217/782-2113

CONSTRUCTION PERMIT
PREVENTION OF SIGNIFICANT DETERIORATION APPROVAL

PERMITTEE

Nicor Gas
Attn: Nancy J. Huston
1844 Ferry Road
Naperville, IL 60563-9600

Application No.: 01100063 I.D. No.: 099832AAF
Applicant's Designation: TGNEWUNITS Date Received: October 18, 2001
Subject: Expansion of Troy Grove Station #50
Date Issued: ---
Location: Station #50, 169 N. 36th Road, Mendota

This Permit is herby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of a new natural gas turbine, one internal combustion engine, one natural gas heater, two glycol dehydration units controlled by flares and other ancillary equipment as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

In conjunction with this permit, approval is given with respect to the Prevention of Significant Deterioration of Air Quality Regulations (PSD) to construct and operate the above referenced project, in that the Illinois Environmental Protection Agency (Agency) finds that the application fulfills all applicable requirements of 40 CFR 52.21. This approval is issued pursuant to the Clean Air Act, as amended, 42 U.S.C. 7401 et. seq., the Federal regulations promulgated there under at 40 CFR 52.21 for Prevention of Significant Deterioration of Air Quality (PSD), and a Delegation of Authority agreement between the United States Environmental Protection Agency and the Illinois EPA for the administration of the PSD Program. This approval becomes effective in accordance with the provisions of 40 CFR 124.15 and may be appealed in accordance with the provisions of 40 CFR 124.19. This approval is also based upon and subject to the following findings and the conditions, which follow:

Findings

1. Nicor Gas, has requested a permit to construct a new compressor turbine, an internal combustion engine, a natural gas heater, two glycol dehydration units controlled by flares and other ancillary equipment, at its compressor station located in Mendota.

2. Mendota is located in LaSalle County, which is designated attainment for nitrogen oxide (NO_x). The County has a Class II designation for Prevention of Significant Deterioration (PSD) permit review.

3. a. The proposed project will have potential emissions of 81.20 tons/year of NO_x. The project is therefore subject to PSD review as a

major modification of an existing major source for NO_x emissions, emitting more than 40 tons/year.

b. The project is not subject to PSD for other pollutants, for which the potential increase in emissions is not significant.

4. After reviewing all the materials submitted by Nicor Gas, the Illinois EPA has determined that the project, as proposed, would (i) be in compliance with applicable Illinois Pollution Control Board emission standards and (ii) utilize Best Available Control Technology (BACT).

5. The air quality analysis submitted by Nicor Gas and reviewed by the Illinois EPA shows that the proposed project will not cause violations of the ambient air quality standards for nitrogen oxide. The air quality analysis also shows compliance with the allowable emissions increments.

6. The Illinois EPA has determined that the project, as proposed, would comply with applicable Illinois Air Pollution Control Regulations and the federal rules for Prevention of Significant Deterioration of Air Quality (PSD), 40 CFR 52.21.

7. A copy of the application and the Illinois EPA's formal review of the application and a draft of this permit were placed in a location in the vicinity of the project, and the public was given notice and an opportunity to examine this material and to submit comments and to request a public hearing on this matter.

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

Unit Specific Conditions

1.0 Units: One (1) Natural Gas Compressor Turbine
Control: Low-NO_x Combustor

1.1 Description

The new natural gas compressor turbine would be used to raise the pressure of the natural gas and move it along the pipeline, transporting natural gas from production areas to customers.

1.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
EXC1	Solar Mars Turbine	Low-NO_x Combustor

1.3 Applicability Provisions and Applicable Regulations

a. The "affected gas turbine" for the purpose of these unit-specific conditions is the natural gas turbine that is described in Condition 1.1 and 1.2. The turbine is subject to the New Source Performance Standard (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 gas turbine commenced construction, after October 3, 1977. The Illinois EPA administers the NSPS for subject sources in Illinois pursuant to a delegation agreement with the USEPA.

b. Standard for Nitrogen Oxides:

i. Pursuant to the NSPS, 40 CFR 60.332(a)(2), no owner or operator of an affected gas turbine shall cause to be discharged into the atmosphere from such gas turbine, any gases which contain nitrogen oxides in excess of:

$$STD = 0.0150 \frac{(14.4)}{Y} + F$$

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 peak load (kilojoules per watt hour), or actual measured heat rate based on lower heater 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 in accordance with 40 CFR 60.332(a)(3).

c. Standard for Sulfur Dioxide

Pursuant to the NSPS, 40 CFR 60.333, the owner or operator of the affected turbine shall comply with one or the other of the following conditions:

i. The owner or operator shall not cause to be discharged into the atmosphere any gases which

contain sulfur dioxide in excess of 0.015 percent by volume at 15 percent oxygen and on a dry basis.

ii. The owner or operator shall not burn any fuel that contains sulfur in excess of 0.8 percent by weight.

d. The emissions of smoke or other particulate matter from the affected gas turbine shall not have an opacity greater than 30 percent, pursuant to 35 IAC 212.123(a), except as allowed by 35 IAC 201.149, 212.123(b), or 212.124.

1.4 Non-Applicability of Regulations of Concern

a. This permit is issued based on the affected gas turbine not being subject to 35 IAC 212.321 because due to the nature of this process, such rule cannot reasonably be applied.

b. This permit is issued based on the affected turbine not being subject to a case-by-case determination of Maximum Achievable Control Technology(MACT) for hazardous air pollutants, pursuant to Section 112(g) of the Clean Air Act, because the turbine is a minor source for Hazardous Air Pollutants(Hap's).

1.5 Operational and Production Limits and Work Practices

a. At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the affected gas 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 review of operating and maintenance procedures, and inspection of the source [40 CFR 60.11(d)].

b. i. The affected gas turbine shall only be fired with natural gas.

ii. Rated heat input capacity of the affected gas turbine shall not exceed 112.5 million Btu/hr.

1.6 Emission Limitations

~~ii.~~a. i. The affected gas turbine shall be equipped, operated and maintained with dry low-NOx burners.

~~iii.~~ii. Hourly emissions of NO_x shall not exceed 0.58 grams per horsepower-hour.

The above requirements for emission of NO_x represent the application of the Best Available Control Technology (BACT) as required by Section 165 of the Clean Air Act.

b. Hourly emissions from the affected gas turbine shall not exceed the following limits:

Pollutants	Lb/Hr
PM	0.74
CO	13.88
NO_x	16.55
VOM	4.29
SO_2	0.38

~~c.~~c. Annual emissions from the affected gas turbine shall not exceed the following limits:

Pollutants	Ton/Yr
PM	3.25
CO	60.83
NO_x	72.42
VOM	18.83
SO_2	1.67

These limits are based on the maximum operating rate and continuous operation, i.e. 8,760 hr/yr, for the affected gas turbine.

1.7 Testing Requirements

a. Within 60 days after operating the affected turbine at the greatest load at which it will normally be operated but not later than 180 days after its initial startup, the Permittee shall have emissions tests for the turbine performed by an approved testing service as follows.

b. The following USEPA methods and procedures shall be used for testing of emissions. For the turbine, measurement of NO_x emissions shall be conducted and data collected in accordance with the test methods and procedures specified in 40 CFR 60.335, unless USEPA approves alternative procedures for testing:

Location of Sample Points	USEPA Method 1 or 19
Flow and Velocity	USEPA Method 2 or 19
Flue Gas Weight	USEPA Method 3 or 3A or 19
Moisture	USEPA Method 4 or 19
Nitrogen Oxides	USEPA Method 20
Carbon Monoxide	USEPA Method 10

Volatile organic Material USEPA Method 18

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 determination of emission that is intended to be made, including sampling and monitoring locations. As part of this plan, the Permittee may set forth a proposal for approval by the performing emission testing of selected turbine provided that all turbines are fitted for testing; the identity of the engine to be tested is determined immediately before testing, by the Illinois EPA or otherwise randomly.

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

d. The Illinois EPA shall be notified prior to these tests to enable it to observe these tests. Notification for the expected date of testing shall be submitted a minimum of 30 days prior to the expected date. Notification of the actual date and expected time of testing shall be submitted a minimum of 5 working days prior to the actual date of the test. The Illinois EPA may at its discretion accept notifications with shorter advance notice provided that the Illinois EPA will not accept such notifications if it interferes with the Illinois EPA’s ability to observe testing.

e. Three copies of the Final Reports for these tests shall be forwarded to the Illinois EPA, within 60 days after the completion of testing. The Final Report from testing shall contain a minimum:

   i. A summary of results;

   ii. General information;

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

iv. Detailed description of test conditions, including:

A. Fuel consumption (standard ft^3);

B. Firing rate (million Btu/hr);

C. Ambient temperature.

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

1.8 Monitoring Requirements

Pursuant to 40 CFR 60.334(b)(2), the Permittee shall monitor sulfur content and fuel bound nitrogen content of the fuel being fired in the affected turbine as follows unless such monitoring is waived or a custom schedule for sampling and analysis of fuel is approved by USEPA, in which case the Permittee shall comply with the terms of such approval.

For natural gas, which is supplied without intermediate bulk storage, the values shall be determined and recorded daily.

The analysis may be performed by the Permittee, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency [40 CFR 60.335(e)].

1.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected gas turbine to demonstrate compliance with Conditions 1.3, 1.5, and 1.6:

a. An operating log for the affected gas turbine, including hours of operation, load and firing rate;

b. Inspection, maintenance, and repair logs with dates and nature for the affected turbine.

c. Natural gas fuel usage for the affected gas turbine, scf/mo and scf/yr;

d. Heat content of the natural gas;

e. The sulfur and the fuel bound nitrogen content in the natural gas fuel used in the affected gas turbines shall be monitored pursuant to Condition 1.8;

f. Monthly and annual aggregate NO_x, CO, and VOM emissions from the affected gas turbine shall be

maintained, based on operating data and the applicable procedures in Condition 1.12, with supporting calculations.

1.10 Reporting Requirements

a. The Permittee shall fulfill applicable notification and reporting requirements of the NSPS, 40 CFR 60.7 (a) and (b).

b. The Permittee shall promptly notify the Illinois EPA, of noncompliance with applicable requirements as follows:

i. Pursuant to 40 CFR 60.334(c), periods of excess emissions for sulfur dioxide that shall be reported are defined as follows:

Any daily period during which the sulfur content of the fuel being fired in the gas turbine may not comply with Condition 1.3(c) [40 CFR 60.334(c)(2)].

ii. Emissions of NO_x, CO and VOM from the affected gas turbine in excess of the limits specified in Condition 1.6(a).

c. Two copies of submittals and notification required by this permit shall be made to the Illinois EPA at the following:

Illinois Environmental Protection Agency
Division of Air Pollution Control
5415 North University
Peoria, Illinois 61614
Telephone: 309/693-5461 Fax: 309/693-5467

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276
Telephone: 217/782-5811 Fax: 217/782-6348

1.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

1.12 Compliance Procedures

a. Compliance with Condition 1.3(c) is to be demonstrated by the sampling and analysis of natural gas for sulfur content as required by Condition 1.8.

b. i. Compliance with the emission limits in Condition 1.6(b) shall be based on the

recordkeeping requirements in Condition 1.9 and;

ii. For NO_x, CO and VOM the emission factors and rates developed from those measured during emission testing, if the affected gas turbine is properly operated. Otherwise, emissions shall be determined using the most appropriate emission factors selected based on good engineering judgment.

iii. For SO_2, the sulfur content of natural gas as determined in accordance with Condition 1.8.

Unit Specific Conditions

2.0 Unit: Two (2) Natural Gas Glycol Dehydration Units
Control: Flares

2.1 Description

The glycol dehydration unit is associated with the underground natural gas storage fields associated with the compressor station. The units are used to remove water from stored natural gas prior to returning to the pipeline for shipment. The water in the natural gas is removed using a glycol solution. The glycol solution is continually recycled, by heating glycol solution in a reboiler to remove the water. As part of this process, trace levels of organic compounds are also removed from the natural gas with the water. When the glycol solution is heated, these organic compounds are also volatilized and emitted. These emissions are controlled by flares.

2.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Process Description	Emission Control Equipment
VV6	Glycol Dehydration Unit	Flare #4
VV7	Glycol Dehydration Unit	Flare #5

2.3 Applicability Provisions and Applicable Regulations

a. The “affected dehydration units” for the purpose of these unit-specific conditions, are the emission units described in Conditions 2.1 and 2.2.

b. The affected dehydration units are subject to 35 IAC 214.301, which provides that no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission units to exceed 2,000 ppm.

c. The affected dehydration units are subject to 35 IAC 215.301 and 302, which provides that the Permittee shall not cause or allow the discharge of more than 3.6 Kg/hr (8 lbs/hr) of organic material into the atmosphere from the process vents of each of the affected dehydration unit or the process vent shall be equipped with air pollution control equipment capable of reducing by 85 percent or more the uncontrolled organic material emitted to the atmosphere.

d. Malfunction and Breakdown Provisions

In the event of a malfunction or breakdown of a flare, the Permittee is authorized to continue operation of the affected dehydration unit without

the flare in violation of the applicable requirement of 35 IAC 215.301, as necessary to provide essential service, i.e. prevent interruption in or shortage of the public's natural gas supply, provided that operation shall not be continued solely for the economic benefit of the Permittee. This authorization is subject to the following requirements:

i. The Permittee shall remove the affected dehydration unit from service or repair the flare as soon as practicable. This shall be accomplished within three days unless the Permittee obtains an extension, from the Regional Office of the Illinois EPA. The request for such extension must document that the flare is unavailable and specify a schedule of actions taken that will assure the feature(s) will be repaired or remove the affected dehydration unit from services as soon as possible.

ii. The Permittee shall reduce operation of the affected unit to the extent that natural gas may reasonably be supplied from the Permittee's other storage fields.

iii. The Permittee shall fulfill the applicable recordkeeping and reporting requirements of Conditions 2.9(d) and 2.10(b).

2.4 Non-Applicability of Regulations of Concern

a. The reboilers in the affected dehydration units are not subject to 35 IAC 216.121, emissions of carbon monoxide from fuel combustion emission units, because the heat input of these units is less than 10 million Btu/hr.

b. This permit is issued based on the affected dehydration units not being subject to National Emission Standard for Hazardous Air Pollutants (NESHAP), 40 CFR 63 Subpart HHH: Natural Gas Transmission and Storage Facilities, because the affected dehydration units are located in an existing local distribution company that transmits and store natural gas.

2.5 Operational and Production Limits and Work Practices

a. i. Natural gas shall be the only fuel fired in the reboilers of the affected dehydration units.

ii. The maximum rated firing capacity of each reboiler shall not exceed 1.0 million Btu/hour.

b. At all times, the Permittee shall to the extent practicable, maintain and operate the new flares, in a manner consistent with good air pollution control practice for minimizing emissions. For this purpose, organic material control efficiency of each flare shall achieve at least 98 percent as demonstrated by compliance with the appropriate requirements of 40 CFR 60.18.

c. The reboilers of the affected dehydration units shall be designed to comply with a NO_x emission rate of 0.12 pound per million Btu.

The above requirements represent the application of Best Available Control Technology (BACT) for emission of NO_x to the affected dehydration units as required by Section 165 of the Clean Air Act

2.6 Emission Limitations

a. i. Emissions from each process vents shall not exceed the following limits. These limits are based on the maximum design capacity of the flares as indicated in the application, i.e., approximately 1 million Btu/hour, and standard USEPA emission factors.

NO_x Lb/Hr	CO (Lb/Hr)	VOM (Lb/Hr)
0.14	0.4	2.1

ii. Emissions from the process vents on both units combined shall not exceed the following limits:

NO_x (Ton/Yr)	CO (Ton/Yr)	VOM (Ton/Yr)
0.64	1.75	9.20

b. This permit is issued based on negligible emissions from each reboiler. For this purpose emissions shall not exceed 0.1 lb/hr and 0.44 tons/year/unit.

2.7 Testing Requirements

N/A

2.8 Monitoring Requirements

None

2.9 Recordkeeping Requirements

a. The Permittee shall keep a file that includes:

i. Design NO_x emission rate for each reboiler

ii. Maximum design capacity of the flares in million Btu/hour heat input from the waste gas and pilot flame fuel.

b. The Permittee shall keep the following records related to Malfunctions and Breakdowns for the flares and reboilers:

i. Date and duration of malfunction or breakdown;

ii. A detailed explanation of the malfunction or breakdown;

iii. An explanation why the damaged feature(s) could not be immediately repaired without risk of injury to personnel or severe damage to equipment;

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; and

vi. The amount of release above typical emissions during malfunction/breakdown.

c. The Permittee shall keep monthly and annual VOM emissions from each dehydration unit controlled by the flares, based on the *GRI-GLYCalc program, including parameters used and pertinent supporting data (ton/yr); and

d. The Permittee shall keep logs of maintenance of the flares, which demonstrate proper operation as required by Condition 2.5(b).

2.10 Reporting Requirements

a. The Permittee shall promptly notify the Illinois EPA, Compliance Section and Regional Office of noncompliance of affected dehydration units with the permit requirements. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

b. Reporting of Malfunctions and Breakdowns for the flares

The Permittee shall provide the following notification and reports to the Illinois EPA, Compliance Section and Regional Field Office, pursuant to 35 IAC 201.263, concerning continued operation for more than one hour of the affected dehydration units controlled by the flares subject to Condition 2.3(d) during malfunction or breakdown of the control features of the flares.

i. 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 days, upon the occurrence of noncompliance due to malfunction or breakdown.

ii. Upon achievement of compliance, the Permittee shall give a written follow-up notice to the Illinois EPA, Compliance Section and Regional Field Office, providing a detailed explanation of the event, an explanation why continued operation of the affected dehydration units 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.

iii. If compliance is not achieved within five working days of the occurrence, the Permittee shall submit an interim status reports to the Illinois EPA, Compliance Section and Regional Field Office, within 5 days of the occurrence. This 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.

2.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

2.12 Compliance Procedures

a. Compliance with Condition 2.3(b) is demonstrated by proper operating conditions of the affected dehydration units.

b. Compliance with Condition 2.3(c) is demonstrated by proper operation of the flares controlling the affected dehydration units.

c. Compliance with the emission limits in Condition 2.6 shall be based on the recordkeeping requirements in

Condition 2.9 and the emission factors and formulas listed below:

For purposes of calculating VOM emissions the current version of the *GRI-GLYCalc estimated air emissions program and taking into account the minimum control efficiency is acceptable.

* GRI-GLYCalc model was developed by Radian Corporation for the Gas Research Institute (GRI) specifically for estimating BETX/VOM emissions from triethylene glycol (TEG) and ethylene glycol dehydration units.

Unit Specific Conditions

3.0 Unit: Internal Combustion Engines
Control: None

3.1 Description

The compressor station will use the new natural gas fired internal combustion engine (IC) to minimize electrical power needs from the local power grid and provide electric power.

3.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Process Description	mission Control Equipment
SG4	Natural gas internal combustion engine; Maximum rated capacity 700 Hp	None

3.3 Applicability Provisions and Applicable Regulations

a. The “affected engines” for the purpose of these unit-specific conditions, is the engine described in Conditions 3.1 and 3.2.

b. No person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission unit to exceed 2,000 ppm [35 IAC 214.301].

c. Emissions of smoke or other particulate matter from the affected engine shall not have an opacity greater than 30 percent, pursuant to 35 IAC 212.123(a), except as allowed by 35 IAC 201.149, 212.123(b), or 212.124.

d. Startup Provisions

The Permittee is authorized to operate the engines during startup pursuant to 35 IAC 201.262, as the Permittee has affirmatively demonstrated that all reasonable efforts have been made to minimize startup emissions, duration of individual starts, and frequency of startups. This authorization is subject to the following:

i. This authorization only extends for a period of up two-hours following initial firing of natural gas during each event for each engine.

ii. The Permittee shall take the following measures to minimize startup emissions, the duration of startups and minimize the frequency of startups:

Implementation of established startup procedures, including preheating an engine prior to startup when sufficient time is available.

3.4 Non-Applicability of Regulations of Concern

a. The affected engine is not subject to the requirements of 35 IAC 212.321 because it does not have a process weight rate as defined in 35 IAC 211.5250.

b. This permit is issued based on the affected engine not being subject to a case-by-case determination of Maximum Achievable Control Technology (MACT) for hazardous air pollutants, pursuant to Section 112(g) of the Clean Air Act, because this engine is minor source for emissions of Hazardous Air Pollutants (HAP's).

3.5 Operational and Production Limits and Work Practices

a. Natural gas shall be the only fuel fired in the affected engine.

b. The affected engine shall only be operated for 7,000 hr/year.

c. At all times, the Permittee shall to the extent practicable, maintain and operate the affected engine, in a manner consistent with good air pollution control practice for minimizing emissions.

3.6 Emission Limitations

a. i. Hourly emissions of NO_x from the affected engine shall not exceed 1.4 grams per horsepower-hour.

ii. The above requirements represent the application of the Best Available Control Technology (BACT) for emission of NO_x as required by Section 165 of the Clean Air Act.

b. i. Emissions from the affected engine shall not exceed the followings:

Pollutant	Lb/Hr
NO_x	2.07
CO	3.84
VOM	0.15

ii. Total annual emissions from the affected engine shall not exceed the followings:

Pollutant	Tons/Year
NO_x	7.24
CO	13.45
VOM	0.52

These limits are based on USEPA AP-42 Emissions Factors and maximum continuous operating rate, 7,000 hr/yr for the affected engine.

3.7 Testing Requirements

a. Within 60 days after operating the affected engine at the greatest load at which it will normally be operated but not later than 180 days after its initial startup, the Permittee shall perform emissions test of the engine as follows. These shall be used as the initial compliance test to demonstrate compliance with the limits and conditions set in this permit.

b. Emissions shall be measured by an approved testing service at maximum load for NO_x, CO and VOM. During the initial performance tests, emissions shall also be measured at a minimum load, and one intermediate load levels for NO_x, CO and VOM.

c. The following USEPA methods and procedures shall be used for testing of emissions.

Location of Sample Points	Method 1 or 19
Gas Flow and Velocity	Method 2 or 19
Flue Gas Weight	Method 3 or 3A or 19
Moisture	Method 4 or 19
Nitrogen Oxides	Method 7
Carbon Monoxide	Method 10
Volatile Organic Material	Method 18

d. 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 engine will be tracked and recorded.

iii. The specific determinations of emissions those are intended to be made, including sampling and monitoring locations. As part of this plan, the Permittee may set forth a strategy for performing emission testing of the engine; the identity of the engine to be tested is determined immediately before testing, by the Illinois EPA or otherwise randomly; and continuous emission monitoring of NO_x is present on all engines.

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

e. The Illinois EPA shall be notified prior to these tests to enable it to observe these tests. Notification for the expected date of testing shall be submitted a minimum of 30 days prior to the expected date. Notification of the actual date and expected time of testing shall be submitted a minimum of 5 working days prior to the actual date of the tests. The Illinois EPA may at its discretion accept notifications with shorter advance notice provided that the Illinois EPA will not accept such notifications if it interferes with the Illinois EPA's ability to observe testing.

f. Three copies of the Final Reports for these tests shall be forwarded to the Illinois EPA, Compliance Section in Springfield within 30 days after the test result are complied and finalized, in advance of the operating permit application if necessary. The Final Report from testing shall contain a minimum:

i. A summary of results;

ii. General information;

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

iv. Detailed description of test conditions, including:

A. Fuel consumption (standard ft^3);

B. Firing rate (million Btu/hr);

C. Engine output rate (Hp); and

D. Engine operating parameters, e.g., engine speed, air manifold temperatures, air manifold pressures and ignition timing.

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

g. Notwithstanding the above the Illinois EPA may waive the requirements for emission testing upon submittal of a guarantee from the engine supplier demonstrating emission of NO_x, CO and VOM that are less than 80 percent of the applicable hourly emission limits in Condition 3.6.

3.8 Monitoring Requirements

None

3.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected engine to demonstrate compliance with Condition 3.6:

a. Hours of operation for the engine per year; and

b. Inspection, maintenance, and repair logs with dates and nature of the engine.

c. Annual aggregate NO_x, CO and VOM emissions from the engine, based on hours of operation and the applicable emission factors, with supporting calculations;

3.10 Reporting Requirements

a. The Permittee shall promptly notify the Illinois EPA, Compliance Section and Regional Office of non-compliance with the operating requirements and emissions as follows:

The total emissions of NO_x, CO and VOM from the engine in excess of the limits specified in Condition 3.6 and calculated by using emission factors and equation from Condition 3.12 based on the current month’s records plus the preceding 11-month within 30 days of such an occurrence.

b. Reporting for Startups of Engines

The Permittee shall provide an annual report, submitted with the Annual Emission Reports, to the Illinois EPA, Compliance Section and Regional Field

Office, concerning startup of engines. At a minimum, this report shall include;

For the engine, the total number of startups.

c. Submittals and notification with respect to emissions testing shall be made to the following:

Illinois Environmental Protection Agency
Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016

Illinois Environmental Protection Agency
Emission Monitoring and Testing Unit
P.O. Box 19276
Springfield, Illinois 62794-9276

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

Telephone: 217/782-5811 Fax: 217/782-6348

3.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

3.12 Compliance Procedures

a. Compliance with Condition 3.3(b) is assumed to be achieved by the work-practice inherent in the operation of natural gas-fired engines, so that no compliance procedures are set in this permit addressing this regulation.

~~ii.~~b. Compliance with the emission limits in Condition 3.6 shall be based on the recordkeeping requirements in Condition 3.9 and appropriate emission factors and/or rates developed from those measured during emission testing or from the manufacture guarantee, if the affected engine is properly operated. Otherwise, emissions shall be determined using the most appropriate emission factors selected based on good engineering judgment.

4.0 a. The maximum firing rate of the natural gas heater shall not exceed 1.0 million Btu/hr.

b. This permit is issued based on negligible emissions from the fuel natural gas heater emissions of each pollutant shall not exceed 0.1 lb/hr and 0.44 tons/year.

Please note that The Permittee can operate under this Construction Permit upon successful compliance demonstration by emission testing requirements in this Construction Permit until the next reopening of the CAAPP Permit in which the described equipments shall be included.

Ricardo Ng

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ATTACHMENT A

Summary of Emissions (Tons/year)

Pollutants	Turbine	Dehydration Units (Flares & Reboilers)	Engine	Fuel Gas Heater	Increase in Emissions
PM/PM_{10}	3.25	0.049	0.16	0.024	3.48
CO	60.83	3.78	13.45	0.27	78.33
NO_x	72.42	1.22	7.24	0.32	81.20
VOM	18.83	18.07	0.52	0.018	37.43
SO_2	1.67	0.009	0.01	0.0019	1.70