

**AIR EMISSION PERMIT NO. 13900010-004**

**IS ISSUED TO**

Northern States Power Company d/b/a Xcel Energy

**XCEL ENERGY - BLUE LAKE**  
1200 70<sup>th</sup> Street South  
Shakopee, Scott County, Minnesota 55379

The emission units, control equipment and emission stacks at the stationary source authorized in this permit are as described in the following permit application(s):

Permit Type	Application Date	Issue Date	Action Number
Total Facility Operating Permit	09/15/1995	03/16/2000	001
Major Amendment	10/10/2002	03/19/2003	002
Major Amendment	01/21/2004	08/09/2004	003
Total Facility Oper. Permit - Reissuance	09/17/2004	See below	004

This permit authorizes the Permittee to operate the stationary source at the address listed above unless otherwise noted in Table A and supersedes all previously issued permits for this source. The Permittee must comply with all the conditions of the permit. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

**Permit Type:** Federal; Part 70/Major for NSR

**Issue Date:** August 7, 2007

**Expiration:** August 7, 2012  
Title I Conditions do not expire.

---

Richard J. Sandberg, Manager  
Air Quality Permits Section  
Industrial Division

for Brad Moore  
Commissioner  
Minnesota Pollution Control Agency

## **TABLE OF CONTENTS**

**Notice to the Permittee**

**Permit Shield**

**Facility Description**

**Table A: Limits and Other Requirements**

**Table B: Submittals**

**Table C: Compliance Schedule - not used in this permit action**

**Appendices: Acid Rain Permit Application  
Insignificant Activities**

**NOTICE TO THE PERMITTEE:**

Your stationary source may be subject to the requirements of the Minnesota Pollution Control Agency's (MPCA) solid waste, hazardous waste, and water quality programs. If you wish to obtain information on these programs, including information on obtaining any required permits, please contact the MPCA general information number at:

Metro Area	(651) 296-6300
Outside Metro Area	1-800-657-3864
TTY	(651) 282-5332

The rules governing these programs are contained in Minn. R. chs. 7000-7105. Written questions may be sent to: Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4194.

Questions about this air emission permit or about air quality requirements can also be directed to the telephone numbers and address listed above.

**PERMIT SHIELD:**

Subject to the limitations in Minn. R. 7007.1800, compliance with the conditions of this permit shall be deemed compliance with the specific provision of the applicable requirement identified in the permit as the basis of each condition. Subject to the limitations of Minn. R. 7007.1800 and 7017.0100, subp. 2, notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.

**FACILITY DESCRIPTION:**

This facility is a peaking plant composed of six simple cycle stationary Combustion Turbine (CT) generators. Four of the CTs are oil-fired and were installed in the 1970s with two additional natural gas-only fired CTs added to the facility in 2004 as a non-major modification under the New Source Review (NSR) permit program. The facility remains an existing major source under the NSR permit program, but is subject to limits to avoid part 63.

**ACTION 001**

Action 001 was the issuance of the initial part 70 operating permit

**ACTION 002**

Action 002 changed modeling requirements to reflect the MPCA title V air modeling policy dated August 10, 2001. This action changed the requirements from submittal of a protocol and modeling results, to the submittal of computer dispersion modeling information only. In addition, an administrative amendment application requesting extension of the information submittal deadline by 60 days, was included in this permitting action.

**ACTION 003**

Action 003 authorized installation and operation of two natural gas-only fired simple cycle GE 7FA combustion turbine generators. Each combustion turbine has a capacity of 160 megawatts. These turbines were located adjacent to the four existing oil-fired combustion turbines.

**ACTION 004**

Action 004 is a reissuance of the part 70 operating permit. No changes or modifications are authorized by this permit action.

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

A-1

08/07/07

Facility Name: Xcel Energy - Blue Lake

Permit Number: 13900010 - 004

**Table A contains limits and other requirements with which your facility must comply. The limits are located in the first column of the table (What To do). The limits can be emission limits or operational limits. This column also contains the actions that you must take and the records you must keep to show that you are complying with the limits. The second column of Table A (Why to do it) lists the regulatory basis for these limits. Appendices included as conditions of your permit are listed in Table A under total facility requirements.**

**Subject Item: Total Facility**

What to do	Why to do it
DETERMINING IF A PROJECT/MODIFICATION IS SUBJECT TO NEW SOURCE REVIEW	hdr
<p>These requirements apply where there is a reasonable possibility that a proposed project, analyzed using the actual-to-projected-actual (ATPA) test (either by itself or as part of the hybrid test described in Section 52.21(a)(2)(iv)(f)) and found to not be part of a major modification, may result in a significant emissions increase. If the ATPA test is not used for a particular project, or if there is not a reasonable possibility that the proposed project could result in a significant emissions increase, then these requirements do not apply to that project.</p> <p>Even though a particular modification is not subject to New Source Review, a permit amendment, recordkeeping, or notification may still be required under Minn. R. 7007.1150 - 7007.1500.</p>	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2
<p>Preconstruction Documentation -- Before beginning actual construction on a project, the Permittee shall document the following:</p> <ol style="list-style-type: none"> <li>1. Project description</li> <li>2. Identification of any emission unit (EU) whose emissions of an NSR pollutant could be affected</li> <li>3. Pre-change potential emissions of any affected existing EU, and the projected post-change potential emissions of any affected existing or new EU.</li> <li>4. A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the projected actual emissions, the amount of emissions excluded due to increases not associated with the modification and that the EU could have accommodated during the baseline period, an explanation of why the amounts were excluded, and any creditable contemporaneous increases and decreases that were considered in the determination.</li> </ol> <p>The Permittee shall maintain records of this documentation.</p>	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5
The Permittee shall monitor the actual emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using the ATPA test, and the potential emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using potential emissions in the hybrid test. The Permittee shall calculate and maintain a record of the sum of the actual and potential (if the hybrid test was used in the analysis) emissions of the regulated pollutant, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change, or for a period of 10 years following resumption of regular operations after the change if the project increases the design capacity of or potential to emit of any unit associated with the project.	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5
<p>The Permittee must submit a report to the Agency if the annual summed (actual, plus potential if used in hybrid test) emissions differ from the preconstruction projection and exceed the baseline actual emissions by a significant amount as listed at 40 CFR Section 52.21(b)(23). Such report shall be submitted to the Agency within 60 days after the end of the year in which the exceedances occur. The report shall contain:</p> <ol style="list-style-type: none"> <li>a. The name and ID number of the facility, and the name and telephone number of the facility contact person</li> <li>b. The annual emissions (actual, plus potential if any part of the project was analyzed using the hybrid test) for each pollutant for which the preconstruction projection and significant emissions increase are exceeded.</li> <li>c. Any other information, such as an explanation as to why the summed emissions differ from the preconstruction projection.</li> </ol>	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5
EMISSION LIMITS	hdr
HAPs - Total: less than or equal to 24.0 tons/year using 12-month Rolling Sum to be calculated by the 15th day of each month (based on fuel oil and natural gas usage) for the previous 12-month period, excluding HAPs from EU 005 and EU 006.	Title I Condition: Limit to avoid classification as a major source under 40 CFR Section 63.2; Minn. R. 7007.0200

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-2**

08/07/07

Facility Name: Xcel Energy - Blue Lake

Permit Number: 13900010 - 004

Any Single HAP: less than or equal to 9.0 tons/year using 12-month Rolling Sum to be calculated by the 15th day of each month (based on fuel oil and natural gas usage) for the previous 12-month period, excluding HAPs from EU 005 and EU 006.	Title I Condition: Limit to avoid classification as a major source under 40 CFR Section 63.2; Minn. R. 7007.0200
<b>OPERATING REQUIREMENTS</b>	hdr
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7030.0010 - 7030.0080
Inspections: Upon presentation of credentials and other documents as may be required by law, allow the Agency, or its representative, to enter the Permittee's premises to have access to and copy any records required by this permit, to inspect at reasonable times (which include any time the source is operating) any facilities, equipment, practices or operations, and to sample or monitor any substances or parameters at any location.	Minn. R. 7007.0800, subp. 9(A)
Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.	Minn. R. 7011.0020
Operation Changes: In any shutdown, breakdown, or deviation the Permittee shall immediately take all practical steps to modify operations to reduce the emission of any regulated air pollutant. The Commissioner may require feasible and practical modifications in the operation to reduce emissions of air pollutants. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment shall be permitted to operate.	Minn. R. 7019.1000, subp. 4
Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.	Minn. R. 7011.0150
Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated, unless otherwise noted in Table A.	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment. At a minimum, the O & M plan shall identify all air pollution control equipment and control practices and shall include a preventative maintenance program for the equipment and practices, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment and practices to proper operation to meet applicable permit conditions, a description of the employee training program for proper operation and maintenance of the control equipment and practices, and the records kept to demonstrate plan implementation.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
The Permittee shall comply with National Primary and Secondary Ambient Air Quality Standards, 40 CFR pt. 50, and the Minnesota Ambient Air Quality Standards, Minn. R. 7009.0010 to 7009.0080. Compliance shall be demonstrated upon written request by the MPCA.	40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7A, 7L & 7M; Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080.
<b>TESTING REQUIREMENTS</b>	hdr
Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A and/or B.	Minn. R. ch. 7017
Performance Test Notifications and Submittals:  Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-Test Meeting: due 7 day before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche/CD Copy: due 105 day after each Performance Test.  The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.	40 CFR Section 60.8(d); Minn. R. 7017.2018; Minn. R. 7017.2030, subp. 1-4; and Minn. R. 7017.2035, subp. 1-2
Limits set as a result of a performance test apply until superseded as specified by Minn. R. 7017.2025 following formal review of a subsequent performance test on the same emission unit.	Minn. R. 7017.2025
<b>MONITORING REQUIREMENTS</b>	hdr
Operation of Monitoring Equipment: Unless otherwise noted in Tables A, B, and/or C, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system.	Minn. R. 7007.0800, subp. 4(D)

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-3**

08/07/07

Facility Name: Xcel Energy - Blue Lake

Permit Number: 13900010 - 004

Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
RECORDKEEPING	hdr
Monthly Recordkeeping - Fuel Usage: By the 15th day of each month, the Permittee shall calculate and record the total EU 001-EU 004, EU 007, and EU 008 fuel usage for the previous month. Separate records shall be kept for each fuel type.	Title I Condition: Recordkeeping for a limit to avoid classification as a major source under 40 CFR Section 63.2; Minn. R. 7007.0200, and Minn. R. 7007.0800, subp. 4 and 5
Monthly Recordkeeping - HAP Emissions. By the 15th day of each month the Permittee shall calculate and record the following:  1. Individual and total HAP emissions for the previous calendar month based on monthly fuel usage records and current AP-42 factors.  2. Individual and total HAP emissions for the previous 12-month period by summing the monthly emissions data for the previous 12 months.  Emissions of any HAP calculated with an emission factor on a lb/mmBtu basis shall be calculated by converting fuel usage volume to fuel heat input on a high heating value basis.	Title I Condition: Recordkeeping for a limit to avoid classification as a major source under 40 CFR Section 63.2; Minn. R. 7007.0200, and Minn. R. 7007.0800, subp. 4 and 5
Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350, subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007.0800, subp. 5(B)
Recordkeeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
REPORTING AND SUBMITTALS	hdr
Oral or Written (faxed) Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment.	Minn. R. 7019.1000, subp. 1
Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description: 1. the cause of the deviation; 2. the exact dates of the period of the deviation, if the deviation has been corrected; 3. whether or not the deviation has been corrected; 4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7019.1000, subp. 1
Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2.  At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.	Minn. R. 7019.1000, subp. 2
Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3.  At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.	Minn. R. 7019.1000, subp. 3
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-4**

08/07/07

Facility Name: Xcel Energy - Blue Lake

Permit Number: 13900010 - 004

Application for Permit Amendment: If a permit amendment is needed, submit an application in accordance with the requirements of Minn. R. 7007.1150 through Minn. R. 7007.1500. Submittal dates vary, depending on the type of amendment needed.	Minn. R. 7007.1150 through Minn. R. 7007.1500
Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H).	Minn. R. 7007.1400, subp. 1(H)
Emission Inventory Report: due April 1 of each calendar year following permit issuance. Submit the report on a form approved by the Commissioner.	Minn. R. 7019.3000 through 7019.3010



**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-5**

08/07/07

Facility Name: Xcel Energy - Blue Lake

Permit Number: 13900010 - 004

**Subject Item: GP 001 Oil-Fired Combustion Turbines****Associated Items:** EU 001 Combustion Turbine 1 (50 MW)

EU 002 Combustion Turbine 2 (50 MW)

EU 003 Combustion Turbine 3 (50 MW)

EU 004 Combustion Turbine 4 (50 MW)

SV 001 Combustion Turbine 1

SV 002 Combustion Turbine 2

SV 003 Combustion Turbine 3

SV 004 Combustion Turbine 4

What to do	Why to do it
Sulfur Content of Fuel: less than or equal to 0.05 percent by weight for distillate fuel oil.	Minn. R. 7007.0800, subp. 2; meets SO2 emission limit requirement in Minn. R. 7011.2300, subp. 2
Opacity: less than or equal to 20 percent once operating temperatures have been attained. This limit applies to each emission unit.	Minn. R. 7011.2300, subp. 1
Allowable Fuel Type: Distillate fuel oil only.	Minn. R. 7007.0800, subp. 2
Distillate Fuel Oil Supplier Certification: The Permittee shall obtain a single certification from the fuel oil supplier guaranteeing a maximum sulfur content in all fuel oil deliveries thereafter. The single certification shall also state that the supplier will notify the Permittee in writing on the date of delivery of fuel oil with a sulfur content exceeding the guaranteed maximum, that the fuel oil sulfur content exceeds the guaranteed maximum value.	Minn. R. 7007.0800, subps. 4 and 5

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-6**

08/07/07

Facility Name: Xcel Energy - Blue Lake

Permit Number: 13900010 - 004

**Subject Item:** GP 002 NG-Fired GE 7FA Combustion Turbines**Associated Items:** EU 007 Combustion Turbine 7 (174 MW)

EU 008 Combustion Turbine 8 (174 MW)

SV 007 Combustion Turbine 7 (EU 007)

SV 008 Combustion Turbine 8 (EU 008)

What to do	Why to do it
LIMITS AND OPERATING REQUIREMENTS	hdr
<p>Nitrogen Oxides: less than or equal to 38.0 tons/year using 12-month Rolling Sum calculated by the 15th day of each month for the previous 12-month period based on NOx emissions data from one of the following sources:</p> <ol style="list-style-type: none"> <li>1. A NOx Continuous Emissions Monitoring System (CEMS),</li> <li>2. NOx emissions monitoring using according to part 75 Appendix E, or</li> <li>3. An approved NOx emission factor and natural gas usage.</li> </ol> <p>Approved emission factors are the NOx factor in EPA's AP-42 chapter 3.1, the emission factor determined during the most recent stack test for this facility and verified by the MPCA in a Notice of Compliance or Notice of Verification, or other emission factor approved by the Commissioner.</p> <p>This limit applies to the total NOx emissions from both GP 002 gas turbines.</p>	Title I Condition: Limit taken to avoid major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
<p>Sulfur Dioxide: less than or equal to 38.0 tons/year using 12-month Rolling Sum calculated by the 15th day of each month (based on data from Continuous Emissions Monitoring System (CEMS) or natural gas usage) for the previous 12-month period.</p> <p>See Appendix D Section 2.3 of 40 CFR Part 75 for procedures to determine the sulfur content and gross calorific value of gaseous fuel. Approved emission factors are the SO2 factor in EPA's AP-42 chapter 3.1, the emission factor determined during the most recent stack test for this facility and verified by the MPCA in a Notice of Compliance or Notice of Verification, or other emission factor approved by the Commissioner.</p> <p>This limit applies to the total SO2 emissions from both GP 002 gas turbines.</p>	Title I Condition: Limit taken to avoid major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
<p>Carbon Monoxide: less than or equal to 95.0 tons/year using 12-month Rolling Sum calculated by the 15th day of each month for the previous 12-month period based on CO emissions data from one of the following monitoring methods:</p> <ol style="list-style-type: none"> <li>1. A CO Continuous Emissions Monitoring System (CEMS),</li> <li>2. An approved CO emission factor and natural gas usage;</li> <li>3. Approved load-dependent CO emission factors and operating load recorded by the data acquisition and handling system for each gas turbine.</li> </ol> <p>This limit applies to the total CO emissions from both GP 002 gas turbines.</p>	Title I Condition: Limit taken to avoid major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
<p>Volatile Organic Compounds: less than or equal to 38.0 tons/year using 12-month Rolling Sum calculated by the 15th day of each month for the previous 12-month period based on VOC emissions data determined with an approved VOC emission factor and natural gas usage.</p> <p>Approved emission factors are the VOC factor in EPA's AP-42 chapter 3.1, the emission factor determined during the most recent stack test for this facility and verified by the MPCA in a Notice of Compliance or Notice of Verification, or other emission factor approved by the Commissioner.</p> <p>This limit applies to the total VOC emissions from both GP 002 gas turbines.</p>	Title I Condition: Limit taken to avoid major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
<p>Total Particulate Matter: less than or equal to 24.0 tons/year using 12-month Rolling Sum calculated by the 15th day of each month for the previous 12-month period based on PM emissions data determined with an approved PM emission factor and natural gas usage.</p> <p>Approved emission factors are the PM factor in EPA's AP-42 chapter 3.1, the emission factor determined during the most recent stack test for this facility and verified by the MPCA in a Notice of Compliance or Notice of Verification, or other emission factor approved by the Commissioner.</p> <p>This limit applies to the total PM emissions from both GP 002 gas turbines.</p>	Title I Condition: Limit taken to avoid major modification under 40 CFR Section 52.21; Minn. R. 7007.3000

**TABLE A: LIMITS AND OTHER REQUIREMENTS**
**A-7**

08/07/07

Facility Name: Xcel Energy - Blue Lake

Permit Number: 13900010 - 004

<p>Particulate Matter &lt; 10 micron: less than or equal to 14.0 tons/year using 12-month Rolling Sum calculated by the 15th day of each month for the previous 12-month period based on PM10 emissions data determined with an approved PM10 emission factor and natural gas usage.</p> <p>Approved emission factors are the PM10 factor in EPA's AP-42 chapter 3.1, the emission factor determined during the most recent stack test for this facility and verified by the MPCA in a Notice of Compliance or Notice of Verification, or other emission factor approved by the Commissioner.</p> <p>This limit applies to the total PM10 emissions from both GP 002 gas turbines.</p>	<p>Title I Condition: Limit taken to avoid major modification under 40 CFR Section 52.21; Minn. R. 7007.3000</p>
<p>Opacity: less than or equal to 20 percent once operating temperatures have been attained. This limit applies to each GP 002 gas turbine.</p>	<p>Minn. R. 7011.2300, subp. 1</p>
<p>Nitrogen Oxides: less than or equal to 110 parts per million using 3-hour Average by volume on a dry basis corrected to 15 percent oxygen. This limit applies individually to each GP 002 gas turbine, and at all times except during startup, shutdown, or malfunction.</p>	<p>40 CFR Section 60.332(a)(1)</p>
<p>Sulfur Dioxide: less than or equal to 0.015 percent by volume at 15 percent oxygen and on a dry basis, or</p> <p>Sulfur Content of Fuel: less than or equal to 0.8 percent by weight.</p> <p>These limits apply to each GP 002 gas turbine.</p>	<p>40 CFR Section 60.333</p>
<p>Sulfur Dioxide: less than or equal to 0.50 lbs/million Btu heat input. This limit applies to each GP 002 gas turbine.</p>	<p>Minn. R. 7011.2300, subp. 2</p>
<p>Fuel Allowed: restricted to only natural gas as defined in 40 CFR Sections 72.2 and 60.331(u).</p>	<p>Minn. R. 7007.0800, subp. 2</p>
<p>GP 002 emission units are subject to the U.S. EPA Acid Rain Program codified at 40 CFR Parts 72 and 75. EU 007 and EU 008 meet the definitions of utility unit, new unit, and gas-fired unit, as defined in 40 CFR Section 72.2.</p> <p>Some of the Acid Rain Program requirements are included in Tables A and B for MPCA tracking purposes. The Permittee submitted an Acid Rain Permit Application as part of the permit amendment application.</p>	<p>40 CFR Part 72</p>
<p>Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.</p> <p>Emissions in excess of the level of the applicable emission limit during the periods of startup, shutdown, and malfunction shall not be considered a violation of the applicable emission limit set by Minnesota Rules (Minn. Rules ch. 7011), or federal new source performance standards (40 CFR Part 60).</p>	<p>40 CFR Section 60.8(c), Minn. R. 7017.2025, subp. 1</p>
<p>The Permittee shall furnish notification of any physical or operational change which may increase emissions, in accordance with 40 CFR 60.7(a)(4). The notification shall be postmarked 60 days or as soon as practicable before the change is commenced.</p>	<p>40 CFR Section 60.7(a)(4)</p>
<p><b>MONITORING</b></p>	<p>hdr</p>
<p>CO Monitoring: The Permittee may monitor CO emissions using any of the following methods:</p> <ol style="list-style-type: none"> <li>1. On a load-dependent basis using approved load-dependent CO emission factors developed by performance testing of each gas turbine at a minimum of four separate operating loads. The Permittee shall retest CO emissions to update/revise the load-dependent CO emission factors each time NOx testing is conducted as required by Appendix E. The data acquisition handling system for each gas turbine shall be used to calculate hourly CO emissions.</li> <li>2. On a natural gas-usage basis using an approved emission factor.</li> <li>3. A CO CEMS on each GP 002 gas turbine stack/vent to monitor CO emissions.</li> </ol> <p>(continued below)</p>	<p>Title I Condition: Recordkeeping to avoid classification as a major modification under 40 CFR Section 52.21 &amp; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 and 5</p>

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-8**

08/07/07

Facility Name: Xcel Energy - Blue Lake

Permit Number: 13900010 - 004

<p>CO Monitoring (continued from above): Approved emission factors are the CO factor in EPA's AP-42 chapter 3.1 for natural gas-fired lean pre-mix stationary gas turbines, or other emission factor approved by the Commissioner.</p> <p>Approved load-dependent emission factors are the emission factors determined during the most recent CO performance testing at a minimum of four operating loads for this facility and verified by the MPCA in a Notice of Compliance or Notice of Verification.</p> <p>If a CO retest is not completed by the deadline for a NOx retest (required by part 75 Appendix E), the Permittee shall calculate CO emissions using the emission factor in AP-42 chapter 3.1 for natural gas-fired lean pre-mix stationary gas turbines, until the retest is completed and results are verified by the MPCA.</p>	<p>Title I Condition: Recordkeeping to avoid classification as a major modification under 40 CFR Section 52.21 &amp; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 and 5</p>
<p>The Permittee is not required to use Continuous Emission Monitoring Systems (CEMS) for sulfur dioxide or nitrogen oxides provided the Permittee complies with the requirements of 40 CFR Part 75 Appendix D for sulfur dioxide, and is eligible to use and complies with the alternative monitoring option in Part 75 Appendix E for nitrogen oxides.</p> <p>If the Permittee chooses to install and operate a NOx CEMS, or becomes ineligible for the use of Appendix E, the Permittee shall comply with the CEMS requirements in GP 003.</p>	<p>40 CFR Sections 75.10(a)(1), 75.10(a)(2), 75.11(d)(2), &amp; 75.12(d)(2)</p>
<p>SO2 Emissions Monitoring: The Permittee may monitor SO2 according to part 75 Appendix D Sections 2.1, 2.3, 2.4, 3.3, 3.4, and 3.5. Use the hourly SO2 emissions calculated according to Section 3.3 to determine daily, monthly, and 12-month rolling sum GP 002 SO2 emissions.</p>	<p>40 CFR Part 75 Appendix D</p>
<p>NOx Monitoring: The Permittee shall monitor NOx emissions according to 40 CFR part 75 Appendix E, to meet the requirements of 40 CFR Section 60.334(f)(4) unless and until either combustion turbine no longer qualifies as a peaking unit as defined in 40 CFR section 72.2 (refer to Appendix E section 1.1).</p>	<p>40 CFR Section 60.334(f)(4)</p>
<p>NOx Emissions Monitoring - lb/mmBtu: If the Permittee elects to not install a NOx CEMS, the Permittee shall determine NOx emissions in lb/mmBtu, according Appendix E to Part 75 - Optional NOx Emissions Estimation Protocol For Gas-fired Peaking Units and Oil-fired Peaking Units.</p> <p>Appendix E requires the following, in part:</p> <p>1. Initial Performance Test for: measuring NOx emission rates at heat input rate levels corresponding to different load levels; measuring heat input rate; and plotting the correlation between heat input rate and NOx emission rate, in order to determine the emission rate of the unit(s);</p> <p>2. Load Selection: Establish at least four approximately equally spaced operating load points, ranging from the maximum operating load to the minimum operating load. For new gas-fired peaking units, select the maximum and minimum operating load from the expected maximum and minimum load to be dispatched to the unit in the first five calendar years of operation;</p> <p>(cont.)</p>	<p>40 CFR Section 75.10</p>
<p>NOx Emissions Monitoring - lb/mmBtu (continued from above):</p> <p>3. NOx and O2 Concentration Measurements: Use the procedures in sections 2.1.2.2 and 2.1.2.3 to measure NOx and O2 concentration in order to determine NOx emission rate;</p> <p>4. Heat Input: (a) Measure the total heat input (mmBtu) and heat input rate during initial performance testing (mmBtu/hr) and during each hour fuel is combusted in EU 007 and EU 008 by measuring fuel flow with automatic recording in-line flow meters (refer to section 2.4.1 for determining heat input when fuel is for only a partial hour). Install and calibrate in-line flow meters using the procedures and specifications contained in sections 2.1.2, 2.1.3, 2.1.4, and 2.1.5 of appendix D of 40 CFR part 75. Correct any gaseous fuel flow rate measured at actual temperature and pressure to standard conditions of 68 degrees F and 29.92 inches of mercury;</p> <p>(cont.)</p>	<p>40 CFR Section 75.10</p>

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-9**

08/07/07

Facility Name: Xcel Energy - Blue Lake

Permit Number: 13900010 - 004

<p>NOx Emissions Monitoring - lb/mmBtu (continued from above):</p> <p>4. Heat Input: (b). Determine heat content of the gaseous fuel in accordance with procedures in appendix F of 40 CFR part 75. Calculate the heat input rate during testing (mmBtu/hr) associated with each load condition in accordance with equations F-19 or F-20 in appendix F of 40 CFR part 75 and total heat input using equation E-1 of appendix E of 40 CFR part 75. Record the heat input rate at each heat input/load point;</p> <p>5. Tabulation of Results: Tabulate the results of each baseline correlation test, listing: time of test, duration, operating loads, heat input rate (mmBtu/hr), F-factors, excess oxygen levels, and NOx concentration (ppm) on a dry basis. Convert the NOx concentrations (ppm) to NOx emission rates (lb/mmBtu). Calculate the NOx emission rate in lb/mmBtu for each sampling point and determine the arithmetic average NOx emission rate of each test run;</p> <p>(cont.)</p>	40 CFR Section 75.10
<p>NOx Emissions Monitoring - lb/mmBtu (continued from above):</p> <p>6. Plotting of Results: Plot the tabulated results as an x-y graph for fuel combusted according to the procedures in section 2.1.6.1 and 2.1.6.2 of 40 CFR part 75 Appendix E;</p> <p>7. Other Quality Assurance/Quality Control-Related NOx Emission Rate Testing: For a stationary gas turbine, obtain a list of at least four operating parameters indicative of the turbine's NOx formation characteristics, and the recommended ranges for these parameters at each tested load-heat input point, from the gas turbine manufacturer;</p> <p>8. Follow Procedures for Determining Hourly NOx Emission Rate in section 2.4 to determine hourly NOx in lb/mmBtu using hourly load, fuel flow, heat input, and the graph of baseline correlation results for the fuel and heat input rate;</p> <p>9. Use missing data procedures in section 2.5 when appropriate;</p> <p>(cont.)</p>	40 CFR Section 75.10
<p>NOx Emissions Monitoring - lb/mmBtu (continued from above):</p> <p>10. Use a computer program or other data reduction system to calculate and record NOx emission rates in lb/mmBtu on an hourly basis;</p> <p>11. Follow calculation procedures identified in Section 3 of Appendix E to calculate Heat Input, F-factor, and Conversion from Concentration to Emission Rate;</p> <p>12. Report the quarterly average emission rate (lb/mmBtu) as required in subpart G of 40 CFR Part 75. Calculate the quarterly average NOx emission rate according to equation F-9 in Appendix F;</p> <p>13. Report the average emission rate (lb/mmBtu) for the calendar year as required in subpart G of 40 CFR Part 75. Calculate the average NOx emission rate according to equation F-10 in Appendix F;</p> <p>(contd.)</p>	40 CFR Section 75.10
<p>NOx Emissions Monitoring - lb/mmBtu (continued from above):</p> <p>14. Quality Assurance/Quality Control Plan - Include a section on the NOx emission rate determination as part of the monitoring quality assurance/quality control plan required under 40 CFR Section 75.21 and appendix B of 40 CFR Part 75 for each gas-fired peaking unit;</p> <p>15. Submit a copy of the unit manufacturer's recommended range of operating parameter values, and the range of operating values recorded during the previous NOx emission rate test that determined the unit's NOx emission rate, along with the unit's revised monitoring plan submitted with the certification application;</p> <p>16. Keep records of these operating parameters for each hour of operation in order to determine that a unit is remaining within the manufacturer's recommended range.</p> <p>Refer to Appendix E for additional details and requirements.</p>	40 CFR Section 75.10

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-10**

08/07/07

Facility Name: Xcel Energy - Blue Lake

Permit Number: 13900010 - 004

Periodic NOx Emission Rate Testing: Retest the NOx emission rate of the gas-fired peaking unit for which a NOx emission rate versus heat input rate correlation curve was derived, at least once every 20 calendar quarters. If a required retest is not completed by the end of the 20th calendar quarter following the quarter of the last test, use the missing data substitution procedures in section 2.5 of this appendix, beginning with the first unit operating hour after the end of the 20th calendar quarter. Continue using the missing data procedures until the required retest has been passed. Each time that a new fuel-specific correlation curve is derived from retesting, the new curve shall be used to report the NOx emission rate, beginning with the first operating hour in which the fuel is combusted, following the completion of the retest.	40 CFR Section 75.10, Appendix E, Section 2.2
Fuel Monitoring: The Permittee shall follow the applicable fuel sulfur and nitrogen content monitoring requirements in Section 60.334(h) and monitor at the frequency specified in Section 60.334(i).	40 CFR Sections 60.334(h) and (i); Minn. R. 7011.2350; Minn. R. 7007.0800, subp. 4
RECORDKEEPING	hdr
<p>Monthly Emissions Recordkeeping:</p> <p>By the 15th of the month, the Permittee shall calculate and record:</p> <p>1) NOx, SO2, CO, VOC, PM, and PM10 emissions for the previous calendar month based on fuel usage/heat input and/or CEMS records for each GP 002 emission unit for each pollutant. The Permittee shall specify the source of the emission factor for each pollutant when emissions are calculated based on fuel usage. Records shall include emissions of each pollutant from each GP 002 emission unit and total GP 002 emissions of each pollutant for the previous month;</p> <p>2) Total GP 002 emissions of each pollutant for the previous 12-month period by summing the monthly emissions data for each pollutant for the previous 12 months.</p>	Title I Condition: Recordkeeping to avoid classification as a major modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 and 5
Recordkeeping: Maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the EU 007 and EU 008, or any periods during which a continuous monitoring system or monitoring device is inoperative.	40 CFR Section 60.7(b), Minn. R. 7019.0100, subp. 1

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

A-11

08/07/07

Facility Name: Xcel Energy - Blue Lake

Permit Number: 13900010 - 004

**Subject Item:** GP 003 Continuous Emission Monitors for EU 007, EU 008**Associated Items:** SV 007 Combustion Turbine 7 (EU 007)

SV 008 Combustion Turbine 8 (EU 008)

What to do	Why to do it
<p>CONTINUOUS EMISSION MONITOR REQUIREMENTS</p> <p>GP 003 requirements are optional unless EU 007 and/or EU 008 no longer qualify for the alternative NOx monitoring protocol in part 75 Appendix E.</p> <p>The permit conditions listed below for CO CEMS apply only if the Permittee chooses to install and operate CO CEMS.</p>	hdr
The Permittee is not required to use Continuous Emission Monitors (CEM) for sulfur dioxide or nitrogen oxides by this permit, provided the Permittee complies with the requirements of 40 CFR Part 75 Appendix D (for sulfur dioxide) and Appendix E (for nitrogen oxides, shown below). If the Permittee chooses to install and operate a CEM for either sulfur dioxide or nitrogen oxides, or becomes ineligible for the use of Appendix E, the Permittee shall comply with the requirements listed below.	40 CFR Section 75.10(a)(1) and 75.10(a)(2)
Emissions Monitoring: The Permittee shall install, certify, operate, and maintain, in accordance with all requirements of 40 CFR Section 75.10, a NOx continuous emission monitoring system (consisting of a NOx pollutant concentration monitor and an O2 or CO2 diluent gas monitor) with the automated data acquisition and handling system for measuring and recording NOx concentration (in ppm), O2 or CO2 concentration (in percent O2 or CO2) and NOx emission rate (in lb/mmBtu) discharged to the atmosphere, except as provided in 40 CFR Section 75.12 and 75.17 and subpart E of 40 CFR Section 75.10.	40 CFR Section 75.10(a)(2)
Installation Notification: due 60 days before installing the Continuous Emission Monitoring System (CEMS).	Minn. R. 7017.1040, subp. 1
CO CEMS Certification Test: due within 90 days after the due date of the first excess emission report required for the CO CEMS. Follow the Performance Specifications listed in 40 CFR Part 60, Appendix B.	Minn. R. 7017.1050, subp. 1
CEM Certification Test Pretest Meeting: due 7 days before CEM Certification Test for each emission unit and the associated stack.	Minn. R. 7017.1060, subp. 3
<p>Continuous Operation: NOx and CO CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A NOx, CO CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.</p> <p>Acceptable monitor downtime includes reasonable periods due to the following causes:</p> <p>A. damage to the monitoring system due to Acts of God such as lightning strikes, tornadoes, or floods which render the monitor inoperative;</p> <p>B. sudden and not reasonably preventable breakdowns;</p> <p>C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or</p>	40 CFR Section 60.13(e), Minn. R. 7017.1090, subp. 1
<p>Continuous Operation: continued...</p> <p>D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the commissioner.</p>	40 CFR Section 60.13(e), Minn. R. 7017.1090, subp. 1
<p>NOx CEMS Certification Test: due in accordance with 40 CFR Section 75.4(b). Certify all CEMS required by the Acid Rain Program in accordance with 40 CFR pt. 75, Appendix A for each emission unit and the associated stack.</p> <p>AND</p> <p>Not later than 90 days after each unit commences commercial operation. A unit shall be considered to have commenced commercial operation when it produces power for sale, or capacity for sale.</p>	40 CFR Section 75.4(b)
CEMS Quality Assurance/Quality Control (QA/QC): The owner or operator of an affected facility shall operate, calibrate, and maintain each CEMS according to the QA/QC procedures in 40 CFR pt. 75, appendix B as amended.	40 CFR Section 75.21
Daily Calibration error (CE) Test: conduct daily CE testing on all CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75, appendix B.	40 CFR pt. 75, Appendix B, section 2.1

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-12**

08/07/07

Facility Name: Xcel Energy - Blue Lake

Permit Number: 13900010 - 004

CO CEMS Daily Calibration Drift (CD) Test: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) gas concentrations at least once daily. The CO CEMS shall be adjusted whenever the CD exceeds twice the specification of 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F, shall be used to determine out-of-control periods for CO CEMS.	Minn. R. 7017.1170, subp. 3
Cylinder Gas Audit (CGA): due before end of each calendar half-year following CO CEMS Certification Test. Conduct CGA at least 3 months apart and not greater than 8 months apart. If a RATA is performed during the calendar half-year the CGA is not required. Follow the procedures in 40 CFR pt. 60, Appendix F.	Minn. R. 7017.1170, subp. 4
CO CEMS Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar half-year following CGA.	Minn. R. 7017.1180, subp. 1
CO CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year following CO CEMS Certification Test. If the relative accuracy is 15% or less the next CO CEMS RATA is not due for 24 months. Follow the procedures in 40 CFR pt. 60, Appendix B and Appendix F.	Minn. R. 7017.1170, subp. 5
Linearity and Leak Check Test (Acid Rain Program): due before end of each calendar quarter following CEM Certification Test in accordance with procedures in 40 CFR pt. 75, Appendix B, Sections 2.2.1 and 2.2.2, and Appendix A, Section 6.2.  Perform a leak check at least once during each QA operating quarter (calendar quarter in which there are at least 168 unit operating hours) and no less than 30 days apart.  Leak Check Test is inapplicable if the Permittee is not required to monitor Flowrate.	40 CFR pt. 75, Appendix B, section 2.2.1 & section 2.2.2; Minn. R. 7017.1020
CEMS Relative Accuracy Test Audit (RATA): due before end of each half-year following CEM Certification Test, i.e., once every two successive QA operating quarters (calendar quarter in which there are at least 168 unit operating hours). Conduct a RATA on all CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75, Appendix B. Relative accuracy test audits may be performed annually (i.e., once every four successive QA operating quarters, rather than once every two successive QA operating quarters) if any of the conditions listed in 40 CFR pt. 75, Appendix B, Section 2.3.1.2(a) through Section 2.3.1.2(i) are met.	40 CFR pt. 75, Appendix B, section 2.3.1; Minn. R. 7017.1020
Recordkeeping: The owner or operator must retain records of all CEMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source.	Minn. R. 7017.1130; and 40 CFR Section 75.50



**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-13**

08/07/07

Facility Name: Xcel Energy - Blue Lake

Permit Number: 13900010 - 004

**Subject Item:** GP 004 Reciprocating Engines**Associated Items:** EU 005 Emergency Engine/Generator

EU 006 Diesel Fire Pump

What to do	Why to do it
Sulfur Content of Fuel: less than or equal to 0.05 percent by weight for distillate fuel oil.	Minn. R. 7007.0800, subp. 2; meets SO2 emission limit in Minn. R. 7011.2300, subp. 2
Opacity: less than or equal to 20 percent once operating temperatures have been attained.	Minn. R. 7011.2300, subp. 1
Allowable Fuel Types: Distillate fuel oil.	Minn. R. 7007.0800, subp. 2
Distillate Fuel Oil Supplier Certification: The Permittee shall obtain a single certification from the fuel oil supplier guaranteeing a maximum sulfur content in all fuel oil deliveries thereafter. The single certification shall also state that the supplier will notify the Permittee in writing on the date of delivery of fuel oil with a sulfur content exceeding the guaranteed maximum, that the fuel oil sulfur content exceeds the guaranteed maximum value.	Minn. R. 7007.0800, subps. 4 and 5
Hours of Operation: The Permittee shall maintain documentation on site that the unit is an emergency diesel engine by design that qualifies under the U.S. EPA memorandum entitled "Calculating Potential to Emit (PTE) for Emergency Generators" dated September 6, 1995, limiting operation to 500 hours per year.	Minn. R. 7007.0800, subps. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - Blue Lake  
Permit Number: 13900010 - 004

Subject Item: EU 001 Combustion Turbine 1 (50 MW)

Associated Items: GP 001 Oil-Fired Combustion Turbines  
SV 001 Combustion Turbine 1

What to do	Why to do it
Performance Test: due 90 days after 03/16/2000 to measure Opacity. Future opacity testing shall be conducted on a 48 month interval.	Minn. R. 7017.2020, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - Blue Lake  
Permit Number: 13900010 - 004

Subject Item: EU 002 Combustion Turbine 2 (50 MW)

Associated Items: GP 001 Oil-Fired Combustion Turbines  
SV 002 Combustion Turbine 2

What to do	Why to do it
Performance Test: due 455 days after 03/16/2000 to measure Opacity. Future opacity testing shall be conducted on a 48 month interval.	Minn. R. 7017.2020, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - Blue Lake  
Permit Number: 13900010 - 004

Subject Item: EU 003 Combustion Turbine 3 (50 MW)

Associated Items: GP 001 Oil-Fired Combustion Turbines  
SV 003 Combustion Turbine 3

What to do	Why to do it
Performance Test: due 820 days after 03/16/2000 to measure Opacity. Future opacity testing shall be conducted on a 48 month interval.	Minn. R. 7017.2020, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - Blue Lake  
Permit Number: 13900010 - 004

Subject Item: EU 004 Combustion Turbine 4 (50 MW)

Associated Items: GP 001 Oil-Fired Combustion Turbines  
SV 004 Combustion Turbine 4

What to do	Why to do it
Performance Test: due 1185 days after 03/16/2000 to measure Opacity. Future opacity testing shall be conducted on a 48 month interval.	Minn. R. 7017.2020, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - Blue Lake  
Permit Number: 13900010 - 004

**Subject Item:** EU 007 Combustion Turbine 7 (174 MW)  
**Associated Items:** GP 002 NG-Fired GE 7FA Combustion Turbines  
MR 001  
MR 002  
SV 007 Combustion Turbine 7 (EU 007)

What to do	Why to do it
Performance Test: due before end of each 60 months starting 05/23/2005. This test is for measuring NOx for the alternative monitoring protocol according to the requirements of 40 CFR part 75 Appendix E. Refer to GP 002 for additional information regarding the alternative monitoring protocol requirements.	Title I Condition: to avoid major modification under 40 CFR Section 52.21; Minn. R. 7007.3000; 40 CFR Section 75.10, Appendix E, Section 2.2; Minn. R. 7017.2020, subp. 1
Performance Test: due before end of each 60 months starting 05/23/2005 to determine CO emissions factor(s) if CO emissions are calculated using emission factor(s) measured during performance testing.	Title I Condition: to avoid major modification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7017.2020, subp. 1

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-19**

08/07/07

Facility Name: Xcel Energy - Blue Lake

Permit Number: 13900010 - 004

**Subject Item:** EU 008 Combustion Turbine 8 (174 MW)**Associated Items:** GP 002 NG-Fired GE 7FA Combustion Turbines

MR 003

MR 004

SV 008 Combustion Turbine 8 (EU 008)

What to do	Why to do it
Performance Test: due before end of each 60 months starting 05/23/2005. This test is for measuring NOx for the alternative monitoring protocol according to the requirements of 40 CFR part 75 Appendix E. Refer to GP 002 for additional information regarding the alternative monitoring protocol requirements.	Title I Condition: to avoid major modification under 40 CFR Section 52.21; Minn. R. 7007.3000; 40 CFR Section 75.10, Appendix E, Section 2.2; Minn. R. 7017.2020, subp. 1
Performance Test: due before end of each 60 months starting 05/23/2005 to determine CO emissions factor(s) if CO emissions are calculated using emission factor(s) measured during performance testing.	Title I Condition: to avoid major modification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7017.2020, subp. 1

## TABLE B: SUBMITTALS

B-1 08/07/07

Facility Name: Xcel Energy - Blue Lake  
Permit Number: 13900010 - 004

Also, where required by an applicable rule or permit condition, send to the Permit Technical Advisor notices of:

- accumulated insignificant activities,
- installation of control equipment,
- replacement of an emissions unit, and
- changes that contravene a permit term.

Send submittals that are required to be submitted to the U.S. EPA regional office to:

Mr. George Czerniak  
Air and Radiation Branch  
EPA Region V  
77 West Jackson Boulevard  
Chicago, Illinois 60604

Each submittal must be postmarked or received by the date specified in the applicable Table. Those submittals required by parts 7007.0100 to 7007.1850 must be certified by a responsible official, defined in Minn. R. 7007.0100, subp. 21. Other submittals shall be certified as appropriate if certification is required by an applicable rule or permit condition.

Send submittals that are required by the Acid Rain Program to:

U.S. Environmental Protection Agency  
Clean Air Markets Division  
1200 Pennsylvania Avenue NW (6204N)  
Washington, D.C. 20460

Send any application for a permit or permit amendment to:

AQ Permit Technical Advisor  
Industrial Division  
Minnesota Pollution Control Agency  
520 Lafayette Road North  
St. Paul, Minnesota 55155-4194

Table B lists most of the submittals required by this permit. Please note that some submittal requirements may appear in Table A or, if applicable, within a compliance schedule located in Table C. Table B is divided into two sections in order to separately list one-time only and recurrent submittal requirements.

Unless another person is identified in the applicable Table, send all other submittals to:

AQ Compliance Tracking Coordinator  
Industrial Division  
Minnesota Pollution Control Agency  
520 Lafayette Road North  
St. Paul, Minnesota 55155-4194



**TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS****B-2** 08/07/07

Facility Name: Xcel Energy - Blue Lake

Permit Number: 13900010 - 004

<b>What to send</b>	<b>When to send</b>	<b>Portion of Facility Affected</b>
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility
CEM Certification Test Plan	due 30 days before CEM Certification Test for each emission unit and the associated stack.	GP003
CEM Certification Test Report - Microfiche Copy	due 105 days after CEM Certification Test	GP003
CEM Certification Test Report	due 45 days after CEM Certification Test	GP003
Relative Accuracy Test Audit (RATA) Notification	due 30 days before CEMS Relative Accuracy Test Audit (RATA)	GP003
Relative Accuracy Test Audit (RATA) Results Summary	due 30 days after CEMS Relative Accuracy Test Audit (RATA)	GP003

**TABLE B: RECURRENT SUBMITTALS****B-3** 08/07/07

Facility Name: Xcel Energy - Blue Lake

Permit Number: 13900010 - 004

What to send	When to send	Portion of Facility Affected
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter following Initial Startup of the Monitor (Submit Deviations Reporting Form DRF-1 as amended). The EER must contain all of the information requested in 40 CFR60.7(c). The EER shall indicate all periods of monitor bypass and all periods of exceedances of the limit including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions.	GP003
Linearity Test Results Summary	due 30 days after end of each calendar quarter following Linearity and Leak Check Test (Acid Rain Program). Leak Check Test is inapplicable if the Permittee is not required to monitor Flowrate.	GP003
Semiannual Deviations Report	due 30 days after end of each calendar half-year starting 03/16/2000. The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31. If no deviations have occurred, the Permittee shall submit the report stating no deviations.  Excess emissions shall be included in the report as required by 40 CFR Section 60.7(c).	Total Facility
Compliance Certification	due 31 days after end of each calendar year starting 03/16/2000 (for the previous calendar year). Submit the certification on a form approved by the Commissioner, both to the Commissioner and to the US EPA regional office in Chicago. This report covers all deviations experienced during the calendar year.	Total Facility

Facility Name: Xcel Energy - Blue Lake  
Permit Number: 13900010-004

For more information, see instructions and refer to 40 CFR 72.30 and 72.31

Blue Lake Generating Plant	Minnesota	8027
Plant Name	State	ORIS Code

[illegible]

## Standard Requirements

### Permit Requirements.

- (1) The designated representative of each affected source and each affected unit at the source shall:
  - (i) Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR part 72 in accordance with the deadlines specified in 40 CFR 72.30; and
  - (ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit;
- (2) The owners and operators of each affected source and each affected unit at the source shall:
  - (i) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the permitting authority; and
  - (ii) Have an Acid Rain Permit.

### Monitoring Requirements.

- (1) The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR parts 74, 75, and 76.
- (2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
- (3) The requirements of 40 CFR parts 74 and 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

### Sulfur Dioxide Requirements.

- (1) The owners and operators of each source and each affected unit at the source shall:
  - (i) Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)) not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and
  - (ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
- (2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
- (3) An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
  - (i) Starting January 1, 2000, an affected unit under 40 CFR 72.6(a)(2); or
  - (ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an affected unit under 40 CFR 72.6(a)(3).
- (4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
- (5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1)(i) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.
- (6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or the written exemption under 40 CFR 72.7 and 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
- (7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements. The owners and operators of the source and each affected unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

### Excess Emissions Requirements.

- (1) The designated representative of an affected unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77.
- (2) The owners and operators of an affected unit that has excess emissions in any calendar year shall:
  - (i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and
  - (ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

### Recordkeeping and Reporting Requirements.

- (1) Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority:

- (i) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;
  - (ii) All emissions monitoring information, in accordance with 40 CFR part 75;
  - (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,
  - (iv) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.
- (2) The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

#### Liability.

- (1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or a written exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
- (2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
- (3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
- (4) Each affected source and each affected unit shall meet the requirements of the Acid Rain Program.
- (5) Any provision of the Acid Rain Program that applies to an affected source (including a provision applicable to the designated representative of an affected source) shall also apply to the owners and operators of such source and of the affected units at the source.
- (6) Any provision of the Acid Rain Program that applies to an affected unit (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit. Except as provided under 40 CFR 72.44 (Phase II repowering extension plans) and 40 CFR 76.11 (NO<sub>x</sub> averaging plans), and except with regard to the requirements applicable to units with a common stack under 40 CFR part 75 (including 40 CFR 75.16, 75.17, and 75.18), the owners and operators and the designated representative of one affected unit shall not be liable for any violation by any other affected unit of which they are not owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative.
- (7) Each violation of a provision of 40 CFR parts 72, 73, 74, 75, 76, 77, and 78 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities. No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit, or a written exemption under 40 CFR 72.7 or 72.8 shall be construed as:

- (1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans;
- (2) Limiting the number of allowances a unit can hold; provided, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Act;
- (3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;
- (4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,
- (5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

### Insignificant Activities Required To Be Listed

<b>Minn. R. 7007.1300</b>	<b>Activity</b>	<b>Applicable performance standard</b>
subp. 3.H(3)	Welding Equipment	Minn. R. 7011.0715
subp. 3.K	Spray paint system for facility upkeep	Minn. R. 7011.0715
subp. 4	Temporary/emergency heating equipment	Minn. R. 7011.0515
subp. 4	Temporary engines; Internal combustion engines burning distillate oil, gasoline, or natural gas	Minn. R. 7011.2300
subp. 4	VOC fugitive emissions from distillate oil pumps, valves, and flanges	
subp. 4	Approx 5.6 million gallons distillate oil storage	Minn. R. 7011.1505
subp. 4	Foam house water tank heater	Minn. R. 7011.0515
subp. 4	Propane ignitors (4)	Minn. R. 7011.0515

**TECHNICAL SUPPORT DOCUMENT**  
**For**  
**DRAFT/PROPOSED AIR EMISSION PERMIT NO. 13900010-004**

This technical support document is for all parties interested in the draft/proposed permit and meets the requirements that of 40 CFR § 70.7(a)(5) and Minn. R. 7007.0850, subp. 1. This document provides the legal and factual justification for each applicable requirement or policy decision considered in the preliminary determination to issue the draft/proposed permit.

**1. General Information**

**1.1. Applicant and Stationary Source Location:**

Applicant/Address	Stationary Source/Address (SIC Code: 4911)
NSP dba Xcel Energy 414 Nicollet Mall Minneapolis, MN 55401-1993 Contact: Nancy Glass (612) 330-5520	1200 70 <sup>th</sup> Street South Shakopee Scott County

**1.2. Facility Description**

This facility is a peaking plant composed of six simple cycle stationary combustion turbine (CT) generators. Four of the CTs were installed in the 1970s and are rated at 50 MW each. Two additional CTs rated at 174 MW each were added to the facility in 2004 as a non-major modification under the New Source Review (NSR) permit program. The facility remains an existing major source under the NSR permit program, but has accepted limits to avoid part 63.

**1.3 Description of any Changes Allowed with this Permit Issuance**

This permit is a reissuance of the part 70 operating permit. No changes are authorized by this permit action.

**1.4 Amendments Issued Since the Initial Title V Operating Permit**

Permit Number and Issuance Date	Action Authorized
March 19, 2003 Permit No. 13900010-002	Revise state-only title V modeling requirements based on June 2001 modeling policy.
August 9, 2004 Permit No. 13900010-003	Installation and operation of two GE 7FA 174 MW simple cycle combustion turbine generators.

## **1.5. Facility Emissions:**

**Table 1. Total Facility Potential to Emit Summary**

	PM tpy	PM <sub>10</sub> tpy	SO <sub>2</sub> tpy	NO <sub>x</sub> tpy	CO tpy	VOC tpy	Single HAP tpy	All HAPs tpy
Total Facility Limited Potential Emissions	165	155	632	12498	134	43	9.0	24.0
Total Facility Actual Emissions (2005)	6.64	6.64	5.77	182	17.7	2.09	HAPs not reported in emission inventory	

**Table 2. Facility Classification**

Classification	Major/Affected Source	Synthetic Minor	Minor
PSD	NO <sub>x</sub> , SO <sub>2</sub>	CO	PM, PM <sub>10</sub> , VOC
Part 70 Permit Program	PM <sub>10</sub> , SO <sub>2</sub> , NO <sub>x</sub> , CO		VOC
Part 63 NESHAP		Single and Total HAP	

## **2. Regulatory and/or Statutory Basis**

### **New Source Review**

The facility is an existing major source under New Source Review regulations. No changes are authorized by this permit. In 2004 two new gas turbines (unit #7 and unit #8) were installed as a non-major NSR modification due to limits to avoid significant emission increases.

### **Part 70 Permit Program**

The facility is a major source under the Part 70 permit program.

### **New Source Performance Standards (NSPS)**

The two gas turbines installed in 2004 (#7 and #8) are subject to part 60 subpart GG NO<sub>x</sub> and SO<sub>2</sub> limits.

### **National Emission Standards for Hazardous Air Pollutants (NESHAP)**

The facility has accepted limits on HAP emissions so that the entire facility is a non-major source under 40 CFR pt. 63. Therefore no NESHAPs apply.

### **Clean Air Interstate Rule (CAIR)**

On March 10, 2005, the U.S. EPA adopted a new rule to address the interstate transport of air pollutants known as the Clean Air Interstate Rule (CAIR). CAIR is a cap and trade program that will permanently cap emissions of SO<sub>2</sub> and NO<sub>x</sub> in the eastern United States and achieves large reductions of SO<sub>2</sub> and/or NO<sub>x</sub> emissions across 28 eastern states and the District of Columbia. In Minnesota, CAIR applies for fine particulate matter only, and not for ozone. As defined at 40 CFR §51.123(cc),



*Electric generating unit or EGU means:*

(1) ... a stationary, fossil fuel-fired boiler or stationary, fossil fuel-fired combustion turbine serving at any time, since the start-up of the unit's combustion chamber, a generator with nameplate capacity of more than 25 MWe producing electricity for sale.

Affected sources are all fossil fuel-fired electric generating units with a nameplate capacity of greater than 25 MW. All six combustion turbines are fossil fuel-fired electric generating units subject to CAIR.

#### Minnesota State Rules

Portions of the facility are subject to the following Minnesota Standards of Performance:

- Minn. R. 7011.2300 Standards of Performance for Stationary Internal Combustion Engines

**Table 3. Regulatory Overview of Facility**

EU, GP, or SV	Applicable Regulations	Comments:
FC	Title I HAP limits	Single and Total HAP limits to avoid part 63 MACT standard
GP 001	Minn. R. 7011.2300	State rules applicable to internal combustion engines
GP 002	Title I Conditions to avoid major modification under §52.21  Part 60 Subpart GG	NO <sub>x</sub> , SO <sub>2</sub> , CO, VOC, PM, and PM <sub>10</sub> limits on a 12-month rolling sum basis  New Source Performance Standards for Stationary Gas Turbines
GP 003	Minn. R. ch. 7017 and part 75	NO <sub>x</sub> and SO <sub>2</sub> CEMS requirements (if CEMS installed)
GP 004	Minn. R. 7011.2300	SO <sub>2</sub> and opacity limits for emergency engines

### **3. Technical Information**

#### **3.1 Emission Calculations**

Permit No. 13900010-004 was issued August 2004 and authorized installation of EU 007 and EU 008 (identical GE 7FA natural gas-fired 170 MW simple cycle gas turbines). EU 007 and EU 008 emissions data was incorrectly calculated based on the operating capacity at lower heating value (1615.6 mmBtu/hr) for all pollutants with emission factors on a lb/mmBtu basis. This permit action re-calculates emissions for these pollutants at the maximum operating capacity based on high heating value (1777 mmBtu/hr).

Xcel has confirmed that the four oil-fired gas turbine (EU 001 - EU 004) heat input capacities are on a high heating value basis. Therefore the calculations for these gas turbines were not revised. The following data is derived from July 2005 emissions testing of EU 007 and EU 008 and is used by Xcel to calculate hourly CO emissions from these two gas turbines:

**EU 007**

Operating Load %	MW/hr	Heat Input HHV (mmBtu/hr)	NOx (lb/mmBtu)	CO (lb/mmBtu)	NOx lb/hr
25	38.6	763.9	0.205	0.904	157
50	87.3	1166.7	0.028	0.000	33
67	116.3	1374.4	0.024	0.000	33
84	146.6	1590.6	0.030	0.000	48
100	169.0	1763.2	0.032	0.000	56

**EU 008**

Operating Load %	MW/hr	Heat Input HHV (mmBtu/hr)	NOx (lb/mmBtu)	CO (lb/mmBtu)	NOx lb/hr
25	36.4	796.2	0.204	0.870	162
50	85.1	1146.0	0.028	0.000	32
67	114.4	1350.8	0.026	0.000	35
84	143.6	1569.6	0.028	0.000	44
100	168.9	1772.6	0.030	0.000	53

### **3.2 Compliance Plan Requirements for Determining if a Project/Modification at a Major NSR Source is Subject to New Source Review (40 CFR §52.21(r)(6))**

The Permittee objected to parts of the language in the total facility section of the permit for recordkeeping and reporting of emissions due to changes made at NSR major sources that used the ATPA method to determine that the project was not part of a major modification, but a reasonable possibility exists that a significant emissions increase could occur from the change. The Permittee was informed that this language is part of the template language for all major NSR sources, and was reviewed and approved by the Minnesota Chamber of Commerce and Minnesota industries.

The objection pertained to the requirement to record potential emissions before the change, and record and in certain cases report potential emissions after the change. The permit language was confusing because PTE records and reports are not required by the federal language at §52.21(r)(6).

MPCA decided to add additional language for recording potential emissions for the following reasons:

1. PTE recordkeeping prior to making a change applies to new and existing units to verify if records must be kept for 5 or 10 years after the change is made as described at §52.21(r)(6)(iii).
2. Recordkeeping and reporting of PTE after the change is made to the source are only required for new units that are part of a hybrid test, and not new units that are outside the scope of a hybrid test where emissions from a change were determined only on an actual-to-potential basis.

Several minor changes were made to the permit and delta template for these requirements to clarify the additional state-only parts of the requirements. These changes were reviewed and approved by the air permit engineers at the May 16, 2007 Leads meeting.

### **3.3 Periodic Monitoring**

In accordance with the Clean Air Act, it is the responsibility of the owner or operator of a facility to have sufficient knowledge of the facility to certify that the facility is in compliance with all applicable requirements.

In evaluating the monitoring included in the permit, the MPCA considers the following:

- The likelihood of violating the applicable requirements;
- Whether add-on controls are necessary to meet the emission limits;
- The variability of emissions over time;
- The type of monitoring, process, maintenance, or control equipment data already available for the emission unit;
- The technical and economic feasibility of possible periodic monitoring methods; and
- The kind of monitoring found on similar units elsewhere.

Table 4 summarizes the periodic monitoring requirements for those emission units for which the monitoring required by the applicable requirement is nonexistent or inadequate.

**Table 4. Periodic Monitoring**

<b>Emission Unit or Group</b>	<b>Requirement (basis)</b>	<b>Additional Monitoring</b>	<b>Discussion</b>
GP 001 (EU 001 - EU 004) & GP 004 (EU 005, EU 006)	Minn. R. 7011.2300 opacity and SO <sub>2</sub> limits  Minn. R. 7007.0800, subp. 5	Opacity testing  Fuel sulfur content monitoring	Periodic opacity tests to verify compliance with opacity limit  Permittee uses supplier certification to verify that sulfur content does not exceed 0.05% by weight, and to verify compliance with 0.5 lb/mmBtu SO <sub>2</sub> limit.
GP 002 (EU 007 & EU 008)	Title I Conditions to avoid CO and NO <sub>x</sub> significant emissions increases	CO and NO <sub>x</sub> monitoring based on stack test data and operating load	Data acquisition and handling system (DAHS) for each gas turbine measures hourly operating load (mmBtu) and determines hourly NO <sub>x</sub> and CO emissions using the results of the multi-load CO and NO <sub>x</sub> testing conducted on each gas turbine. During testing, emissions were measured at 25%, 50%, 67%, 84%, and 100% load. Emissions from operating loads between these points are determined through interpolation. For CO, the Permittee also has the option to install a CO CEMS or use the most current applicable AP-42 CO emission factor, and natural gas usage to calculate CO emissions.

### 3.4 Insignificant Activities

Insignificant Activity	General Applicable Emission limit	Discussion
Fuel use: Foam house water tank heater; temporary/emergency heating equipment	PM or 0.4 lb/mmBtu, Opacity 20% with exceptions (Minn. R. 7011.0515)	Based on the fuels used and EPA published emissions factors, it is highly unlikely that these sources could violate the applicable requirement.
Storage Tanks: fuel oil	Minn. R. 7011.1505	Very low vapor pressure of oil requires no controls
VOC fugitive emissions from distillate oil pumps, valves, and flanges	no applicable requirements	No applicable requirements, so no monitoring is warranted. Also, potential VOC emissions are extremely low due to very low vapor pressure of fuel oil.
Infrequent use of spray paint equipment for routine housekeeping or plant upkeep activities not associated with primary production processes at the stationary source; welding equipment	PM, variable depending on airflow or process weight rate Opacity 20% (Minn. R. 7011.0715)	While spray and welding equipment will have the potential to emit particulate matter, these particular activities are not associated with production, so they would be infrequent and usually occur outdoors. Testing or monitoring is not feasible.
Temporary engines; Internal combustion engines burning distillate oil, gasoline, or natural gas	Opacity 20% SO <sub>2</sub> 0.5 lb/mmBtu (Minn. R. 7011.2300)	Based on the fuels used and EPA published emissions factors, it is highly unlikely that these sources would violate the applicable requirement.

### 3.5 Revisions To Existing Permit

The requirement to submit modeling information was removed. Modeling information was submitted in February 2003 as required by the original title V permit, and a supplement was submitted for the new gas turbines installed in 2004.

The requirements for obtaining a fuel supplier certification for each distillate fuel oil delivery for the oil-fired turbines (GP 001) and the emergency engines (GP 004), was revised to allow the receipt of a single certification for all deliveries.

GP 002 language for the CO monitoring methodology requirements was revised and clarified to reflect the actual method for measuring CO emissions from the natural gas-fired GE 7FA turbines.

### 3.6 Comments Received

Public Notice Period: June 15 - July 16, 2007

EPA 45-day Review Period: June 15 - July 30, 2007

Revisions made to draft permit: During the public comment period, the permit writer revised the total facility preconstruction documentation requirement for major NSR sources. Item 3 in the requirement was revised to clarify documentation requirements for potential emissions.

Also, the insignificant activities required to be listed in the permit appendix were revised by adding permanent engines to the description of internal combustion engines (initially only temporary engines were listed). The cell in the table was revised to the following:

“Temporary engines; Internal combustion engines burning distillate oil, gasoline, or natural gas”

These changes can be made according to the administrative permit amendment provision of Minn. R. 7007.1400, subp. 1.G. and therefore do not need to go through public comment.

No comments were received from the public during the public comment period or from US E.P.A. during the 45-day review period.

#### **4. Conclusion**

Based on the information provided by NSP dba Xcel Energy, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 13900010-004 and this technical support document, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team:    Marshall Cole (permit writer/engineer)  
   Christian Norman (enforcement)  
   Curt Stock (stack testing)  
   John Chikkala (peer reviewer)

AQ File 202R; DQ# 281

Attachments:    1. Emissions Summary Worksheet