission of sulfur dioxide into the

atmosphere from any process emission source to exceed 2000 ppm.

7.2.4 Non-Applicability of Regulations of Concern

- a. The affected diesel engines are not subject to the New Source Performance Standards (NSPS) for Compression Ignition Internal Combustion Engines, 40 CFR Part 60, Subpart IIII, because the Permittee did not commence construction (date that construction commences is the date the engine is ordered by the Permittee) of the affected diesel engines after July 11, 2005 where the affected diesel engines are:

- i. Manufactured after April 1, 2006 and are not fire pump engines, pursuant to 40 CFR 60.4200(a)(2)(i).
- ii. Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006, pursuant to 40 CFR 60.4200(a)(2)(ii).

Note: To qualify for this non-applicability, the Permittee has certified that the diesel engines have not modified or reconstructed their diesel engines after July 11, 2005.

- b. The affected diesel engines are excluded from certain requirements of the National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines 40 CFR Part 63, Subpart ZZZZ, because the affected diesel engines are existing compression ignition (CI) stationary RICE, pursuant to 40 CFR 63.6590(b)(3), and do not have to meet the requirements of that Subpart or Subpart A, additionally no initial notification is necessary. Requirements necessary to maintain the exclusion, and therefore compliance with that Part, are found within this Section. Specifically, those requirements are not becoming an affected source pursuant to 40 CFR 63.6590.
- c. The affected diesel engines (used as diesel generators) are not subject to the Acid Rain Program, 40 CFR 72, because the affected diesel engines are non-utility units, as defined by 40 CFR 72.6(b)(8). Pursuant to 40 CFR 72.2, "utility unit" is defined as a unit owned or operated by a utility that serves a generator in any State that produces electricity for sale.
- d. The affected diesel engines are not subject to 35 IAC 216.321 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.
- e. The affected diesel engines are not subject to 35 IAC 216.121 because the affected diesel engines are not fuel combustion units, as defined by 35 IAC 211.2470.

- f. i. The affected diesel engines are not subject to 35 IAC Part 217, Subpart Q: Stationary Reciprocating Internal Combustion Engines and Turbines, because the affected diesel engines are not stationary reciprocating internal combustion engines listed in Appendix G of that Part, pursuant to 35 IAC 217.386.
- ii. The affected diesel engines are not subject to 35 IAC 217.141 because the affected diesel engines are not fuel combustion units, as defined by 35 IAC 211.2470.
- g. The affected diesel engines are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected diesel engines does not use an add-on control device to achieve compliance with an emission limitation or standard.

7.2.5 Control Requirements and Work Practices

- a. The Permittee shall follow good operating practices for the affected engines, including periodic inspection, routine maintenance and prompt repair of defects.
- b. Distillate fuel oil shall be the only fuel fired in the affected diesel engines.
- c. The Permittee shall not utilize distillate fuel oils with a sulfur content
- d. The Illinois EPA shall be allowed to sample all fuels stored at the source.

7.2.6 Production and Emission Limitations

Production and emission limitations are not set for the affected diesel engines. However, there are source-wide production and emission limitations set forth in Condition 5.6.

7.2.7 Testing Requirements

- a. i. Upon written request by the Illinois EPA, the Permittee shall have the opacity of the exhaust from the affected diesel engine(s) tested during representative operating conditions as determined by a qualified observer in accordance with USEPA Test Method 9, as further specified below, pursuant to Section 39.5(7)(d) of the Act.
- ii. Such testing shall be conducted for specific diesel engine(s) within 70 calendar days of the request, or on the date diesel engine(s) next operates, or on the date agreed upon by the Illinois EPA, whichever is later.
- iii. The duration of opacity observations for each test shall be at least 30 minutes (five 6-minute averages)

unless the average opacities for the first 12 minutes of observations (two six-minute averages) are both less than 10.0 percent.

- iv. The Permittee shall notify the Illinois EPA at least 7 days in advance of the date and time of these tests, in order to allow the Illinois EPA to witness testing. This notification shall include the name and employer of the qualified observer(s).
- v. The Permittee shall promptly notify the Illinois EPA of any changes in the time or date for testing.
- vi. The Permittee shall provide a copy of its observer's readings to the Illinois EPA at the time of testing, if Illinois EPA personnel are present.
- vii. The Permittee shall submit a written report for this testing within 15 days of the date of testing. This report shall include:
 - A. Date and time of testing.
 - B. Name and employer of qualified observer.
 - C. Copy of current certification.
 - D. Description of observation conditions.
 - E. Description of diesel engine operating conditions.
 - F. Raw data.
 - G. Opacity determinations.
 - H. Conclusions.
- b. i. In the event that the fuel oil supplier is unable to provide the sulfur content of the fuel oil supply for the affected diesel engines, the Permittee shall have the sulfur content of the oil supply to the affected diesel engines, in lbs/mmBtu, determined from an analysis of representative sample of the oil supply, as follows, pursuant to Section 39.5(7)(d) of the Act:
 - A. From a sample taken no later than 90 days after first operating the affected diesel engines pursuant to this permit, provided, however, that if such sample is taken following operation of the affected diesel engines, the sample shall be taken prior to adding more oil to the storage tank.

- B. From a sample taken no later than 30 days after acceptance of a shipment of fuel whose sulfur content would not meet Condition 7.2.3(c) based upon supplier data, provided however, that if the affected diesel engines are operated following acceptance of such a shipment, the sample shall be taken prior to adding a subsequent shipment of oil to the relevant storage tank.
- C. From a sample taken no later than 30 days after a request for such a sample is made by the Illinois EPA, provided, however, that such sample shall be taken prior to adding more oil to the relevant storage tank.
- ii. Sampling and analysis, including that which forms the basis for the suppliers' data, shall be conducted using methods that would be acceptable under the federal New Source Performance Standards for Stationary Gas Turbines, 40 CFR 60.335(b)(2) and (c) or the federal Acid Rain Program, 40 CFR 75, Appendix D, Optional SO₂ Emissions Data Protocol for Gas-Fired and Oil-Fired Units e.g., ASTM D4057-88 and ASTM D129-91.

Note: Condition 7.2.7(b)(ii) is for fuel testing methodology only, and is in no way intended to subject the source to those provisions.

7.2.8 Monitoring Requirements

- a.
 - i. If an affected diesel engine is routinely operated or exercised to confirm that the affected diesel engine will operate when needed, the operation and opacity of the affected diesel engine shall be formally observed by operating personnel for the affected diesel engine or a member of Permittee's environmental staff on a regular basis to assure that the affected diesel engine is operating properly, which observations shall be made at least every six months.
 - ii. If an affected diesel engine is not routinely operated or exercised, i.e., the time interval between operation of an affected diesel engine is typically greater than six months, the operation and opacity of the affected diesel engine shall be formally observed as provided above each time the Permittee carries out a scheduled exercise of the affected diesel engine.
 - iii. The Permittee shall also conduct formal observations of operation and opacity of an affected diesel engine upon written request by the Illinois EPA. With the agreement of the Illinois EPA, the Permittee may

schedule these observations to take place during periods when it would otherwise be operating the affected diesel engine.

Note: The "formally observation" required above is not intended to be a USEPA Test Method 9 opacity test, nor does the observation require a USEPA Test Method 9 certified observer. It is intended to be performed by personnel familiar with the operation of the affected diesel engines who would be able to make a determination based from the affected diesel engines who would be able to make a determination based from the observed opacity as to whether of not the affected diesel engine was running properly, and subsequently initiate a corrective action if necessary.

7.2.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for each affected diesel engine to demonstrate compliance with Conditions 5.6.1 and 7.2.3, pursuant to Section 39.5(7)(b) of the Act:

- a. i. An operating log for each affected diesel engine, which shall include the following information:
 - A. Information for each time the affected diesel engine is operated, with date, time, duration, and purpose (i.e., exercise or power service). Monthly and annual records of hours of operation of each engine and total hours of operation.
 - B. Information for the observations conducted pursuant to Condition 7.2.8(a) or 7.2.7(a), with date, time, personnel, and findings.
 - I. The Permittee shall keep records for all opacity measurements made in accordance with USEPA Method 9 for an affected diesel engine that it conducts or that are conducted on its behalf by individuals who are qualified to make such observations for Condition 7.2.7(a). For each occasion on which such observations are made, these records shall include the identity of the observer, a description of the various observations that were made, the observed opacity, and copies of the raw data sheets for the observations.
 - II. The Permittee shall keep records for all formal observations of opacity conducted pursuant to Condition 7.2.8(a). For each occasion on which observations are made, these records shall include the date,

time, identity of the observer, a description of the various observations that were made, whether or not the affected diesel engine was running properly, and whether or not corrective action is necessary and was subsequently initiated.

- C. Information identifying any deviation from Condition 7.2.5(b).
- ii. A maintenance and repair log for each affected diesel engine and associated equipment, listing activities performed with date.
- iii. The Permittee shall keep records of good operating practices for each affected diesel engine, as defined in Condition 7.2.5(a).
- b. Fuel usage for the affected diesel engines:
 - i. Total usage of fuel oil for the affected diesel engines, gallons/month and gallons/year.
- c. The following records related to the sulfur content of the oil fuel supply and SO₂ emissions of the affected diesel engines:
 - i. Records for each shipment of fuel for the affected diesel engines, including date, supplier, quantity (in gallons), sulfur content, and whether the SO₂ emissions from the burning of such fuel would meet the standard in Condition 7.2.3(c).
 - ii. The Permittee shall maintain records of the sulfur content of the fuel oil supply to the affected diesel engines, based on the weighted average of material in the storage tank, or the sulfur content of the supply shall be assumed to be the highest sulfur content in any shipment in the tank.
- d. Emissions from each affected diesel engine (i.e., NO_x, CO, SO₂, VOM, and PM) in tons/month and tons/year with supporting calculations and data as required by Condition 7.2.9.

7.2.10 Reporting Requirements

a. Reporting of Deviations

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of an affected diesel engines with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- i. Emissions of opacity, SO₂, from the affected diesel engines in excess of the limits specified in Conditions 7.2.3 within 30 days of such occurrence.
- ii. Operation of the affected diesel engines in noncompliance with the requirements specified in Condition 7.2.5 within 30 days of such occurrence.
- iii. Operation of the affected diesel engines in excess of the limits specified in Condition 7.2.6 within 30 days of such occurrence.

7.2.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected diesel engines.

7.2.12 Compliance Procedures

- a. Compliance with the PM emission limitations of Condition 7.2.3(b) is addressed by the requirements of Condition 7.2.5(a), the testing requirements in Condition 7.2.7(a), the monitoring requirements of Condition 7.2.8(a), the records required in Condition 7.2.9(a), and the reports required in Condition 7.2.10(a).
- b.
 - i. Compliance with the SO₂ emission limitation of Condition 7.2.3(c)(i) is addressed by the requirements of Condition 7.2.5, the testing requirements in Condition 7.2.7(b), and the records and reports required in Conditions 7.2.9(b) and (c) and 7.2.10(a).
 - ii. For this purpose, complete conversion of sulfur into SO₂ shall be assumed, e.g., SO₂ emissions in lb/mmBtu are twice the sulfur content of the fuel supply, in lb/mmBtu, using the following equation:

$$\text{SO}_2 \text{ ppm} = \frac{\text{Fuel sulfur content (lb/mmBtu)} \times 2 \times 1/64 \times 385.2 \times 1,000,000}{\text{Engine exhaust rate factor (scf/mmBtu)}}$$

Note: Stoichiometric combustion of distillate oil with the maximum available sulfur content, i.e., 1.0 percent, would result in an SO₂ concentration in the exhaust that is well below the 2000 ppm limit in Condition 7.2.3(c)(i), i.e., only about 500 ppm, based on 10,320 scf/mmBtu, the F-factor for oil in USEPA's Reference Method 19.

- c. Compliance with the emission limits in Condition 5.6 are addressed by the records and reports required in Conditions 7.2.9 and 7.2.10 and the emission factors and formulas listed below if suitable manufacture's emission rate data is not available:
 - i. Emission factors for the affected diesel engines up to 600 horsepower:

***** PCB 2009-092 *****

Pollutant	Emission Factors	
	(lb/mmBtu) Fuel Input	(lb/hp-hr) Power Output
VOM	0.35	2.46×10^{-03}
PM	0.31	2.20×10^{-03}
SO ₂	0.29	2.05×10^{-03}
NO _x	4.41	0.031
CO	0.95	6.68×10^{-03}

The heat content of distillate fuel oil shall be assumed to be 137,030 Btu/gal as per AP-42.

Emissions = Distillate Fuel Oil Usage x Heat Content of Fuel Oil x Emission Factor

The emission factors are for Gasoline And Diesel Industrial Engines from AP-42 Section 3.3 (dated 10/96).

~~ii. Emission factors for the affected engines greater than 600 horsepower:~~

Pollutant	Emission Factors	
	(lb/mmBtu) Fuel Input	(lb/hp-hr) Power Output
VOM	0.09	7.05×10^{-04}
PM	0.1	0.0007
SO₂	$1.01 \times S_{\text{FO}}$	8.09×10^{-03}
NO_x	3.2	0.024
CO	0.85	5.51×10^{-03}

~~Where S_{FO} represents the percent sulfur in the fuel oil. S_1 = % sulfur in fuel oil. The heat content of distillate fuel oil shall be assumed to be 137,030 Btu/gal as per AP-42.~~

~~Emissions = Distillate Fuel Oil Usage x Heat Content of Fuel Oil x Emission Factor~~

~~The emission factors are for Large Stationary Diesel and All Stationary Dual-fuel Engines from AP-42 Section 3.4 (dated 10/96).~~

EXHIBIT 3

LETTER FROM USEPA WAIVING THE WATER-TO-FUEL MONITORING REQUIREMENT OF 40 CFR § 60.334(A)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

APR 22 2003

REPLY TO THE ATTENTION OF
(AE-17J)

Natalie E. Locke
Air Programs Group Leader
Dynegy Midwest Generation, Inc.
2828 North Monroe Street
Decatur, IL 62526-3269

Re: Request for Approval of a Custom Fuel Monitoring Schedule
and Utilizing CEMs for NOx Monitoring at Dynegy Midwest
Generation, Inc. - Tilton Energy Center in Tilton, Illinois.

Dear Ms. Locke:

I am writing in response to your letters dated February 26, 2003, and June 22, 2000. Your letters request the United States Environmental Protection Agency's (U.S. EPA's) approval of a custom fuel monitoring schedule and alternative NOx monitoring to demonstrate compliance with the Standards of Performance for Stationary Gas Turbines (40 C.F.R. Part 60, Subpart GG). Specifically, your February 26, 2003, letter makes the following requests:

1. Waive the water-to-fuel monitoring requirement in 40 C.F.R. §60.334(a).
2. Reporting requirements in 40 C.F.R. §60.334(c) be limited to semi-annually as stated in 40 C.F.R. §60.7(c) and that these reporting requirements remain at semi-annual without reverting back to quarterly as stated in 40 C.F.R. §60.7(e)(3).

In addition, your June 22, 2000, letter makes the following request:

3. An alternate fuel monitoring schedule in accordance with 40 C.F.R. Part 75, Appendix D, Section 2.3.1, instead of the sulfur monitoring requirements of 40 C.F.R. §60.334(b)(2).

Based on current information, it is U.S. EPA's understanding that the Dynegy Midwest Generation, Inc. - Tilton Energy Center (Tilton Energy Center) has four simple-cycle combustion turbines (CTs). Each CT is exclusively fueled with "pipeline natural gas," as defined in the most current 40 C.F.R. §72.2. Each CT is equipped with a continuous emissions monitor (CEM) to monitor NO_x.

Determinations:

After reviewing the information provided, the applicable regulations, and previous determinations, U.S. EPA has made the following determinations regarding the four, pipeline-quality natural gas fueled, simple-cycle CTs at the Tilton Energy Center.

1. Waive the water-to-fuel monitoring requirement in 40 C.F.R. §60.334(a).

U.S. EPA will allow Tilton Energy Center to use CEMs to monitor NO_x emissions as an alternative to monitoring the water-to-fuel ratio to demonstrate compliance with 40 C.F.R. §60.334(a). These CEMs can be used if the following conditions are met:

- A. Each turbine meets the emission limitation determined according to 40 C.F.R. §60.332. The "Y" value for the applicable equation and supporting documentation should be provided by the applicant and the limitation for NO_x emissions from pipeline quality natural gas should be fixed assuming the "F" value equals 0. The emission limitation must be expressed in ppmv, dry, corrected to 15 percent oxygen (O₂).
- B. Each NO_x CEMs meets the applicable requirements of 40 C.F.R. Part 60, Appendix B, Performance Specification 2, and Appendix F for certifying, maintaining, operating and assuring quality of the system.
- C. Each NO_x CEMs is capable of calculating NO_x emissions concentrations corrected to 15 percent O₂ and International Standards Organization (ISO) standard conditions.
- D. Each owner or operator of the NO_x CEMs shall submit an excess emissions and monitoring systems performance report [40 C.F.R. §60.13(h)] and/or summary report form

to the Administrator on a quarterly basis, if excess emissions are determined, or semi-annually, if no excess emissions are determined. The report shall be postmarked by the 30th day following the end of each reporting period. Written reports must include information required at 40 C.F.R. §60.7(c-d). This report shall also contain the content of nitrogen in fuel oil for each reporting period when oil is fired and a clearly calculated corresponding emission limitation.

- E. Record-keeping requirements shall follow the requirements specified at 40 C.F.R. §60.7.
- F. NO_x CEMs shall be used to demonstrate compliance with the emission limitation on a continuous basis and the quarterly report shall include the NO_x mass emissions for the reported period as reported to the State.
- 2. Reporting requirements in 40 C.F.R. §60.334(c) be limited to semi-annually as stated in 40 C.F.R. §60.7(c) and that these reporting requirements remain at semi-annual without reverting back to quarterly as stated in 40 C.F.R. §60.7(e)(3).

U.S. EPA disapproves Tilton Energy Center's request to waive the reporting requirements stated in 40 C.F.R. §60.7(e)(3). U.S. EPA does not waive the requirements that are located in the 40 C.F.R. Part 60, General Provisions. 40 C.F.R. §60.7(e)(3) states that, "as soon as monitoring data indicate that the affected facility is not in compliance with any emission limitation or operating parameter specified in the applicable standard, the frequency of reporting shall revert to the frequency specified in the applicable standard...."

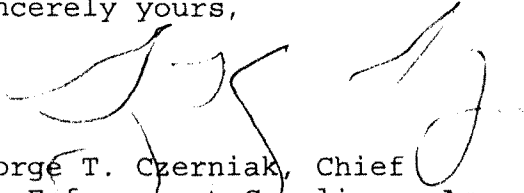
- 3. An alternate fuel monitoring schedule in accordance with 40 C.F.R. Part 75, Appendix D, Section 2.3.1, instead of the sulfur monitoring requirements of 40 C.F.R. §60.334(b)(2).

EPA approves your request to use the monitoring requirements for sulfur at 40 CFR Part 75, Appendix D, Section 2.3 in lieu of fuel monitoring requirements for sulfur at 40 CFR Part 60, Subpart GG. These alternate monitoring requirements can only be used when pipeline quality natural gas is the only fuel being burned and must be in accordance with 40 CFR Part 75, Appendix D, Section 2.3.

4

The revised 40 C.F.R. Part 60, Subpart GG was published in the Federal Register on April 14, 2003. The rule will go Direct Final after the 30-day comment period is up. If you have any questions concerning the matters addressed in this letter, please contact Sara Dauk, of my staff, at (312) 886-0243.

Sincerely yours,



George T. Czerniak, Chief
Air Enforcement Compliance Assurance Branch

CERTIFICATE OF SERVICE

I, the undersigned, certify that on this 22nd day of April, 2009, I have served electronically the attached **APPEARANCES OF KATHLEEN C. BASSI, STEPHEN J. BONEBRAKE, and JOSHUA R. MORE and APPEAL OF CAAPP PERMIT**, upon the following person:

John T. Therriault, Assistant Clerk
Illinois Pollution Control Board
James R. Thompson Center
Suite 11-500
100 West Randolph
Chicago, Illinois 60601

and by first class mail, postage affixed, upon the following persons:

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