

**AIR EMISSION PERMIT NO. 12300012-007**  
**Major Amendment**

**IS ISSUED TO**

**Northern States Power Company d.b.a. Xcel Energy**

Xcel Energy - High Bridge Combined Cycle Plant  
155 Randolph Road  
St. Paul, Ramsey County, Minnesota 55102

The emission units, control equipment and emission stacks at the stationary source authorized in this permit amendment are as described in the Permit Applications Table.

This permit amendment supersedes Air Emission Permit No. 12300012-006 and authorizes the Permittee to operate the stationary source at the address listed above unless otherwise noted in Table A. 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.

Unless otherwise indicated, all the Minnesota rules cited as the origin of the permit terms are incorporated into the SIP under 40 CFR § 52.1220 and as such as are enforceable by U.S. Environmental Protection Agency (EPA) Administrator or citizens under the Clean Air Act.

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

**Operating Permit Issue Date:** 08/12/2005

**Major Amendment Issue Date:** January 21, 2010

**Expiration Date:** 08/12/2010 – Title I Conditions do not expire.

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Air Quality Permits Section  
Industrial Division

for Paul Eger  
Commissioner  
Minnesota Pollution Control Agency

**Permit Applications Table**

<b>Permit Type</b>	<b>Application Date</b>	<b>Permit Action</b>
Total Facility Operating Permit - Reissuance	01/13/2003	004
Major Amendment	01/24/2005	004
Administrative Amendment	12/22/2005	005
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**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:**

The Permittee operates an electric generating facility composed of twin combined cycle natural gas-fired combustion turbines with supplemental duct firing. The turbines use dry low-NO<sub>x</sub> combustors and selective catalytic reduction (SCR) with ammonia injection for NO<sub>x</sub> control. The SCR also reduces NO<sub>x</sub> from the duct burners. The combustion turbines use inlet evaporative cooling in warm weather to reduce power loss associated with warmer compressor inlet ambient air temperatures. Steam from the heat recovery steam generator for each combined cycle turbine is routed to a common steam turbine electric generator.

Electric power is generated by a mechanically-driven generator for each combustion turbine, and a single steam turbine generator powered by steam from the heat recovery steam generator for each combined cycle system. Total net winter generating capacity is 665 megawatts.

There is also an auxiliary boiler, an emergency fire pump diesel engine, and an emergency diesel generator.

**Permit Action 004**

This was the reissuance of the Title V operating permit, also including the conversion of the facility from a coal-fired boilers plant to the combined cycle combustion turbine plant described above.

**Permit Action 005**

This was an administrative amendment to extend a testing deadline.

**Permit Action 006**

This was an administrative amendment to remove an inapplicable requirement from the Auxiliary Boiler (EU 017), and add a replacement emergency diesel generator (EU 019) to the permit.

**Permit Action 007**

This is a major amendment to update the applicable new source performance standards for the combined cycle combustion turbines, to remove no-longer applicable requirements for the coal fired boilers and support facilities, and to remove vacated requirements from pt. 63, subp. DDDDD for the auxiliary boiler.

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

A-1

01/21/10

Facility Name: Xcel Energy - High Bridge Combined Cycle Plant

Permit Number: 12300012 - 007

**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**

<b>What to do</b>	<b>Why to do it</b>
<b>A. DETERMINING IF A PROJECT/MODIFICATION IS SUBJECT TO NEW SOURCE REVIEW</b>	hdr
<p>These requirements apply if a reasonable possibility (RP) as defined in 40 CFR Section 52.21(r)(6)(vi) exists that a proposed project, analyzed using the actual-to-projected-actual (ATPA) test (either by itself or as part of the hybrid test at Section 52.21(a)(2)(iv)(f)) and found to not be part of a major modification, may result in a significant emissions increase (SEI). If the ATPA test is not used for the project, or if there is no RP that the proposed project could result in a SEI, these requirements do not apply to that project. The Permittee is only subject to the Preconstruction Documentation requirement for a project where a RP occurs only within the meaning of Section 52.2(r)(6)(vi)(a).</p> <p>Even though a particular modification is not subject to New Source Review (NSR), or where there isn't a RP that a proposed project could result in a SEI, a permit amendment, recordkeeping, or notification may still be required by Minn. R. 7007.1150 - 7007.1500.</p>	Title I Condition: 40 CFR Section 52.21(r)(6); 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
<p>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.</p>	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5
<p>Before beginning actual construction of any project which includes any electric utility steam generating unit (EUSGU), the Permittee shall submit a copy of the preconstruction documentation (items 1-4 under Preconstruction Documentation, above) to the Agency.</p>	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5
<p>For any project which includes any EUSGU, the Permittee must submit an annual report to the Agency, within 60 days after the end of the calendar year. 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 quantified annual emissions analyzed using the ATPA test, plus the potential emissions associated with the same project analyzed as part of a hybrid test.</li> <li>c. Any other information, such as an explanation as to why the summed emissions differ from the preconstruction projection, if that is the case.</li> </ol>	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5

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

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Facility Name: Xcel Energy - High Bridge Combined Cycle Plant

Permit Number: 12300012 - 007

For any project which does not include any EUSGU, the Permittee must submit a report to the Agency if the annual summed (actual, plus potential 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:	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5
a. The name and ID number of the facility, and the name and telephone number of the facility contact person 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 rate is exceeded. c. Any other information, such as an explanation as to why the summed emissions differ from the preconstruction projection.	
<b>B. OPERATIONAL REQUIREMENTS</b>	hdr
Permit Appendices: This permit contains two appendices as listed in the permit Table of Contents. The Permittee shall comply with all requirements contained in the appendices.	Minn. R. 7007.0800, subp. 2
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
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
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 federally enforceable.	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. The Permittee may require MPCA staff to be accompanied by the Permittee's staff during any inspection.	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 and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
<b>C. POLLUTION CONTROL EQUIPMENT REQUIREMENTS</b>	hdr
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)
<b>D. 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 Copy or CD: 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.	Minn. R. 7017.2030, subp. 1 - 4; Minn. R. 7017.2018, and Minn. R. 7017.2035, subp. 1 and 2
Operating and/or production limits will be placed on emission units based on operating conditions during performance testing. Limits set as a result of a performance test (conducted before or after permit issuance) apply until new operating/production limits are set following formal review of a performance test as specified by Minn. R. 7017.2025.	Minn. R. 7017.2025
The results of a performance test are not final until issuance of a review letter by MPCA, unless specified otherwise by Minn. R. 7017.2001 - 7017.2060.	Minn. R. 7017.2020, subp. 4
<b>E. MONITORING REQUIREMENTS</b>	hdr

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

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Facility Name: Xcel Energy - High Bridge Combined Cycle Plant

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Operation of Monitoring Equipment: Unless otherwise noted in Tables A and or B, 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)
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)
F. RECORDKEEPING	hdr
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 strip-chart 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)
If the Permittee determines that no permit amendment or notification is required prior to making a change, the Permittee must retain records of all calculations required under Minn. R. 7007.1200. These records shall be kept for a period of five years from the date the change was made or until permit reissuance, whichever is longer. The records shall be kept at the stationary source for the current calendar year of operation and may be kept at the stationary source or office of the stationary source for all other years. The records may be maintained in either electronic or paper format.	Minn. R. 7007.1200, subp. 4
G. REPORTING	hdr
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
Breakdowns: Notify the Commissioner within 24 hours of a breakdown exceeding one hour duration of any process or control equipment that causes any increase in emissions of any regulated air pollutant. At the time of notification or as soon as possible thereafter, inform the Commissioner of the cause of the breakdown and estimated duration. Notify the Commissioner again when the breakdown is over.	Minn. R. 7019.1000, subp. 2
Shutdowns: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any process or control equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. At the time of notification, inform the Commissioner of the cause of the shutdown and the estimated duration. 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. Notify the Commissioner again 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
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 on or before April 1 of each calendar year following permit issuance. Submit the report on a form approved by the Commissioner.	Minn. R. 7019.3000 through Minn. R. 7019.3010



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

01/21/10

Facility Name: Xcel Energy - High Bridge Combined Cycle Plant

Permit Number: 12300012 - 007

**Subject Item: GP 002 Combustion Turbines and Duct Burners****Associated Items:** CE 017 SCR (Selective Catalytic Reduction)

CE 018 SCR (Selective Catalytic Reduction)

CE 019 Dry Low-NOx Combustors

CE 020 Dry Low-NOx Combustors

EU 013 Combustion Turbine #7

EU 014 Combustion Turbine #8

EU 015 Duct Burners #7

EU 016 Duct Burners #8

MR 007 SV 011 NOx

MR 008 SV 011 CO

MR 009 SV 011 O2

MR 010 SV 012 NOx

MR 011 SV 012 CO

MR 012 SV 012 O2

SV 011 #7 Combustion Turbine &amp; Duct Burners; CE 017 (SCR) &amp; CE 019 (DLN)

SV 012 #8 Combustion Turbine &amp; Duct Burners; CE 018 (SCR) &amp; CE 020 (DLN)

What to do	Why to do it
This source is subject to the U.S. EPA Acid Rain Program codified at 40 CFR pts. 72, 73, and 75. Each combustion turbine/duct burner (EU 013/EU 015 and EU 014/EU 016) is a utility unit that also is a gas-fired unit and a new unit, as defined in 40 CFR Section 72.2. Some of the Acid Rain Program requirements are included in Tables A and B for MPCA tracking purposes. The Permittee's application for an acid rain permit for the combustion turbines is attached in the appendix to this permit.	40 CFR pts. 72, 73, and 75
<b>A. LIMITS</b>  These limits apply to each stack and only when the combustion turbines are operating in normal mode, unless stated otherwise. These limits do not apply during startup, shutdown, or malfunction, unless stated otherwise.  Each calendar day is composed of eight consecutive 3-hour time blocks starting at midnight. Each 3-hour block average is determined by averaging all 1-minute averages during operation other than during startup, shutdown, and malfunction, to determine the 15-minute average. The 15-minute averages are used to determine the 1-hour average and the 1-hour averages are used to determine the 3-hour block average.	hdr
Carbon Monoxide: less than or equal to 10 parts per million using 3-hour Block Average by volume at 15% oxygen and on a dry basis, without duct firing.	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
Carbon Monoxide: less than or equal to 18 parts per million using 3-hour Block Average by volume at 15% oxygen and on a dry basis, with duct firing.	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
Volatile Organic Compounds: less than or equal to 2.0 parts per million using 3-hour Block Average by volume at 15% oxygen and on a dry basis without duct firing, as methane.	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
Volatile Organic Compounds: less than or equal to 13 parts per million using 3-hour Block Average by volume at 15% oxygen and on a dry basis with duct firing, as methane.	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
Nitrogen Oxides: less than or equal to 3.8 parts per million by volume at 15% oxygen and on a dry basis, with or without duct firing, on a 30-day rolling average. This is equivalent to 0.011 lb/mmBtu at 100% load with duct firing at 45 degrees F.	Minn. R. 7007.0800, subp. 2 to meet NOx level in Metropolitan Emissions Reduction Project

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

01/21/10

Facility Name: Xcel Energy - High Bridge Combined Cycle Plant

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<p>Nitrogen Oxides: less than or equal to 15 parts per million by volume at 15% oxygen and on a dry basis, or 0.43 lb/MWhr, on a 30-day rolling average. This limit applies when both of the following conditions are met:</p> <p>1) ambient temperatures is at or above 0F 2) turbine load is at least 75% of peak load.</p> <p>Emissions data from each unit operating hour (including periods startup, shutdown, and malfunction) in which a valid hourly average (as described in Section 60.4345(b)) is obtained for both NOx and O2 diluent, is used to calculate the 30-day rolling average NOx emission rate.</p>	40 CFR Sections 60.4320 and 60.4350; 40 CFR pt. 60, subp. KKKK Table 1
<p>Nitrogen Oxides: less than or equal to 96 parts per million by volume at 15% oxygen and on a dry basis, or 4.7 lb/MWhr, on a 30-day rolling average. This limit applies when the combustion turbine is operating at ambient temperatures below 0F, or when the combustion turbine is operating at less than 75% of peak load.</p> <p>Emissions data from each unit operating hour (including periods startup, shutdown, and malfunction) in which a valid hourly average (as described in Section 60.4345(b)) is obtained for both NOx and O2 diluent, is used to calculate the 30-day rolling average NOx emission rate.</p>	40 CFR Sections 60.4320 and 60.4350; 40 CFR pt. 60, subp. KKKK Table 1
<p>Applicable NOx Limit For Operating Periods When Multiple Limits Apply: For operating periods during which multiple pt. 60, subp. KKKK NOx emissions standards apply, the applicable standard is the average of the applicable standards during each hour. For hours with multiple emissions standards, the applicable limit for that hour is determined based on the condition that corresponded to the highest emissions standard.</p>	40 CFR Section 60.4380(b)(3)
Sulfur Dioxide: less than or equal to 0.060 lbs/million Btu heat input	40 CFR Section 60.4330(a)(2)
Opacity: less than or equal to 20 percent opacity once operating temperatures have been attained.	Minn. R. 7011.2300, subp. 1
<b>B. OPERATING RESTRICTIONS</b>	hdr
Permitted Fuel: Pipeline natural gas only for the combustion turbines and duct burners.	Minn. R. 7007.0800, subp. 2
The Permittee shall operate and maintain the GP 002 combustion turbines, and associated air pollution control equipment and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction.	40 CFR Section 60.4333(a)
Startup and Shutdown Operating Hours: less than or equal to 1468 hours/year on a 12-month rolling sum basis for both combustion turbines combined.	Title I Condition: 40 CFR Section 52.21(j) CO and VOC BACT Operating Limit; Minn. R. 7007.3000
<p>Startup, Shutdown, and Malfunction: The terms "startup", "shutdown", and "malfunction" shall have the same meanings as defined in 40 CFR Section 60.2.</p> <p>For the purposes of this permit, startup is complete and normal operation commences upon initial attainment of 75% load as indicated by the combustion turbine control system. Shutdown commences and normal operation ceases upon initial drop of load below 75%.</p> <p>On-line operations of less than 45 minutes duration are considered off-line for startup determination purposes.</p>	Title I Condition: 40 CFR Section 52.21(j) BACT Operating Limit; Minn. R. 7007.3000
Control Equipment Operation During Startup and Shutdown: Operation of CE 017 and CE 018 is not required during EU 013 and EU 014 startup, respectively, but shall be initiated prior to the SCR inlet duct gas temperature reaching 600 degrees F. During shutdown, the control equipment shall continue to operate as long as the control equipment is effective.	Minn. R. 7007.0800, subp. 2
<b>C. MONITORING</b>	hdr
Emissions Monitoring: The Permittee shall measure or calculate SO2, NOx, and CO2 emission rates for each affected unit in accordance with 40 CFR pt. 75.	40 CFR Section 75.10; meets requirements of 40 CFR Section 64.3(d) for NOx
Emissions Monitoring: The Permittee shall use a Continuous Emissions Monitoring System (CEMS) to measure NOx emissions, and measure or calculate SO2 and CO2 in accordance with 40 CFR pt. 75 for each stack in GP 002. The Permittee shall measure NOx emissions in ppmvd corrected to 15% oxygen and automatically calculate and record the 1-hour and 3-hour average NOx emission rates. NOx ppmvd emission data shall also be converted to lb/mmBtu as required by pt. 75.	40 CFR Section 75.10; Minn. R. 7007.0800, subp. 4

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

01/21/10

Facility Name: Xcel Energy - High Bridge Combined Cycle Plant

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NOx Monitoring: The Permittee shall install, calibrate, maintain and operate a NOx CEMS as described in Sections 60.4335(b) and 60.4345, and reduce emissions data according to Section 60.4350.  A NOx diluent CEMS installed and certified according to 40 CFR, pt. 75, Appendix A, is acceptable for use under pt. 60, subp. KKKK.	40 CFR Section 60.4340(b); Minn. R. 7017.1006
Emissions Monitoring: The owner or operator shall use a CEMS to measure CO emissions in ppmvd corrected to 15% oxygen. The Permittee shall automatically calculate and record the 1-hour and 3-hour average CO emission rates.	Title I Condition: Monitoring for 40 CFR Section 52.21(j) CO BACT limit; Minn. R. 7007.3000
Natural Gas Sulfur Content Monitoring: The Permittee shall use any of the following (current and valid) sources of information to demonstrate that the natural gas combusted in the turbines and duct burners has a sulfur content no greater than 20 grains per hundred standard cubic feet (potential sulfur emissions no greater than 0.060 lb SO <sub>2</sub> /mmBtu heat input):  1. purchase contract; 2. tariff sheet; or 3. transportation contract.  As an alternative, the Permittee may conduct representative fuel sampling to obtain data which show that the sulfur content of the fuel does not exceed 26 ng SO <sub>2</sub> /J (0.060 lb SO <sub>2</sub> /MMBtu) heat input. At a minimum, the amount of fuel sampling data specified in pt. 75, Appendix D, Section 2.3.1.4 or 2.3.2.4 is required.	40 CFR Section 60.4365
Operating Load and Operating Conditions Monitoring. The Permittee shall:  1. continuously monitor, determine, and record the hourly heat input rate (mmBtu/hr) for EU 013/EU 015 and EU 014/EU 016 using the methods specified at 40 CFR pt. 75, Appendix D Section 3.4;  2. monitor and record the date, start and stop times, and duration of each startup, shutdown, and malfunction for each combustion turbine.	Title I Condition: Monitoring for 40 CFR Section 52.21(j) CO BACT limit; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4
D. CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS) REQUIREMENTS  CO CEMS requirements apply individually to the CO CEMS system on each stack. NOx CEMS requirements apply individually to the NOx CEMS system on each stack.	hdr
NOx CEMS Quality Assurance/Quality Control (QA/QC): The Permittee shall operate, calibrate, and maintain the NOx CEMS according to the QA/QC procedure in 40 CFR pt. 75, Appendix B, as amended.	40 CFR Section 75.21
CO CEMS QA Plan: Develop and implement a written quality assurance plan for the CO CEMS. The plan shall be on site and available for inspection within 30 days after CO CEMS certification. The plan shall contain all information required by 40 CFR pt. 60, Appendix F, section 3.  The plan shall include the manufacturer's spare parts list for the CO CEMS. The parts shall be kept at the facility unless the commissioner gives written approval to exclude specific spare parts from the list.	Minn. R. 7017.1170, subp. 2
NOx CEMS and CO CEMS Continuous Operation: The NOx CEMS 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. The CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.  Acceptable CEMS downtime includes reasonable periods as listed in items A, B, C and D of Minn. R. 7017.1090, subp. 2.	Minn. R. 7017.1090, subp. 1
NOx CEMS Daily Calibration Error (CE) Test: Conduct daily CE testing on the NOx CEMS in accordance with 40 CFR pt. 75, Appendix B.	40 CFR part 75, Appendix B, section 2.1
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 the CO CEMS. Follow the procedures in 40 CFR pt. 60, Appendix F.	Minn. R. 7017.1170, subp. 3
Linearity and Leak Check Test (Acid Rain Program): due before end of each calendar quarter following CEM Certification Test. Conduct a quarterly linearity test on the NOx CEMS in accordance with 40 CFR pt. 75, Appendix B.	40 CFR part 75, Appendix B, section 2.2

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

01/21/10

Facility Name: Xcel Energy - High Bridge Combined Cycle Plant

Permit Number: 12300012 - 007

CEMS Relative Accuracy Test Audit (RATA): due before end of each year following CEM Certification Test. Conduct a NOx CEMS RATA, in accordance with 40 CFR pt. 75, Appendix B. If the RATA results indicate a relative accuracy of 7.5% or less, the next RATA is not required for twelve months.	40 CFR part 75, Appendix B, section 2.3
CO CEMS 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, Appendices B and F.	Minn. R. 7017.1170, subp. 5
NOx and CO CEMS RATA Notification: due 30 days before the corresponding CEMS RATA.	Minn. R. 7017.1180, subp. 2
CO CEMS Cylinder Gas Audit (CGA): due before end of each calendar half-year following CEMS Certification Test. Conduct CGA at least 3 months apart and not greater than 8 months apart. Follow the procedures in 40 CFR part 60, Appendix F.	Minn. R. 7017.1170, subp. 4
E. RECORDKEEPING	hdr
Recordkeeping - Startup and Shutdown Operating Hours: The Permittee shall record the startup and shutdown operating hours for each combustion turbine, once each day of combustion turbine operation.  By the last day of each month the Permittee shall calculate and record the total startup and shutdown operating hours for each combustion turbine for the previous month and the previous 12-month period.	Title I Condition: Recordkeeping for 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
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; 40 CFR Section 75.50

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

01/21/10

Facility Name: Xcel Energy - High Bridge Combined Cycle Plant

Permit Number: 12300012 - 007

**Subject Item:** EU 017 Auxiliary Boiler**Associated Items:** SV 013 Auxiliary Boiler

What to do	Why to do it
A. LIMITS AND OPERATING REQUIREMENTS	hdr
Carbon Monoxide: less than or equal to 0.08 lbs/million Btu heat input using 3-hour Average	Title I Condition: 40 CFR Section 52.21 BACT Limit; Minn. R. 7007.3000
Volatile Organic Compounds: less than or equal to 0.005 lbs/million Btu heat input using 3-hour Average	Title I Condition: 40 CFR Section 52.21 BACT Limit; Minn. R. 7007.3000
Permitted Fuel: Pipeline natural gas only	Minn. R. 7007.0800, subp. 2
B. RECORDKEEPING AND REPORTING	hdr
Fuel Usage Recordkeeping: Record and maintain records of the amount of fuel combusted on a monthly basis.	40 CFR Section 60.48c(g)(2); Minn. R. 7011.0570

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

01/21/10

Facility Name: Xcel Energy - High Bridge Combined Cycle Plant

Permit Number: 12300012 - 007

**Subject Item:** EU 018 Diesel Fire Pump**Associated Items:** SV 014 Diesel Fire Pump

What to do	Why to do it
Carbon Monoxide: less than or equal to 0.0067 lb/hp-hr	Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000
Volatile Organic Compounds: less than or equal to 0.0025 lb/hp-hr	Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000
Operating Hours: less than or equal to 300 hours/year using 12-month Rolling Sum calculated by the last day of each month.	Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input	Minn. R. 7011.2300, subp. 2
Opacity: less than or equal to 20 percent opacity once operating temperatures have been attained.	Minn. R. 7011.2300, subp. 1
Permitted Fuel: Diesel fuel only with a sulfur content not to exceed 0.5% by weight.	Minn. R. 7007.0800, subp. 2
Recordkeeping - Monthly: by the last day of each month, the Permittee shall calculate and record the total EU 018 operating hours for the previous month, and the previous 12-month period.	Title I Condition: Recordkeeping for 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000
Fuel Supplier Receipts: Keep on-site fuel receipts for each fuel shipment. Each receipt shall specify the type of fuel oil delivered.	Minn. R. 7007.0800, subp. 2

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

01/21/10

Facility Name: Xcel Energy - High Bridge Combined Cycle Plant

Permit Number: 12300012 - 007

**Subject Item:** EU 019 Emergency Diesel Generator**Associated Items:** SV 015 Cummins Emergency Engine

What to do	Why to do it
EMISSION LIMITS	hdr
Non-methane Hydrocarbons plus Nitrogen Oxides: less than or equal to 6.4 grams/kilowatt-hour	40 CFR Section 60.4205(b) [refers to 40 CFR Sections 60.4202 and 89.112(a)]; Minn. R. 7011.3520
Carbon Monoxide: less than or equal to 3.5 grams/kilowatt-hour	40 CFR Section 60.4205(b) [refers to 40 CFR Sections 60.4202 and 89.112(a)]; Minn. R. 7011.3520
Total Particulate Matter: less than or equal to 0.20 grams/kilowatt-hour	40 CFR Section 60.4205(b) [refers to 40 CFR Sections 60.4202 and 89.112(a)]; Minn. R. 7011.3520
Sulfur Dioxide: less than or equal to 0.50 lbs/million Btu heat input . The potential to emit from the unit is approximately 0.051 lb/mmBtu due to equipment design and allowable fuels and sulfur content.	Minn. R. 7011.2300, subp. 2
Opacity: less than or equal to 20 percent opacity once operating temperatures have been attained.	Minn. R. 7011.2300, subp. 1
Opacity: less than or equal to 20 percent opacity during the acceleration mode.	40 CFR Section 60.4205(b) [refers to 40 CFR Sections 60.4202 and 89.113(a)(1)]; Minn. R. 7011.3520
Opacity: less than or equal to 15 percent opacity during the lugging mode.	40 CFR Section 60.4205(b) [refers to 40 CFR Sections 60.4202 and 89.113(a)(2)]; Minn. R. 7011.3520
Opacity: less than or equal to 50 percent opacity during the peaks in either the acceleration or lugging modes.	40 CFR Section 60.4205(b) [refers to 40 CFR Sections 60.4202 and 89.113(a)(3)]; Minn. R. 7011.3520
OPERATING REQUIREMENTS	hdr
Permitted Fuel: Diesel fuel only.	Minn. R. 7007.0800, subp. 2
Operate and maintain the engine according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine.	40 CFR Section 60.4206; 40 CFR Section 60.4211(a); Minn. R. 7011.3520
The Permittee may only change those settings that are permitted by the manufacturer.	
Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by state, local, or federal government, or the manufacturer, vendor, or insurance company. Maintenance checks and readiness testing is limited to 100 hours per year, except as provided under 40 CFR Section 60.4211(e).	40 CFR Section 60.4211(e); Minn. R. 7011.3520
Any operation other than emergency operation, and maintenance and testing as permitted under 40 CFR Section 60.4211(e), is prohibited.	
Hours of Operation: The Permittee shall maintain documentation on site that the unit is an emergency generator 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, subp. 4 & 5
Diesel fuel must meet the requirements of 40 CFR Section 80.510(a):  (1) Sulfur content: 500 parts per million (ppm) maximum  (2) Cetane index or aromatic content:  (i) a minimum cetane index of 40, or  (ii) a maximum aromatic content of 35 volume percent.	40 CFR Section 60.4207(a); Minn. R. 7011.3520
Beginning June 1, 2010, diesel fuel must meet the requirements of 40 CFR Section 80.510(b):  (1) Sulfur content:  (i) 15 ppm maximum for NR diesel fuel  (ii) 500 ppm maximum for LM diesel fuel  (2) Cetane index or aromatic content:  (i) a minimum cetane index of 40, or  (ii) a maximum aromatic content of 35 volume percent.	40 CFR Section 60.4207(b); Minn. R. 7011.3520

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-11**

01/21/10

Facility Name: Xcel Energy - High Bridge Combined Cycle Plant

Permit Number: 12300012 - 007

A non-resettable hour meter must be installed prior to startup of the engine.	40 CFR Section 60.4209(a); Minn. R. 7011.3520
COMPLIANCE REQUIREMENTS	hdr
The Permittee shall comply with the requirements of 40 CFR Section 60.4205(b) by purchasing an engine certified to the emission standards in 40 CFR Section 60.4205(b) for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.	40 CFR Section 60.4211(c); Minn. R. 7011.3520
Fuel Sulfur Content Monitoring: The Permittee shall determine fuel sulfur content according to one of the following methods:  (1) Test according to current ASTM or EPA method(s) and keep records of lab analyses of sulfur content; or  (2) Obtain and maintain a fuel supplier certification for each shipment of diesel fuel, showing that the fuel requirements of 40 CFR Section 60.4207(a) or (b), as applicable, are met.	Minn. R. 7007.0800, subp. 4 & 5



**TABLE B: SUBMITTALS****B-1** 01/21/10

Facility Name: Xcel Energy - High Bridge Combined Cycle Plant  
Permit Number: 12300012 - 007

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

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 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.

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

Facility Name: Xcel Energy - High Bridge Combined Cycle Plant  
Permit Number: 12300012 - 007

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility

**TABLE B: RECURRENT SUBMITTALS****B-3** 01/21/10

Facility Name: Xcel Energy - High Bridge Combined Cycle Plant

Permit Number: 12300012 - 007

What to send	When to send	Portion of Facility Affected
Cylinder Gas Audit (CGA) Results Summary	due 30 days after end of each calendar quarter following Cylinder Gas Audit.  MR 008 is #7 combustion turbine CO CEMS; MR 011 is #8 combustion turbine CO CEMS.	MR008, MR011
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter starting 01/11/2006 (Submit Deviations Reporting Form DRF-1 as amended). 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. This requirement applies to all NOx CEMS and CO CEMS.	Total Facility
Linearity Test Results Summary	due 30 days after end of each calendar quarter following Permit Issuance. This summary is due only if the linearity and leak check test was performed for either or both NOx CEMS.  MR 007 is #7 combustion turbine NOx CEMS; MR 010 is #8 combustion turbine NOx CEMS.	MR007, MR010
Relative Accuracy Test Audit (RATA) Results Summary	due 30 days after end of each calendar quarter following Permit Issuance. The RATA summary is due 30 days after the end of any calendar quarter in which a RATA was conducted for either or both NOx CEMS.  MR 007 is #7 combustion turbine NOx CEMS; MR 010 is #8 combustion turbine NOx CEMS.	MR007, MR010
Relative Accuracy Test Audit (RATA) Results Summary	due 30 days after end of each calendar quarter following Permit Issuance. The RATA summary is due 30 days after the end of any calendar quarter in which a RATA was conducted.  MR 008 is #7 combustion turbine CO CEMS; MR 011 is #8 combustion turbine CO CEMS.	MR008, MR011
Semiannual Deviations Report	due 30 days after end of each calendar half-year starting 07/20/1998. 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.	Total Facility
Compliance Certification	due 30 days after end of each calendar year starting 07/20/1998 (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 certification covers all deviations experienced during the calendar year.	Total Facility

## **APPENDICES**

**Facility Name:** Xcel Energy - High Bridge  
**Permit Number:** 12300012-007

### **APPENDIX B**

## **Acid Rain Permit Applications**



Adobe Acrobat  
Document

### **Gas Turbines Acid Rain Application**



Adobe Acrobat  
Document

### **Retired Coal Boilers Exemption**

**APPENDIX C Insignificant Activities Required To Be Listed**

<b>Minn. R. 7007.1300</b>	<b>Activity</b>	<b>Applicable performance standard</b>
subp. 3.A	NG-fired space heaters	Minn. R. 7011.0515
subp. 3.G	Water Laboratory	
subp. 3.H(3)	Welding Equipment	Minn. R. 7011.0715
subp. 3.I	Fugitive particulate matter emissions from employee vehicle traffic on paved roads	Minn. R. 7011.0150
subp. 4	Temporary/emergency heating equipment	Minn. R. 7011.0515
subp. 4	Temporary internal combustion engines burning distillate oil, gasoline, or natural gas for plant maintenance	Minn. R. 7011.2300
subp. 4	VOC fugitive emissions from distillate oil pumps, valves, and flanges	
7008.4100, subp. 2	Solvent use (<1 tpy)	
7008.4110, subp. 2	Sandblast Cabinet	Minn. R. 7011.0715

**TECHNICAL SUPPORT DOCUMENT**  
**For**  
**AIR EMISSION PERMIT NO. 12300012-007**

This technical support document (TSD) is intended for all parties interested in the permit and to meet the requirements that have been set forth by the federal and state regulations (40 CFR § 70.7(a)(5) and Minn. R. 7007.0850, subp. 1). The purpose of this document is to provide the legal and factual justification for each applicable requirement or policy decision considered in the determination to issue the permit.

**1. General Information**

**1.1 Applicant and Stationary Source Location**

**Table 1. Applicant and Source Address**

Applicant/Address	Stationary Source/Address (SIC Code: 4911)
Northern States Power Company, d.b.a. Xcel Energy 414 Nicollet Mall Environmental Services Department Minneapolis, MN 55401	Xcel Energy – High Bridge Generating Plant 155 Randolph Road St. Paul, Minnesota 55102 Ramsey County
Contact: Jonathan Amos Phone: 612-330-7682	

**1.2 Facility Description**

The Permittee operates an electric generating facility (facility) composed of twin combined cycle natural gas-fired combustion turbines with supplemental duct firing. The combined cycle facility replaced four existing pulverized coal-fired boilers.

The turbines use dry low-NO<sub>x</sub> combustors and selective catalytic reduction (SCR) with ammonia injection for NO<sub>x</sub> control. The SCR also reduces NO<sub>x</sub> from the duct burners. The combustion turbines use inlet evaporative cooling in warm weather to reduce power loss associated with warmer compressor inlet ambient air temperatures. Steam from the heat recovery steam generator for each combined cycle turbine is routed to a common steam turbine electric generator.

Electric power is generated by a mechanically-driven generator for each combustion turbine, and a single steam turbine generator powered by steam from the heat recovery steam generator for each combined cycle system. Total net winter generating capacity is 665 megawatts.

An auxiliary boiler, emergency fire pump diesel engine, and an emergency diesel generator are also present at the facility.

### **1.3 Description of the Activities Allowed by this Permit Action**

This is a major amendment to update the new source performance standards for the two gas turbines and duct burners, remove already-completed requirements, and remove no longer relevant requirements for the old coal boilers and support equipment because these have been removed from the facility. This permit also removes the pt. 63, subp. DDDDD requirements for the auxiliary boiler (EU 017) due to vacature of that rule in July 2007, revises the facility address from Shepard Road to Randolph Road, and updates the acid rain permit applications attached in Appendix B of the permit.

### **1.4. Facility Emissions:**

No emission changes are associated with this permit action.

**Table 2. Facility Classification**

<b>Classification</b>	<b>Major/Affected Source</b>	<b>Synthetic Minor</b>	<b>Minor</b>
PSD	CO, VOC, NO <sub>x</sub>		PM, PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub>
Part 70 Permit Program	CO, VOC, NO <sub>x</sub>		PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub>
Part 63 NESHAP	Single HAP	Total HAPs	

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

### **New Source Review**

The facility is an existing major source under New Source Review (NSR) regulations. The changes in the permit due to this permit action do not trigger review under the NSR program.

### **Part 70 Permit Program**

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

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

This permit action updates the applicable NSPS for the combined cycle gas turbines. In the initial permit authorizing the installation of the turbines and duct burners, the turbines and duct burners were subject to subp. GG and subp. Da, respectively.

On July 6, 2006, EPA promulgated a new NSPS for gas turbines, subp. KKKK. The gas turbines at this facility were constructed after February 18, 2005, and therefore as indicated at 40 CFR § 60.4305(a), are subject to subp. KKKK. In addition, subp. KKKK specifies that any emissions from duct burners are subject to subp. KKKK, and are exempt from subp. Da.

Due to these pt. 60 changes, subp. GG and Da requirements were removed from the permit and replaced by applicable subp. KKKK requirements.

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

The facility is an existing major HAP source. The auxiliary boiler (EU 017) was subject to subp. DDDDD 'boiler' NESHAP. However, this standard was vacated by the D.C Circuit Court of Appeals in July 2007. In September 2007, the Permittee submitted a 112(j) application for a case-by-case MACT determination. The current permit action removes all subp. DDDDD requirements from the permit.

### Compliance Assurance Monitoring (CAM)

CAM is not triggered by this permit action.

### Environmental Review & AERA

Environmental review and AERA are not triggered by this permit action

### Minnesota State Rules

No additional Minnesota rules apply to this permit action.

**Table 3. Regulatory Overview of Units Affected by this Permit Action**

<b>Subject Item</b>	<b>Applicable Regulations</b>	<b>Comments:</b>
GP 002 (EU 013, EU 014, EU 015, EU 016)	40 CFR pt. 60, subp. KKKK	Standards of Performance for Stationary Combustion Turbines. This standard applies to stationary combustion turbines (and associated duct burners) installed after February 18, 2005.

## **3. Technical Information**

The Permittee has operated four coal boilers at the facility since 1942. These boilers were recently replaced by twin natural gas-fired combined cycle combustion turbine electric generators as authorized in permit No. 12300012-004 (dated 08/12/2005). The Permittee has removed all emission points associated with the four existing coal-fired boilers. The current permit action removes all requirements related to operation of these boilers and support equipment.

The auxiliary boiler was subject to pt. 63, subp. DDDDD. Although this rule was vacated in July 2007, the permit still contained requirements, including CO performance testing, that were based on subp. DDDDD. The Permittee conducted CO testing on May 23, 2008. The test measured an average CO emission rate of 26.5 ppmvd at 3 percent O<sub>2</sub>, compared to the vacated limit of 400 ppmvd at 3 percent O<sub>2</sub>.

### **3.1 Periodic Monitoring**

The new pt. 60, subp. KKKK contains adequate periodic monitoring requirements, and those requirements are included in this permit. Additional monitoring requirements related to subp. KKKK are not warranted.



### **3.2    Insignificant Activities**

No changes to insignificant activities are associated with this permit action.

### **3.3    Comments Received**

Public Notice Period: December 2, 2009 – December 31, 2009; No comments received.

EPA 45-day Review Period: December 2, 2009 – January 15, 2010; No comments received.

### **4.      Conclusion**

Based on the information provided by Northern States Power, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 12300012-007, and this TSD, 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)  
   Steve Palzkill (enforcement)  
   Shanda Fisher (stack testing)  
   Toni Volkmeier (peer reviewer)

AQ File No. 202B; DQ 2321

Attachments: Facility Description and CD-01 Forms